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# Teacher Professional Development and 21st-Century Skills:
# A Prospective Approach

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## Abstract

This research looked at a school-based professor professional growth program as it was planned, designed, and delivered. This article focuses on four self-sufficient but interconnected aspects of the research. When faced with a challenge, most pupils' abilities to solve problems focus on finding a remedy.  This article investigates the components of Learning 4.0 in education that have been incorporated into contemporary skill frameworks and analyses education and learning methodologies as well as the main stakeholders who have been influenced. We conducted a review of the systematic literature (SLR) using research objectives to discover studies addressing 21st-century frameworks globally, determining which teaching-learning techniques incorporate 4.0 elements, their learning measurements, and the intended participants. This is reasonable, yet some literature contends that discovering a problem factor is the best method to fix an issue. Furthermore, there continue to be children who are critics and want to avoid the topic altogether. This concept is briefly examined at the end of the review. Naturally, so that the instructor learns useful experience. As a result, the Organizer Instructors program not only helps teachers to grow their social competency, but it additionally lets them enhance their professional skills.

*Keywords:* teacher professional development, students, education, 4.0, teaching and learning, organizer teachers, 21st century

## Introduction

The Partnership of Governments and Business for the Development of 21st-Century Skills

is a collaboration of governments and companies that developed a framework for acquiring the skills, abilities, and behaviors needed to thrive in the workplace and 21st-century culture. It categorizes competencies into three groups:

• Learning skills

• Literacy skills

• Life skills

Integral pedagogical framework concepts enable us to monitor and assess the competencies necessary within each field from a variety of perspectives, including technical, educational in nature, contextual, and humanistic considerations. The twenty-first-century frameworks give ways for identifying the abilities that students need to master to enter tomorrow's workplace; hence, educators must assess if present competencies and instruction methods are suited to achieve this.

An educator is the essential coordinator and facilitator of the study hall educational experience. One of the expressions that instructing is an exceptionally critical obligation in satisfying the standards and points of public schooling is reflected in the execution of exercises given the space and reason for learning the country. This is the education vision for 2025, which states that education must be capable of producing intelligent and competitive Indonesians. As a result, it wouldn't be considered an exaggeration to suggest that teachers have a big influence on the destiny of our country.

This is supported by the 14th law of 2005, which mandates that the education profession be recognized and nurtured as a respectable career. The mandate emphasizes the requirement for teachers to have competencies that may be used for professional growth.

A minimum of four educator competencies, namely adequate education, and competence in creating, social, and interpersonal competencies, are required. The four abilities are accepted to increment instructor quality and capacity when educators utilize different ways and approaches. Nonetheless, the reality on the ground unveils wrong realities.

According to the findings of observations conducted about instructors' professional abilities, there continue to be a lot of educators who use techniques that are not in agreement with the preferences of pupils, and instructional approaches that still utilize traditional methods cause a lot of issues in class. This, of course, will have an influence not just on student learning results, but also on teacher competency, which is going to keep deteriorating.

The perception discoveries above are upheld by the Division of the Service of Schooling and Culture's arrival of the results of the informative capability test (UKG), which exhibit that the public typical achievement on the educator ability test has accomplished a general rating of 53.02 or not exactly the base skill standard set. These primer discoveries suggest that educator capabilities ought to be laid out to expand all expected instructor proficiency capacities consistently.

Because of the UKG discoveries of an absence of instructor skill, the public authority has fostered a reasonable expert development program (PKB) to speed up educator capability improvement. The proclaimed implementation concept of the PKB program results in an agreement that activities must suit teachers' needs to attain professional proficiency standards and/or develop abilities that are above the minimum requirement.

The way the school system is administered is crucial in educating the young for a dynamic environment such as 4.0 in the industry in the twenty-first century. In this day and age, education must use the numerous chances and resources accessible due to the quick changes that characterize the interconnected globe and vast borderless connectivity across nations in various areas, including education.

Many chances emerge in the extended globe, such as massive work opportunities in foreign nations that can be applied, broader economic development, ease of investment, and more individuals who are connected that can motivate people to learn from a variety of sources. However, during the twenty-first century, with rapid technological advancement, new issues developed. A country with poorly trained labor and a lack of innovation may be destroyed by a more civilized society.

Furthermore, the latest industrialization pushes manufacturing process automation to new heights by delivering customizable and adaptable mass-production technology. The demands for skilled workers improving in the twenty-first century, as well as tremendous technological progress, are extremely difficult, particularly in underdeveloped nations. One of the most strongly important is hiring and training new employees to operate the freshly created business model.

In this instance, the teacher plays the most important role in the educational process so that students can have twenty-first-century abilities and be lifelong learners, and classroom management in the twenty-first century is highly dependent on teacher professionalism. To promote the competence of educators, it is critical to train potential teachers to help them complete

the complicated tasks of 21st-century teaching.

Students must be encouraged to understand both knowledge and skills to excel in college, profession, and everyday life during the twenty-first century. This Implementation Guide provides assessment methodologies and examples to state leaders, lawmakers, and/or educators in districts and schools to aid in state-wide 21st-century abilities projects. The Collaboration for Skills relevant to the 21st century has released five short, easy-to-follow directions, one for every one of the various P 21 assistance networks:

• Assessment

• Professional growth

• Curriculum & Teaching

• Instructional Environments

All activities promoting 21st-century skills must center on:

**Mastery of Core Learning Areas**

It is critical to emphasize that no 21st-century abilities deployment can be successful unless all students obtain basic academic topic knowledge and comprehension. The students who can think coherently and productively discuss should begin with a strong groundwork of fundamental scholastic point information. As a result, basic academic disciplines form a cornerstone of the P21 Foundation for the Learning of the 21st Century. All skills relevant to the 21st century are possible and should be provided alongside fundamental academic courses.

Outcomes of skills related to the 21st century

• Sharp Thinker?

• Effective Problem Solver?

• Excellent Communicator?

• Great Collaborators?

• Acquainted With Knowledge And Advances In Technology?

• Adaptable and Malleable?

• Creative and Imaginative.

• Worldwide Competent?

• Economically Literate?

Professional Development for 21st Century Skills assists instructors in incorporating 21st-

century skills, resources, and instructional methodologies into their classroom practice.

**Figure 1**

Tutorial on 21st-Century Skills
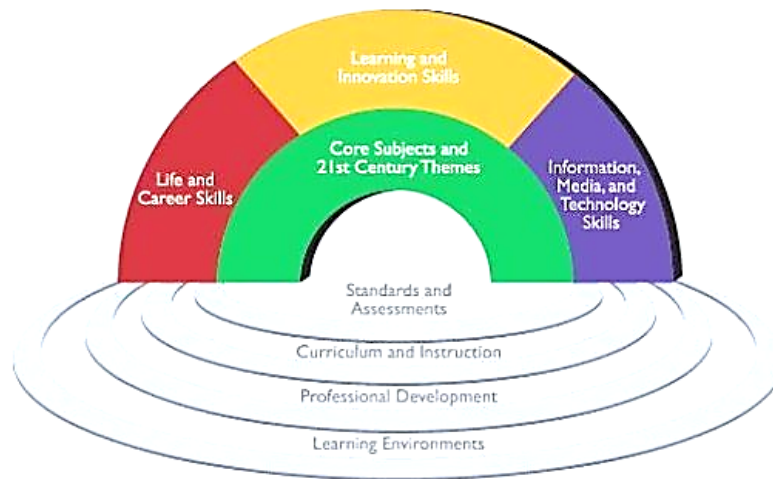


## 1. Learning and Development Skills

These are the talents that are most frequently mentioned while discussing 21st-century skills. They have become increasingly recognized as characteristics that distinguish pupils who are ready for an additional challenging life and work context of the twenty-first century from the ones who are not.

- Critical

- Communication

- Collaboration

- Creativity and Innovation

Information on Data, Media, and Innovation Access and survey data fundamentally and expertly; handling the progression of information from a wide assortment of sources are instances of data education. Figuring out how and why media messages are made; and making media items by learning and utilizing the most applicable media creation apparatuses, attributes, and shows are instances of media proficiency. ICT (Data, Imparting, and ICT) proficiency, for instance, involves innovation as an examination, association, assessment, and specialized device. Life and Work Abilities The present living and work conditions need extensively something beyond decisive reasoning and subject comprehension. Cultivating the capacity to manage complicated life and

work contexts necessitates students paying close attention to the development of appropriate life and professional skills.

- Adaptability and Creativity
- Self-Direction and Creativity
- Intercultural and Cross-Cultural Skills
- Professionalism and Responsibility
- Management abilities and Responsibility

## 2. Educational Environment

A basic part of any key change endeavor is the learning climate inside an instructor-preparing program. Understanding the favorable structures, regulations, and tactics that will most effectively encourage teacher candidates' acquisition of 21st-century skills and understanding is an initial move toward building the type of environment that can promote this type of learning.

**Create a vision for learning settings in the program and at the institution for the 21st century**

The concept of a "learning environment" in the twenty-first century expands and transcends traditional building structures. The physical environment is still necessary, but it is equally critical to focus on learning tools (both in-class and virtual). These technological technologies push the frontiers of educational and instructional methods by allowing individuals to connect with fellow students and topic ideas all across the world.

**Ensure that the infrastructure in place supports knowledge and skills for the twenty-first century**

Physical spaces should be adaptive and open to the wider society that surrounds the school; they should also be accessible and open to collaboration, engagement, and information exchange. Migrate to flexible time units that allow for project-based work and cantered around competencies indicators of student achievement. Reduce the emphasis on "seat time" when assessing annual teacher candidate progress.

**Ensure that the technology environment adequately supports learning**

Applicants for teachers benefit from cutting-edge digital tools and resources, as well as proper instruction and assistance in understanding and applying these technologies. Candidates for teaching benefit from cutting-edge electronic resources and tools that link to greater levels of

engagement with the material, as well as proper help in acquiring and applying these technologies.

**Encourage the use of the "people network" in a learning context**

This is one of the most essential components of learning environments in the twenty-first century. Although instructors' enthusiasm is strongest when they first enter the learning environment, we know that this is one of the primary reasons for new educators' difficulty in their first years as educators is a lack of a solid mentor with whom to interact.

## Literature Review

Llopart, M., (2018)Although the finances of knowledge (FoK) idea was originally used for instruction in the late 1980s, there have been several innovations and recommendations since then, most of which have come into existence in the recent few years. As a result, it remains a legitimate, cutting-edge educational strategy that aims to overcome the remaining deficit viewpoint in education by enhancing interactions among families and schools and providing culturally sensitive and complemented curricular activities.

Van Laar, E., (2017)Human resources inside the business is basic since development starts with individuals. In a quickly developing information economy, computerized abilities of the twenty-first century fuel organizations' capacity to contend and create potential. Albeit such gifts are viewed as basic, the computerized piece of 21st-century abilities presently can't seem to be sufficiently characterized. The essential objectives of this examination were to (1) explore the connection between 21st-century capabilities and computerized abilities, and (2) propose a system of the 21st century-innovative capacities with idea aspects and significant functional parts coordinated at information laborers.

Alam, A. (2022) This study takes a gander at how ground-breaking learning has been considered and operationalized inside the fields of schooling for practical turn of events, or ESD, and manageability learning, as well as how to support extraordinary guidance in formal and casual training settings. The creator directed a methodical assessment of the writing to produce a bibliometric outline that unites a mathematical evaluation of the collection of grants with a top-to-bottom assessment of the growing experiences, results, and circumstances. The ongoing review exhibits that a ground-breaking learning hypothesis might support the plan and execution of curricular mediation as well as learning appraisals toward maintainability by dissecting the educational experience, results, and conditions in the essential gathering of studies.

Philipsen, B., (2019)Teacher professional growth (TPD) techniques for teaching in an online or hybrid educational setting are required to fully realize the promise of blended and online education (OBL). While much research looks at the effects of TPD techniques, let's look at the precise components of these tactics. This study fills that need by undertaking a systematic evaluation of qualitative data from 15 papers on TPD that focus on OBL.

Caena, F., (2019)Instructors should update their capability profiles to fulfill the needs of the twenty-first hundred years. Showing rehearses should advance, as must the skills that educators should obtain to rouse understudies for the 21st hundred years. The European System for Teachers' Computerized Skill (Dig.Comp.Edu) is a paradigmatic case of this undertaking, considering these requests. Educator ability structures can serve assorted capabilities at various degrees of schooling systems by characterizing the necessities of those functioning in training.

Lamb, S., (2017)This report thinks about the repercussions of these critical questions for Australia, recognizing that while there is much discussion about key skills for the twenty-first century, there is little consensus on what the skills are, let alone how they ought to be taught, measured, or assessed.

Rios, J. A., (2020) This article adds to the assortment of information on 21st-century scholarly capacities expected for fruitful work by leading an experimental examination of organizations' immediate correspondence with possible specialists through work adverts. Two commitments result from our enlightening investigation of 142,000 work adverts. First of all, theseare a couple of the earliest examinations that equitably position expertise interest. As a result, employers value written and spoken communication, teamwork, and problem-solving abilities, with a special emphasis on the combination of written and verbal interaction.

Valtonen, T., (2017)In recent years, there has been a lot of focus on twenty-first-century abilities. Students now and in the future will be required to have the capacity to collaborate, solve problems, think creatively and innovatively, and use ICT, or information and communication technology, technologies. Teachers must be knowledgeable about diverse educational techniques as well as suitable ways to utilize ICT to promote students' growth of 21st-century abilities.

## Methods

This study employs an approach to qualitative study with content analysis. This study was carried out to increase knowledge and development of ideas that were examined organically and as we appeared. To gather trustworthy and responsible data. Objective sampling was used to identify

these informants depending on the criteria. To find informants who can provide an overview of the driving instructor.

To assure the data's authenticity, the minister of learning and culture deepens its grasp and thoroughness of the operating teaching program documentation.

## Findings and Discussion

The sections that follow will outline the outcome of the examination corresponding to the driving instructor's scheme, namely the premise of the driving educator's program, the objective of the driving educator, and the target instructors program, based on research findings obtained through multiple information and sources obtained from respondents.

**Teacher Organizer Program**

The following concepts were obtained from the data collected, either from key informants or the examination of papers spread on the internet, during the idea analysis of the driving teacher.

**Figure 1**

Organizer Instructor's Program Outcomes
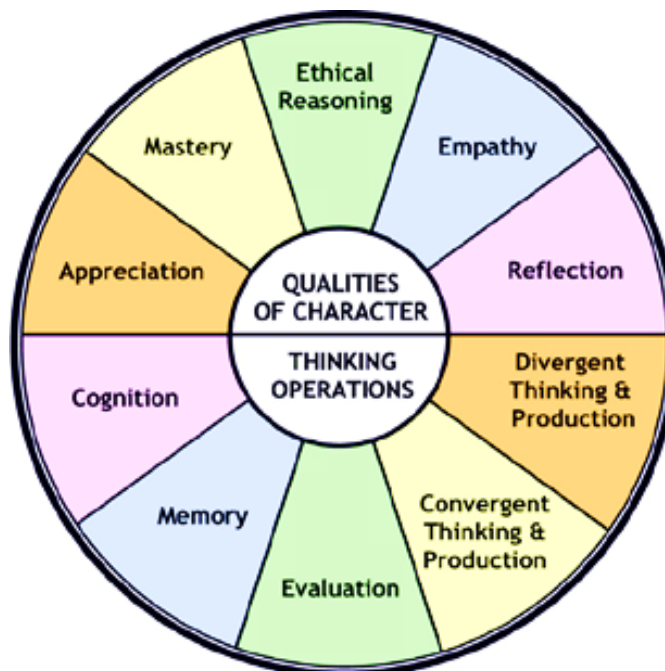


According to the conceptual framework above, the notion of driving professors leads to three essential components: a training program to locate the precursors of leaders, a scheme to

recognize teacher talents and a program to train teachers in professional skills. The explanation for all three of these points is based on a review of documents and the findings of discussions with research informants. The teacher program results in a training program for fostering potential teacher leaders to develop teacher innovation in every setting or environment.

Furthermore, the idea of driving instructors is aimed at developing professional abilities, with a focus on the twenty-first-century training processes provided within the nine-month training program. Another notion presented is that the guiding teacher is also an educational opportunity for potential teachers who will become agents for transformation in the future, capable of significantly improving the world of education to generate qualified and superior outputs.

**Program Implementation Organizer Teachers**

The previously mentioned driving educator contains content at the preparation stage for a very long time, and the execution of the substance is characterized by a plan that is the result of an examination of information-gathering strategies through significant sources and documentation studies.

**Figure 2**

Organizer of Teachers' Programs
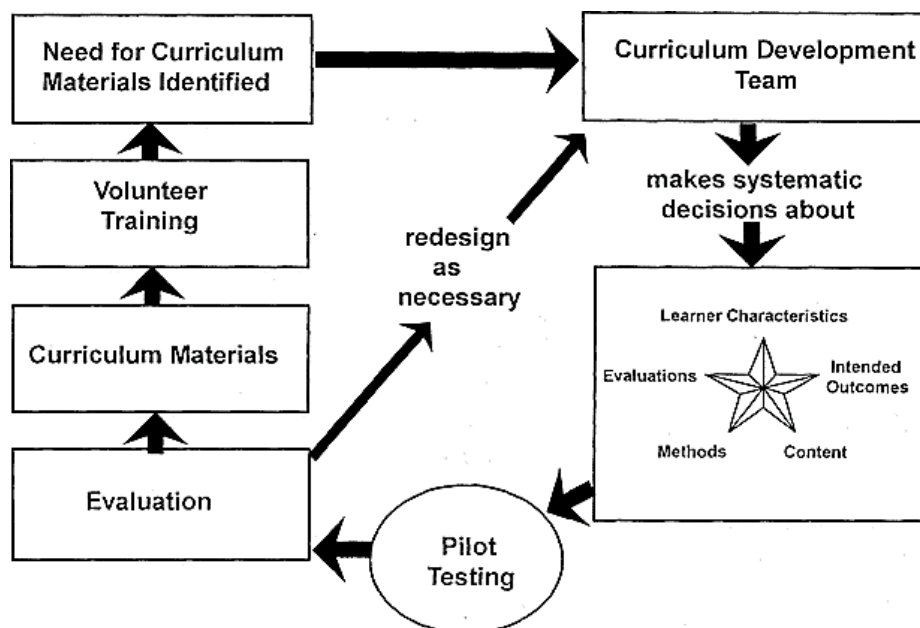


The teacher mobility program has three contents, as seen in the image above. 1) The

workshop consists of individual mentorship of the driving instructor. This workshop is divided into eight segments.

- The primary stage explores the public schooling reasoning and driving educator values presented in the modules referenced, as well as the objectives and reason, values, and obligations of driving educators.

- The subsequent stage is the stockpile of arrangements about the limit and ability to draw together the specialist networks of future instructor movers who explore learning designs that benefit understudies and social-profound-based advancement.

- The last piece of the studio's conversation centres around close-to-home social advancement as well as training on school programs that influence youngsters.

- The driving teacher is ready with training and schedules for decision-production as a pioneers in guidance for control of assets in the fourth stage.

- The fifth step of interviewing includes thinking about the driving educator's expertise and focusing on dealing with assets.

- This is going on in the 6th stage, alongside dealing with the program that impacts students.

- The 6th stage is the driving educator reap celebration, which is an occasion for evaluating the exercises related to the driving showing program and an exhibit of the results of the driving educator's genuine activity that is executed in learning.

- The eighteenth period of the workshop examines the vision and exercises of support of understudy schools, and the examination deduces in the 10th stage with an emphasis on economic projects associated with educator training.

This preparation educational program fundamentally gives opportunities for driver coaches to turn out to be mechanically proficient so that they can make utilization of computerized advances under any situation and conditions. Different exercises completed throughout the execution of the educator tutoring drive were pointed toward drawing nearer and meeting the abilities and necessities of 21st-century instructors, explicitly the capacity to work intimately with cohorts both in beating issues with discovering that are useful for understudies and in guaranteeing the progress of utilizations that have a course on understudies.

### Discussion

As per the discoveries of the exploration, the driving showing educational program is one of the arranged occasions and obliged educator ability, both expert abilities and 21st-century skill,

which is as of now an earnest interest in the mechanical headway of the Modern Unrest 4.0.

The various abilities and capacities instructed and consolidated in this action act as a scaffold to permit teachers to engage in finding their true capacity and reinforcing 21st century abilities, and capacities as experts that comprise educators' ways of life as learning facilitators. Furthermore, various initiatives created as part of the driving teacher program drive teachers to improve the four competencies required for long-term professional growth.

The materials offered and the mentoring procedure utilized by the teachers in the driving educator program contain essential elements linked to management talents and directing instruction so that the resultant learning is in favor of students.

Ongoing professional growth can take place in an environment and format that produces competencies accomplishment and prepares teachers to confront the difficulties presented by shifting times. Several different tasks that teachers may engage in to improve the quality of their abilities include participating in the program of workshops and conferences that are provided in the form of conversations to acquire knowledge about their abilities.

If continuing education is a means of developing classroom capabilities from those that are yet to be attained to those that have been attained, and from the people who have been attained to the point of becoming teachers who are prepared to face the difficulties presented by modern times, what motivates instructors becomes a substitute competent growth scheme that not only produces teachers who are accommodating to learning problems but also produces professionals who are ready to face the obstacles of the times.

This review is restricted by a perception of the idea of ceaseless expert development as an answer for creating and getting ready educators notwithstanding change, so it relates to the achieving instructor program, which was sent off to look for the forerunner teachers who are fit for becoming presidents for themselves, their collaborators, the schools they join in, and their understudies. The problem that this study faces is the fact that it is confined to doing online interviews, which is judged less than optimum, as well as the collection of assessments that have been conducted, leaving a space for future research.

## Conclusion

In the twenty-first century, educators everywhere play an important role in molding their students' lives and professions. When learning and instruction are at their finest, our students,

communities, and country prosper. We anticipate that our article will validate the critical role that these kinds of initiatives play in generating effective, committed educators, who can then enhance results for all K-12 kids. We will all gain if educators and educational leaders collaborate to create and execute techniques that promote the delivery and acquisition of contemporary information and abilities in more intentional ways.

The Department of the Ministry of Education and Culture's driving teacher program is a method of continuing education for school or madrasah instructors. This is evident from the idea and substance of the driving training for teachers' activities, which give training and aid in enhancing teachers' professional competencies. Concerning this initiative, LPTKs believe it is vital to explore making the instructor's driving program a way of developing teachers' long-term competence.

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# 21st Century Skills: An Analysis of MOOCs for College Students

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## Abstract

In 2020, when we all were transforming our life systems while dealing with pandemic situation in the whole world, we experienced the uncertainty and change is a permanent catalyst for life. We have adopted many skills related with lifesaving habits to molding our learning and teaching at all levels with the help of online sources in the form of courses based on skill development related to 21st century skills.

As mentioned, the pandemic had prepared us to be adaptive to change and to develop necessary skills with respect to our personal, educational, professional, social, economic and most important psychological needs. In this regard, even National Education Policy 2020 also focused on skill development and formulated a document by UGC related to 'Curriculum and guidelines for Life Skill 2.0'. In this document, the UGC had mentioned four types of two credit courses for each module viz. communication skills, Career skills, Leadership and management skills and universal values etc.

This paper aims to analyze the available MOOCs on SWAYAM and NPTEL platforms focused on the 21st century skills viz. critical thinking, creative thinking, digital literacy and other

skills etc. for college students. It is revealed through the online review of the available courses that there are courses available on soft skills and communication skills only which means there is a wide scope for development of MOOCs on redefined life skills viz. digital literacy and cyber security, financial planning, time management, mindfulness etc.

*Keywords:* 21st century skills, MOOC, college students, life Skills.

## Introduction

As we know that the aim of education is always related with the development of head, hand and heart, but in practice we always give importance to the cognitive development of the individual. In this regard, the skills related with the cognitive abilities have been focused more as compared to the psycho-social abilities and psycho-motor abilities. From last few decades it is reported that the graduates in India are lacking in employability skills and couldn't match with the industrial demands for the necessary skills required for different professions.

Apart from this, we can observe that every stage of our life requires different skills to deal with the situations faced by us and that is too different for every person. In last two-three years we all faced the pandemic situation which again made us to learn and adopt totally different skills from our life before the pandemic. Due to this, we have restructured our skill sets and groomed ourselves according to the challenges of 21st century. Thus, we can say that the knowledge, skills and attitude required to deal with the dynamic situations in 21st century and those are called as 21st century skills. It is interesting to study the concept of 21st century skills and its evolution.

**21st century skills: concept and evolution**

In the document '21st century skills Handbook' by CBSE, the concept of 21st century skills is stated as- "21st century skills are that skills that are required by an individual for his/her holistic development so that he/she can contribute to the progress and development of his/her society,

nation and world." Whereas the Glossary of Education defines 21st century skills as "The term 21st century skills refer to a broad set of knowledge, skills, work habits, character traits- that are believed by educators, school reformers, college professors, employers and others- to be critically important to success in today's world." It means it is expected that the 21st century skills enable the individual to deal with all life situations and profoundly lead his personal and social life by assuring his holistic development which contributes to national development also.

Our education system has been evolved through ages and always gave importance to skill development, as a notion of it NEP-2020 has given major focus on the skill development among students from school level. We have adopted competency-based education, vocational education soft skills education and life skills education suggested by W.H.O. which were aligned with the Delor's Report and UNESCO's aims of Education. Firstly, the employability skills considered as important one but it is considered that communication, collaboration and upgradation also required in this fast pacing world therefore, W.H.O. has enlisted the ten life skills to inculcate through education system. As a result of these churning discussions on global platforms and policy makers particularly after facing pandemic situation, we now reached to the 21st century skills.

**What are 21st century skills?**

According to the document namely- '21st century skills Handbook' by CBSE, the 21st century skills divided into three major groups as 3Ls- Literacy skills, Learning skills and Life skills. The Literacy skills included Information literacy, Media literacy and Technology literacy. In the Learning Skills 4C's which are - Critical thinking, Creative thinking, Communication and Collaboration whereas the Life skills included Flexibility & adoptability, Leadership & responsibility, Initiative & self-direction and Social and cross-cultural interaction. All these skills are meant to be achieved through core subjects and co-curricular activities as it is formulated for school level.

As per NEP 2020, the skill development courses should be part of every curriculum from early school education to graduation level. In this regard the UGC has developed 'Curriculum and guidelines for Life Skills 2.0' for college students. In this document, there are four courses with two credits each have been prescribed which are:

1. Communication Skills

2. Professional Skills

3. Leadership and Management Skills

4. Universal Human Values

By observing the sub skills in each category from this document, we can identify that the 21$^{st}$ century skills have redefined life skills for college students. Actually 21$^{st}$ century skills are wider than the life skills canvas as it is circumstantial and dynamic in nature by considering the changing demands of working conditions, industrial needs and above all the changing value systems through Human society.

**21$^{st}$ Century skills and Role of Higher education**

According to NEP-2020 the undergraduate students can adopt multiple entry and exit for acquiring certificate, diploma or degree as per their needs and they can also gain credits from adopting skill-based courses from different higher education institutes and transfer those with 'Academic Bank Credits'. This reformation would not only change the perspective about higher education, but it will bring massive transformation in skilled based education at higher education level and make the college students' future ready. Actually, during pandemic situation, the UGC and NCERT and other Higher education institutions had provided different online courses through MOOCs and asked the college and university students to complete these courses so as to gain extra credits. Now It would became regular practice to gain and transfer credits from other courses.

For this, the UGC has given a 'curriculum and guidelines for Life Skills 2.0' which is for

adopting 21st century skills by college students. In this curriculum structure, there would be four courses for two credits each including subskills in each. We can understand the linkage between these life skills and 21st century skills by observing different sub skills in each course.

**Figure 1**

Life Skills Courses by UGC
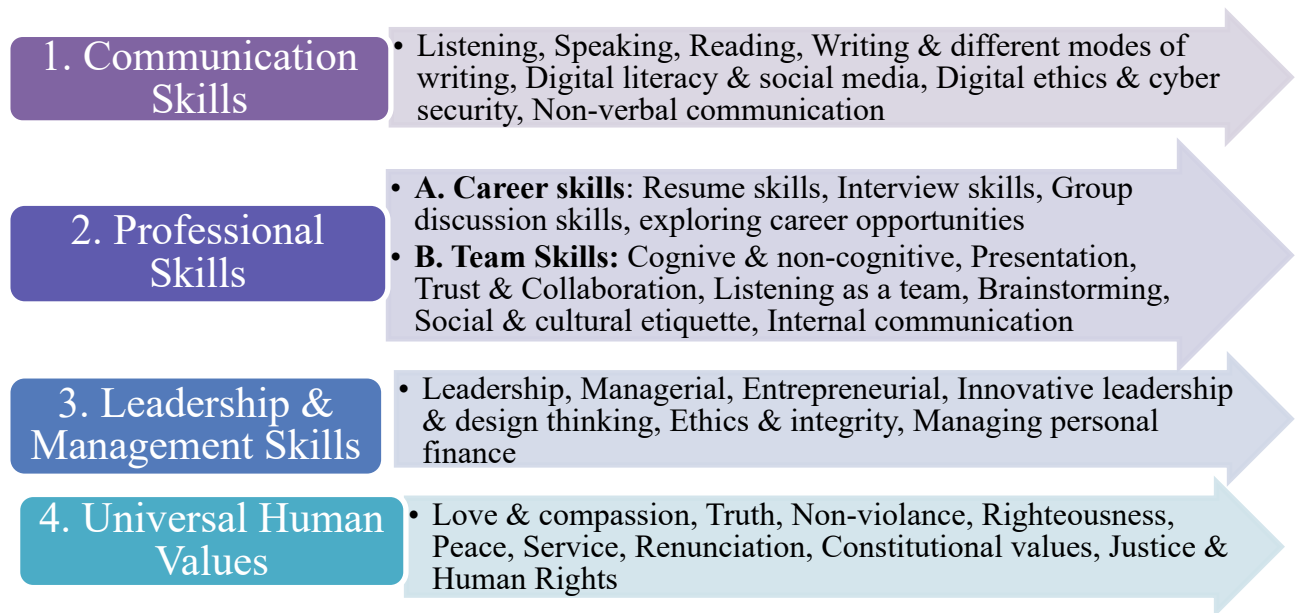


From the above figure we can understand that the UGC has included the 21st century skills by considering the demands of future society and it also connected these skills with Indian Knowledge system with respect to adding universal human values in it. All these skill courses are meant to be developing future citizens of India and universal citizens as well.

**MOOCs for 21st Century Skills: An analysis**

From last two decade, the UGC and higher education authorities are progressively adopting the online education and instruction for higher education level. The COVID-19 pandemic had accelerated this adoption of online courses, use of LMS for teaching-learning and also the development of different MOOCs by HEI faculties. In this the SWAYAM and NPTEL has played major and vital role in development and dissemination of MOOCs in India. While going through

the various MOOCs available for college students, it is observed that majority of these courses are based on theory subjects in various disciplines. There are very few courses which are related with 21st century skills enlisted by UGC and W.H.O. The course wise analysis is as follows:

**a. Communication Skills:**

Majority of courses available on SWAYAM are related with communication skills in different languages for developing speaking and writing skills. Some of them are with traditional approach of translation method while major of these adopted LSRW formula for language teaching. Still there are few courses on cyber security and ICT skills. Some of the MOOCs are related to computer languages which are meant for students with technical knowledge. The courses on digital literacy, social media, digital ethics and non-verbal communication are needed to be developed.

**b. Professional Skills:**

The report of National policy on skill development and entrepreneurship had reported that the graduates in India are lacking in professional skills related with presentation and team work etc. Unfortunately, it is observed that there are no MOOCs on Career skills and Team skills on SWAYAM platform.

**c. Leadership and Management Skills:**

There are very few MOOCs focusing on Event management, design thinking and leadership, three courses on entrepreneurship whereas there are courses on ethics which are focusing on research ethics only, but the topics of managing personal finances and innovative leadership are still lagging behind.

**d. Universal Human Values:**

It is revealed from the review of MOOCs available on SWAYAM that the skills related to universal human values are only considered in the MOOCs based on Yoga education and using IKS for well-being curriculum, physical activity and mind education. But this area of skills related

with value system is not properly indicated through the online courses.

From this analysis, we can conclude that UGC has taken appropriate cognizance about the 21st century skills and its inculcation through various courses in MOOC format by AICTE, NPTEL, NCERT, CEC, NIOS and IGNOU. These courses would be part of undergraduate degree courses which are meant for college students irrespective of their disciplinary background and by considering the holistic development of students through multidisciplinary approach. This would make them future ready by adopting 21st century skills.

### Conclusion

The skill education is always a part of our Indian Education system informal and traditional ways from Vedic period to current formal education system. In this Basic Education system implemented by Mahatma Gandhi has great contribution towards skill based courses. Even in Modern Education system we have vocational education courses based on certain skills and competencies required for different vocations. But the formal education system with traditional courses needed to be reformed. So after 34 years of previous policy on education, NEP-2020 has been formulated and implemented which is going to be a major paradigm shift in Education system in India. It has changed the segregated nature of knowledge and considered knowledge as a whole and multidisciplinary in nature. It also tried to connect the theory with skill development and make the combination of traditional courses with skill based courses as per the choice of the students.

In this the HEI could play major role to provide necessary facilities and learning environment with proper experts in the respective fields as well as by motivating students to adopt online courses related with particular skills. Therefore, it is needed to restructure and reform the curriculum of higher education with respect to industrial demands, students' competencies and societal needs. For this the faculties of HEI should be retrospect their own competencies and be ready to develop and implement courses based on 21st century skills. Majority of young professors

should be motivated to develop MOOCs based on 21st century skills. This would not only helpful for students but also for the faculties in higher education to adopt 21st century skills to be ready for achieving 'SDG-4 of Quality Education for All' by UNESCO.

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# Educational Tours for Students: Enhancing Learning Beyond the Classroom

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## Abstract

The research aims to know about the Improvements that educational tours create in students and Challenges faced by educational tourism activities. Educational tours, also known as field trips or study tours, are organized trips designed to enhance learning by providing students with the opportunity to explore and experience educational, cultural, and historical sites outside of the classroom. These tours can take place at various levels of education, from primary school to college and beyond. The nature of this research paper is descriptive and explanatory. Spent three months for the study. As part of the study, data was collected through face to face interview method from various tour operators and school children. The secondary data required for this study was taken from websites, magazines, journals and other published materials from government and non-government organizations. The study finds that the Study trips can influence students' career choices, students with disabilities often avoid journey related to study trips due to inaccessible study tour destinations, Safety concerns during a study tour affect both those involved in the study tour and those who are part of it.

*Keywords:* educational tourism, students, benefit, challenges.

## Introduction

Educational tours help in the improvement of academic and non-academic activities of the students. Educational tours allow students to acquire rich knowledge and experiences about a place, culture and environment and so on. As part of the educational tour, there is a situation for the students to go out into the community. Through this, students get different life experiences than the knowledge they get from

classroom studies. Interaction with local people, new cultures and nature as part of the educational tour take students' knowledge and thinking to the next level.

Some of the benefits students gain from educational tours are increased knowledge of world experiences, personal development, increased self-confidence, development of problem-solving skills, enhanced critical thinking skills, development of leadership skills, and improved academic performance. some of the different types of educational tours are science and nature tours, history tours, art and culture tours, and community service tours. Budget, safety, educational value, student demographics, teacher involvement, duration of the tour, etc. are things to consider while planning an educational tour.

Concerns about student safety, lack of qualified tour operators and guides, expensive transportation and accommodation, and lack of skills for school staff to implement educational tours are some of the challenges facing the educational tour sector.

**Advantages of Educational Travel for Students**

**An Increase in Awareness of Social Surroundings**

Educational tours give students the opportunity to experience the concepts and social environments they are studying. Beyond the knowledge gained from home and educational institution, as a result of educational travel, the broader perspectives gained from different places, cultures, natural environments, people's living conditions can influence students' decision-making ability, Broadening their perspectives, increasing cultural awareness and leading to greater understanding of social issues.

**Academic Achievement and have an Impact on Career Choice**

Study tours help students to enhance their knowledge and experience in academic subjects. For example, industrial visits conducted as a part of study tour increase the knowledge of students and also influence their career choice. Interactions with professionals and experts they meet as part of the trip will help students strengthen their academic and career paths.

**Enhances Self-confidence**

Traveling to unfamiliar places as part of a study tour encourages students to adapt to different environments, which boosts students' self-confidence. Successfully applying problem-solving skills to situations that may encounter unexpected challenges during the study tour can lead to an increase in

students' self-confidence. During the study tour, students are able to rely on their own abilities and increase their self-confidence by doing responsible things on their own.

## An Improvement of Cooperation and Leadership Abilities

Students are forced to stick together as a team as a result of having to travel through unfamiliar surroundings during the study tour. Being together results in students taking on leadership roles and increasing their critical thinking and problem solving skills.

## Challenges Faced in Implementing Educational Tour Activities

## Unaffordable cost

Conducting study tours is often an expensive and financially burdensome activity. Students in an educational institution comes from diverse economic and social background. Therefore, not all students will be able to bear the cost of the study tour. It is the responsibility of the organizers to ensure that all students, regardless of socio-economic conditions, participate in the study tour. Budget planning for study tour can reduce extra expenses.

## Security concerns

Traveling to unfamiliar places as part of a study tour can naturally raise concerns for the safety of children for parents. such concerns can be removed through constant communication with the parents and the authorities of the educational institution. To overcome such concerns, understand the socio-ecological conditions of the destination before the study tour journey. Also, prepare a contact list to deal with emergencies.

## Time Limits

It is a challenge to devise study tour activities in a way that does not affect the academic activities of the students within the available time. Therefore, proper schedules should be implemented for the implementation of academic and non-academic activities.

## Tendency to not consider differently abled students

Students with disabilities are often excluded from field trips not because the organizers exclude the child, but because they cannot go to places that are not accessible to them. But the reason for this is the organizers themselves. As long as organizers choose places where students with disabilities cannot attend,

students with disabilities will continue to miss out on field trips.

## Objectives

1. To know what is educational tourism.

2. Improvements that educational tours create in students

3. Challenges faced by educational tourism activities

## Literature Review

Outside-of-class experiences gained through travel as a part of academic endeavors promote personal development, improved life skills, and global awareness of a student. This study is primarily aimed at college students. (Petrick, 2013).

Educational tours can have a significant impact on making students more connected to academic fields. Field trips will inspire students to increase their interest and knowledge in academic subjects. This study examines low-cost or low-cost field trip ideas. (Behrendt, 2014).

Foreign students can be drawn to educational institutions using educational tourism as a tactic. The Indian tourism industry benefits from educational tourism's ability to maintain expansion (Choudhary et al. 2022). Educational tour costs should be affordable to travellers and this will ensure the participation of a large number of students (Jackqueline et al, 2021).
International students might be viewed as educational tourists who benefit both the host country and themselves throughout their stay. The perspectives on how higher education institutions might support regional development through educational tourism are compiled in this paper (Tomasi et al. 2020)

Kublashvili. (2013) Educational tourism enables students to improve their personal skills and increase their employability. Kumar, A., & Srivastava, D. (2023) The language problem, the risk of discrimination and racism are some of the challenges faced in conducting study tours.

**Summary of Literature Review**

After reviewing several research articles, the study confirms that studies on education tour are scarce. Most studies are about international study tour trips and do not address the impacts of educational tourism. There should be more studies that address the core issues facing educational tourism and how educational tourism can benefit students. That is what this study aims to do.

## Research Questions

1. What is educational tourism?

2. What improvements do educational tours create in students?

3. What are the challenges faced by educational tourism activities?

## Research Gap

There should be more studies on the core issues facing educational tourism and how educational tourism benefits students. This study analysed the core issues faced by educational tourism and how educational tourism benefits students.

## Methodology

The nature of this research paper is descriptive and explanatory. The study analysed the Improvements that educational tours create in students and Challenges faced by educational tourism activities.

Spent two months for the study. As part of the study, data was collected through face-to-face interview method from various tour operators and school children. The secondary data required for this study was taken from websites, magazines, journals and other published materials from government and non-government organizations.

## Findings

1. Study trips can influence students' career choices.

2. students with disabilities often avoid journey related to study trips due to inaccessible study tour destinations.

3. Safety concerns during a study tour affect both those involved in the study tour and those who are part of it.

## Suggestions

1. Include accessible friendly destinations in the study tour so that differently abled students can also participate.

2.  Implement a system that ensures continuous communication between the authorities and parents to address the concerns of parents regarding their children during the journey.

3.  Make study tours a part of the curriculum.

## Conclusion

As part of the study on the topic "'Educational Tours for Students: Enhancing Learning Beyond the Classroom." The study analysed the Improvements that educational tours create in students; Challenges faced by educational tourism activities. As part of the study, proposals such as Include accessible friendly destinations in the study tour, implement a system that ensures continuous communication between the authorities and parents to address the concerns of parents regarding their children during the journey, make study tours a part of the curriculum were also put forward as part of the study.

## Limitations of the Study

Due to the wide range of the study, different categories of students, authorities in the educational institutions, parents have not been studied in depth.

## Future scope of the Study

Various findings and suggestions emerged as part of the study will help the authorities concerned to make major corrections and improvements for the successful implementation and development of the study tour.

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# Analysing English Proficiency of D.El. Ed. Teacher Trainees in Urdu Medium Instruction: Implications for NEP 2020

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## Abstract

In the context of NEP 2020, this study investigates the English language proficiency of teacher trainees pursuing a Diploma in Elementary Education (DElEd) through Urdu medium instruction at Urdu University. The NEP 2020 mandates improvements in English language proficiency among teacher trainees, necessitating a comprehensive examination of the current state. Employing a mixed-methods approach, this research collects data via questionnaires and interviews to assess DElEd teacher trainees' English language proficiency. Findings will reveal strengths and areas needing improvement in English language teaching and assessment among these trainees. Moreover, this study identifies challenges faced by them in adapting to NEP 2020 and offers recommendations to enhance their English proficiency. The implications are substantial, as this research informs targeted professional development programs, aiding the implementation of effective strategies for equipping teacher trainees with the necessary skills to teach English.

## Introduction

The National Education Policy (NEP) of 2020 has set forth a transformative agenda for the education system in India, aiming to enhance the quality of education at all levels. A critical component of this reform is the emphasis on English language proficiency among teacher trainees, recognizing its pivotal role in enabling effective instruction. This study delves into the specific context of teacher trainees pursuing a Diploma in Elementary Education (DElEd) through Urdu medium instruction at Maulana Azad National Urdu University. Understanding the existing proficiency levels in English among these trainees is imperative to meet the objectives outlined in NEP 2020.

## Objectives

1. To assess the current English language proficiency of DElEd teacher trainees.

2. To identify strengths and areas requiring improvement in English language teaching and assessment.

3. To examine challenges faced by teacher trainees in adapting to the requirements of NEP 2020.

4. To provide recommendations for enhancing the English proficiency of teacher trainees.

## Methodology

This research employs a mixed-methods approach, combining quantitative and qualitative techniques to gather comprehensive data. A structured questionnaire proficiency

checklist will be administered to a sample of DElEd teacher trainees to quantitatively assess their proficiency levels in English. Additionally, in-depth interviews will be conducted to obtain nuanced insights into their experiences, challenges, and strategies related to English language acquisition.

## Research Questions

What is the current level of English language proficiency among DElEd teacher trainees instructed in Urdu at Maulana Azad National Urdu University, and what are their observed strengths in English language teaching and assessment in the Urdu medium instruction context?

In what areas do DElEd teacher trainees, instructed in Urdu, need improvement in English language proficiency and instruction, and what challenges do they face in adapting to the requirements of NEP 2020, particularly concerning English language proficiency? Additionally, what specific recommendations can be provided to enhance their English language proficiency at Urdu University?

These research questions aim to address the key objectives outlined in the abstract and guide the study towards obtaining meaningful insights regarding the English proficiency of DElEd teacher trainees in the context of Urdu medium instruction.

## Literature Review

The interplay between a child's proficiency in their native language and their

acquisition of a second language has been a subject of considerable interest in the field of bilingual education.  Mumtaz and Humphreys (2002) address this dynamic through a study focusing on Urdu-speaking children, specifically examining the influence of Urdu vocabulary knowledge and phonological awareness on their performance in English reading and related tasks.

## Bilingualism and Second Language Acquisition

The acquisition of a second language is a complex process influenced by various factors. Cummins (1979) introduced the concept of linguistic interdependence, highlighting the transferability of skills across languages. This concept has gained prominence in understanding how proficiency in one's native language can scaffold the learning of a second language.

## Vocabulary Knowledge and Phonological Awareness

Vocabulary knowledge constitutes a fundamental aspect of language competence. Nation (2005) emphasizes the pivotal role of vocabulary size in reading comprehension and overall language proficiency. Additionally, Adams (1990) underscores the significance of phonological awareness, the ability to recognize and manipulate sounds, in predicting reading success.

## Impact of Urdu Proficiency on English Reading

Mumtaz and Humphreys' (2002) study sheds light on the direct influence of Urdu proficiency on English reading performance. Children exhibiting high levels of Urdu

vocabulary knowledge and phonological awareness tend to excel in English reading and related tasks. This suggests a transfer of skills from the native language to the second language, supporting Cummins' (1979) theory of linguistic interdependence.

## Visual Memory Tasks

An intriguing aspect illuminated by the study pertains to visual memory tasks. Children with some degree of Urdu word recognition skills, albeit with lower levels of vocabulary knowledge and phonological awareness, tend to outperform their peers on visual memory tasks. This suggests a nuanced relationship between linguistic skills and cognitive processes, underscoring the complexity of language acquisition (Bialystok, 1997).

## Implications for Educational Practice

The findings of this study hold substantial implications for educational practices, particularly in bilingual contexts. It underscores the importance of fostering strong native language skills, as a robust foundation in the first language can serve as a catalyst for success in second language acquisition (Cummins, 2000). Additionally, the study calls for tailored instructional strategies that recognize and leverage the linguistic diversity of learners.

Since 2010, Malaysia's Ministry of Education introduced English as a medium of instruction in preschools, raising concerns about teachers' language proficiency. Goh's (2019) study surveyed 204 preschool teachers, revealing varying levels of confidence in English skills, with higher proficiency in listening compared to speaking and writing. Despite limitations, the

study provides valuable insights for educational stakeholders and policymakers, applicable not only to Malaysia but also neighbouring countries like Thailand and Indonesia. Goh's mixed methods design offers comprehensive insights beyond statistical measures alone (Goh, 2019).

Freeman et al.'s (2015) research advocates for a reconceptualization of teacher language proficiency. Instead of a general mastery of English, the authors propose a specialized subset of skills tailored for lesson preparation and delivery. This perspective aligns with English for Specific Purposes (ESP), emphasizing the unique linguistic demands of the classroom. The authors detail how this construct was developed, encapsulating the distinctive linguistic requisites of teaching. The article outlines sample classroom tasks and the corresponding language proficiency needed across three domains: classroom management, comprehension of lesson content, and student assessment with feedback. This underscores the task-specific nature of English-for-Teaching, highlighting its potential to enhance instructional effectiveness in real-world settings.

Freeman (2017) contends that traditional definitions of English proficiency, which rely on generic language use statements, fall short in addressing the specific classroom language skills required for effective teaching. The study emphasizes the need to recognize a distinct form of English proficiency tailored for instructional contexts. This perspective underscores the importance of understanding and assessing language proficiency in a manner that aligns with the demands of the teaching environment.

The National Education Policy of 2020 heralds a significant paradigm shift in

assessment practices within the schooling system. It advocates moving away from the traditional focus on summative evaluations and rote memorization, towards a more dynamic approach. This involves regular, formative assessments that are competency-driven and consider English proficiency as an integral component. The primary objective of assessment is redefined to be learning-centric, functioning as a tool for teachers, students, and the education system to iteratively refine teaching-learning processes, with a particular emphasis on optimizing English language learning and development for all students. This transformative shift underscores a learner-cantered approach that places English proficiency at the forefront of educational priorities across all levels of education (National Educational Policy, 2020:17).

Mumtaz and Humphreys' (2002) study provides valuable insights into the intricate relationship between Urdu proficiency and English reading acquisition. It underscores the pivotal role of vocabulary knowledge and phonological awareness in shaping reading abilities across languages. This research serves as a critical contribution to the broader discourse on bilingual education and highlights the need for nuanced pedagogical approaches that recognize and harness the linguistic diversity of learners.

The study by Prasodjo and Sally (2022) underscores the pivotal role of listening and reading proficiency in the English language learning process for freshman students. Assessing their English proficiency through the University Test of English Proficiency (UTEP) not only aids in evaluating batch performance but also informs future policies and teaching strategies. This is crucial for EFL teachers in tailoring effective instructional approaches. Additionally, the

study aims to provide a comprehensive understanding of the current batch's UTEP scores and establish the relationship between listening and reading proficiency. By employing a quantitative methodology, the research seeks to contribute to the continuous enhancement of UTEP as an assessment tool. This investigation holds significance in refining English language teaching practices and assessments, thereby fostering a conducive learning environment for freshman students (Prasodjo & Sally, 2022).

Loi and Hang's (2021) study delves into the establishment of advanced English proficiency standards for teacher graduates in Vietnam. Focusing on fourth-year EFL teacher trainees, the research investigates language proficiency development and explores training factors influencing this outcome. The study employs self-assessment questionnaires and group interviews, revealing that 62.4% of candidates self-assessed at the C1-advanced level. However, a notable portion expressed a desire for additional proficiency support. Participants generally reported satisfaction with the effectiveness of English proficiency training. Noteworthy correlations emerged between proficiency scores, self-regulated learning strategies, types of teaching and assessment activities, and starting proficiency levels. These findings bear substantial implications for the preparation of foreign language teachers, aligning them with proficiency standards, and provide insights into the intersection of expectations and realities in this context (Loi & Hang, 2021).

### Data Analysis

Let's delve into a quantitative analysis of the four language skills (LSRW) based on the

collected data:

### Listening Proficiency:

- Beginner Level (Low):  This group constitutes 15% of the total responses. These individuals have a very limited ability to understand spoken English. They may struggle with even basic questions and statements on familiar topics.

- Beginner Level (High):  This category accounts for 10% of the total responses. They can understand simple questions and statements on familiar topics, but often require restatements in a simplified form, such as diagrams, to aid comprehension.

- Intermediate Level (Low):  This group represents 5% of the total responses. They can understand most questions and conversations on familiar topics spoken distinctively at normal speed, but may need occasional restatement or clarification.

- Intermediate Level (High):  This category comprises 15% of the total responses. They can understand most informal questions, statements, and conversations at normal speed, but may face some difficulty comprehending lectures on familiar topics.

- Advanced Level (Low):  This group accounts for 20% of the total responses. They can understand most conversations and most lectures on familiar topics at normal speed. However, they may require occasional restatement or clarification.

- Advanced Level (High):  This category represents the largest group, constituting 35%

of the total responses. They can understand academic topical conversations and most lectures without difficulty.
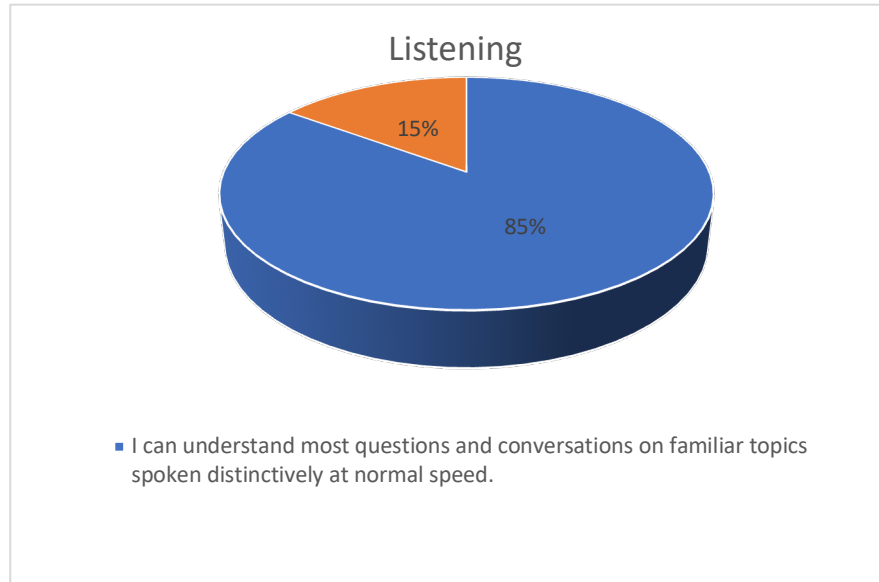


The majority of respondents fall under the Intermediate Level for both listening and speaking proficiency. There is a need for restatement or clarification in listening, especially at the Intermediate Level. Speaking proficiency is more evenly distributed across the different levels compared to listening proficiency. The Advanced Level in both listening and speaking is less represented in this sample.

**Speaking Proficiency**

- Beginner Level (Low):  This group constitutes 10% of the total responses. They have very limited ability in speaking English and may only be able to copy isolated words or short phrases.

- Beginner Level (High):  This category accounts for 10% of the total responses. They can ask and answer questions to satisfy daily routine speaking needs on very familiar topics,

but their speaking vocabulary may be limited.

 - Intermediate Level (Low):  This group represents 5% of the total responses. They can handle daily speaking tasks with confidence, but not most of them. They may also need help for most tasks and have a limited vocabulary.

 - Intermediate Level (High):  This category comprises 25% of the total responses. They participate effectively in social and academic conversations, although they may occasionally hesitate. They may also make occasional errors in idioms and structure.

 - Advanced Level (Low):  This group accounts for 5% of the total responses. They can speak English in most situations, and their comprehension is quite complete for a normal speech rate. However, they may occasionally commit errors in idioms and structures, making the meaning unclear.

 - Advanced Level (High):  This category represents the largest group, constituting 45% of the total responses. They use the language fluently on all levels, from normal to school-related needs. They can understand and participate in almost any conversations within their range of experience with a high degree of fluency.
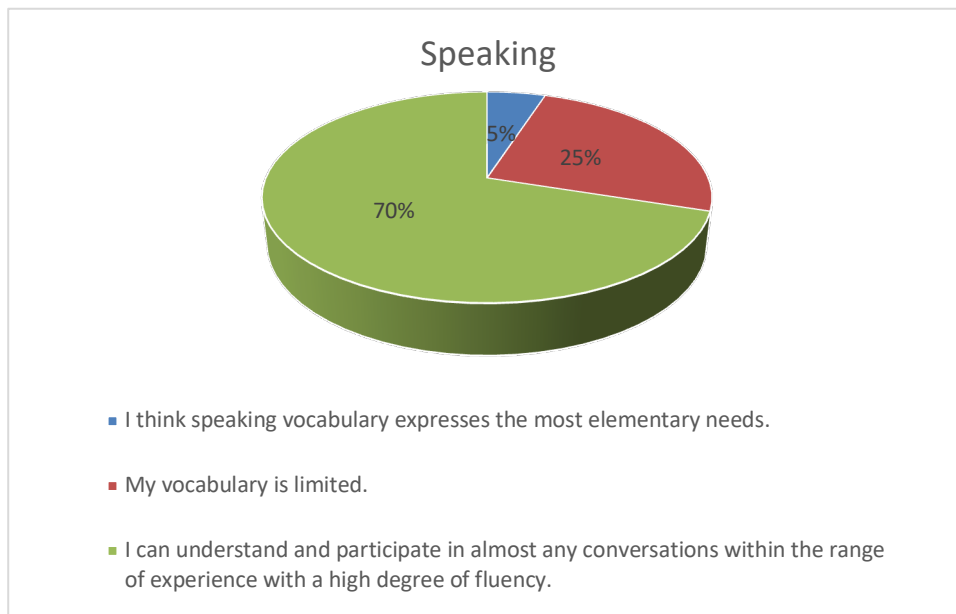
Personalized instruction and resources should be provided for individuals at different proficiency levels to help them progress. For listening proficiency, providing additional support for comprehension, especially at the Intermediate Level, is crucial. Speaking proficiency, particularly at the Beginner Level, requires targeted language development strategies.

## Reading Proficiency

- Beginner Level (Low): This group constitutes 15% of the total responses. They have very limited ability in reading English.

- Beginner Level (High): This category accounts for 5% of the total responses. They can read and understand simple narrative and descriptive text.

- Intermediate Level (Low): This group represents 10% of the total responses. They can understand short discourse on familiar topics, but misinterpretations may still occur with complex material.

- Intermediate Level (High): This category comprises 30% of the total responses. They can understand most factual information in prose and engage with uncomplicated prose on familiar subjects.

- Advanced Level (Low): This group accounts for 5% of the total responses. They can read standard newspaper items addressed to the general reader, routine correspondence reports, and technical materials.

- Advanced Level (High): This category represents 35% of the total responses. They can read standard newspaper items, gain new knowledge from materials in unfamiliar topics, and appreciate nuances of style.



**Reading**

- I can read and understand simple narrative and descriptive text.
- I can understand simple text (messages, greetings, popular advertising, letters, and invitations).
- I read simple printed material within a familiar context.
- I can read uncomplicated prose on familiar subjects in frequently used sentence patterns.
- I can read the facts but cannot draw inferences.
- I can understand most factual information in prose as well as some discussions on concrete topics related to special events.
- I am able to separate, locate, and interpret main ideas and details.
- I can read standard newspaper items addressed to the general reader, routine correspondence reports and technical materials.

## Implications

Tailored instruction should be provided for individuals at different proficiency levels to further enhance their reading skills. For individuals at Beginner and Intermediate Levels, targeted reading comprehension strategies may be beneficial. This analysis is based on the provided responses and does not account for the total number of participants. The effectiveness of any instructional intervention would require a more detailed understanding of the context and specific needs of the learners.

## Writing Proficiency

- Beginner Level (Low): This group constitutes 10% of the total responses. They have very limited ability in writing and may only be able to copy isolated words or short phrases.
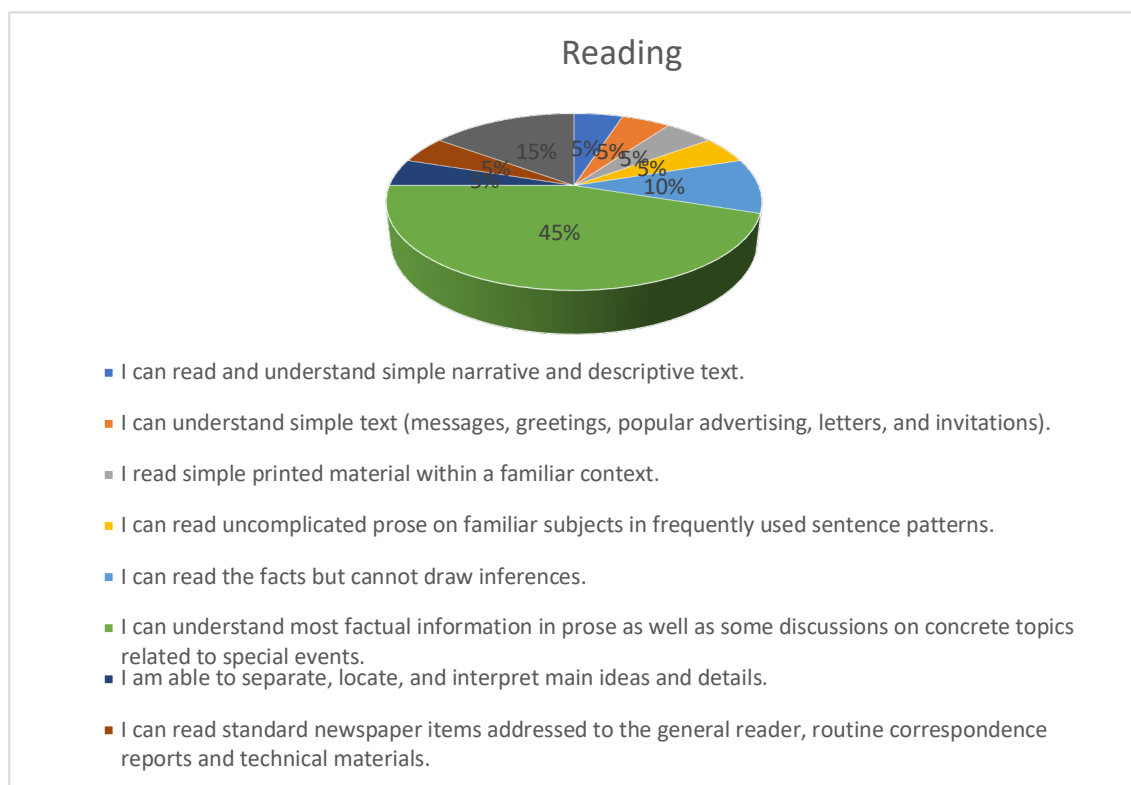
- Beginner Level (High): This category accounts for 10% of the total responses. They can write simple memorized materials, but may frequently misspell words.

- Intermediate Level (Low): This group represents 10% of the total responses. They have good control of basic sentence construction and inflections, though errors may occasionally occur.

- Intermediate Level (High): This category comprises 30% of the total responses. They can take notes in some detail on familiar topics, respond to personal questioning, and express fairly accurate verb forms.

- Advanced Level (Low): This group accounts for 15% of the total responses. They can write simple social correspondence, take notes, and describe factual topics. They may make common errors in spelling and punctuation.

- Advanced Level (High): This category represents 25% of the total responses. They use written English in most exchanges, write short papers expressing statements of position, points of view, and arguments. They have good control over structure, spelling, and vocabulary, although they may encounter some challenges in writing to various audiences and styles.

These quantitative insights offer a comprehensive understanding of the proficiency levels across the four language skills. The majority of participants fall within the advanced levels, particularly in speaking and reading. However, there is a notable presence of learners in the intermediate and beginner categories,



Writing

- I write simple memorized materials.

- I have good control of basic sentence construction and inflections (subject/verb agreement) and straight-forward syntactic constructions in present, past, and future tense though errors occasionally occur.

- I can express fairly accurately present and future tense.

- I can produce some past verb forms, but not always accurately or with correct usage.

- I can write simple social correspondence, take notes, write summaries, and describe factual topics.

Appropriate instruction should be provided for individuals at different proficiency levels to further enhance their writing skills. For individuals at the Beginner Level, foundational writing skills may need to be developed.

## Conclusion

The quantitative analysis of language proficiency levels across the four skills (LSRW) provides a comprehensive overview. The majority of participants exhibit advanced proficiency in speaking and reading, indicating a robust foundation in these areas, aligning well with the objectives outlined in the NEP 2020. This policy emphasizes the integration of experiential learning and work education, a crucial aspect for holistic development. However, it is noteworthy that a diverse range of proficiency levels exists within the surveyed group, including intermediate and beginner categories, emphasizing the need for targeted interventions and individualized learning pathways, especially for trainees in primary teacher training programs.

Considering the NEP 2020's emphasis on the importance of mother tongue in education, it becomes imperative to incorporate effective language teaching strategies that leverage this linguistic resource. Recognizing the diversity within the proficiency levels, especially in listening and writing skills, presents an opportunity for tailored approaches. For instance, encouraging activities that utilize the mother tongue as a scaffolding tool can aid comprehension, particularly for trainees at the intermediate and beginner levels. This not only aligns with the policy's vision but also acknowledges the linguistic richness that each trainee brings to the learning environment.

Furthermore, while advanced proficiency levels prevail, particularly in speaking and reading, there remains room for growth, especially in writing tasks that demand more complex expression. By incorporating experiential learning methods, trainees can be encouraged to engage in real-world applications of language, facilitating a more comprehensive grasp of advanced writing conventions. This approach, integrated with mother tongue-based instruction, not only supports the NEP 2020's objectives but also addresses the diverse proficiency landscape among trainees, ensuring a well-rounded and inclusive language education framework.

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# An Explorative Study on Education for Sustainable Development and Global Citizenship Education for Teacher Educators

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## Abstract

Teacher Education for Sustainable Development and Global Citizenship Education is a specialised innovation in teacher education that gives educators the ability to equip students to tackle issues related to global citizenship and sustainable development (Bamber, 2019). This exploratory study provides a comprehensive literature evaluation based on a qualitative examination of several journals, publications, and official documents to further the dissemination of this niche innovation into teacher education. This study also sought to explore the role of Global Citizenship Education in promoting sustainable development in the context of Teacher education. This study employed a qualitative research methodology with an interpretative perspective. Results showed that a key tool for advancing sustainable development is global citizenship education. The paths that students, researchers, and teacher educators take on global issues, diversity, and multiculturalism can be greatly influenced by global citizenship education.

*Keywords:* sustainable development, global citizenship education, teacher educator.

## Introduction

Two crucial aspects of education's mission have expanded to include social injustice, cultural diversity, and climate change in a period of unparalleled global problems. Education

for Sustainable Development and Global Citizenship Education (**Unesco,2014**). These two dimensions emphasise the imperative of equipping learners with the knowledge, skills, and values. On the other hand, Global Citizenship Education underscores the significance of nurturing global awareness and interconnectedness among individuals, preparing them to engage actively as responsible citizens in the present world (**United Nations, n.d.**). These two educational dimensions are not isolated concepts but rather interconnected facets of an overarching mission to empower learners to become informed, ethical, and active participants. In light of this, we investigate the critical roles that Global Citizenship Education and Education for Sustainable Development play in teacher preparation, looking at how these frameworks might influence educational trends and help create a society that is more environmentally conscious and sustainable in the long run.

**Relevance of Sustainable Development and Global Citizenship Education in the Context of Teacher Education**

Preparing Future Educators: Future teachers' attitudes, values, and pedagogical practices are greatly influenced by their experiences in teacher education programmes. Prospective educators may be prepared to teach and model sustainability and global citizenship in their classrooms by including preparation for Sustainable Development and Global Citizenship Education into their teacher preparation programmes (Lourenço and Andrade 2022). Incorporating global citizenship education and sustainable education into teaching

practices not only benefits students but also contributes to a more responsible, ethical, and interconnected society.

Meeting Evolving Educational Goals: Modern education aims to go beyond academic knowledge and exam scores. Education for Sustainable Development and Global Citizenship Education align with the broader goals of education, which include fostering critical thinking, problem-solving, and ethical decision-making (Kioupi, V., & Voulvoulis, N. 2019). These concepts provide a framework for addressing real-world issues, such as climate change, poverty, and human rights, making education more relevant and meaningful.

Addressing Global Challenges: Education for Sustainable Development and Global Citizenship Education help teachers and students better understand and tackle global challenges. Climate change, environmental degradation, and social inequalities are issues that affect all of humanity. Teachers who are well-versed in these concepts can guide students in understanding the interconnectedness of global problems and in seeking sustainable and ethical solutions (*Social dimensions of climate change*. (n.d.).

Promoting Inclusivity and Diversity:  Global Citizenship Education encourages an appreciation of diversity and intercultural understanding. In an increasingly globalised world, teachers need to be culturally competent and capable of promoting tolerance and inclusivity in the classroom (Akkari, A., & Maleq, K. ,2020). This is especially important in addressing issues related to discrimination, xenophobia, bullying, socioeconomic disparities, language and cultural barriers, gender stereotyping and bias issues.

Encouraging Critical Thinking and Active Citizenship: Education for Sustainable Development and  Global Citizenship Education promotes critical thinking and the ability to question the status. Teachers educated in these principles can empower students to engage in informed, constructive, and responsible citizenship. They can encourage students to question existing systems and work towards positive change.

Meeting Curriculum Requirements: Many education systems worldwide are incorporating Education for Sustainable Development and Global Citizenship Education into their curriculum frameworks. Teachers who are educated in these concepts are better positioned to meet these curriculum requirements and integrate sustainable and global perspectives into their teaching.

Professional Development and Lifelong Learning: Education for Sustainable Development and Global Citizenship Education are not just for students but also for teachers. Ongoing professional development in these areas can enhance a teacher's effectiveness and promote lifelong learning. Teachers can stay informed about the latest developments in sustainability and global citizenship and adapt their teaching accordingly ("Teachers Have Their Say: Motivation, Skills and Opportunities to Teach Education for Sustainable Development and Global Citizenship," 2021).

## Objectives

1. To investigate the current state of Education for Sustainable Development and Global Citizenship Education integration in teacher education programmes.

2. To identify the key challenges and barriers faced by teacher education institutions in incorporating Education for Sustainable Development and Global Citizenship Education into their curriculum.

3. To explore the best practices and successful models of Education for Sustainable Development and Global Citizenship Education integration in teacher education, both at the national and international levels.

## Significance of the Study

Education for Sustainable Development and Global Citizenship Education hold profound significance in contemporary education. In this era defined by global challenges like climate change, social inequality, and cultural diversity, these educational dimensions are instrumental in preparing individuals for the complexities of our interconnected world. Education for Sustainable Development equips learners with the knowledge, skills, and values to address pressing environmental, economic, and social issues while fostering a commitment to sustainable practices. Simultaneously, Global Citizenship Education promotes a sense of global citizenship, encouraging cultural sensitivity, inclusivity, and a responsibility to the entire planet. These concepts are a response to the demand for holistic learning that goes beyond traditional academic subjects, focusing on critical thinking, ethical values, and the development of practical life skills. They prepare individuals for the future by cultivating adaptability, problem-solving, and a global mindset, while also nurturing an active commitment to civic engagement and responsible citizenship. Education for Sustainable Development and Global Citizenship Education are not merely educational initiatives; they are

cornerstones of a transformative approach to contemporary education, shaping informed, ethical, and proactive global citizens who can address the multifaceted challenges of the 21st century.

## Literature Review

**UNESCO (United Nations Educational, Scientific and Cultural Organization)**

UNESCO has been at the forefront of promoting Education for Sustainable Development and Global Citizenship Education as essential components of contemporary education. They emphasise the role of education in achieving the United Nations Sustainable Development Goals (SDGs). UNESCO has developed frameworks and guidelines for integrating Education for Sustainable Development and Global Citizenship Education into national education systems, highlighting their global significance.

Reimers, F., & Chung, C. K. (2016) Reimers and Chung argue for the inclusion of Global Citizenship Education in the curriculum, emphasising that it can bridge divides and promote global peace and understanding. They highlight Global Citizenship Education's role in creating global citizens who can contribute positively to international problem-solving and cooperation.

Wals, A. E. (2014) Wals discusses the need for transformative learning in Education for Sustainable Development and Global Citizenship Education, which goes beyond acquiring

knowledge to inspire behavioural change and ethical considerations. He emphasises the role of educators in facilitating this transformative learning experience.

Kopnina, H. (2017) Kopnina discusses the challenges and limitations of Education for Sustainable Development and Global Citizenship Education, such as the risk of superficial, tokenistic approaches. She calls for a critical examination of these educational paradigms to ensure they lead to real, lasting change and do not become empty buzzwords.

Jensen, B. B. (2019) Jensen's work explores the impact of Education for Sustainable Development on teacher education and discusses strategies for effectively incorporating Education for Sustainable Development into teacher training programs.

Tilbury, D., & Pitt, R. (2019) This work discusses the alignment of Education for Sustainable Development with the United Nations Sustainable Development Goals and its role in advancing sustainable development worldwide.

Sato, M., & Hopper, S. (2020) Sato and Hopper's research examines the influence of Education for Sustainable Development on students' ecological knowledge and the factors that contribute to successful Education for Sustainable Development implementation in schools.

## Quest for the Study

In the current environment, the following research gaps in existing teacher education

programmes are grouped in terms of the relevance of Education for Sustainable Development and Global Citizenship Education.

**Inadequate Coverage**

One prominent gap in teacher education programs is the limited coverage of Education for Sustainable Development and Global Citizenship Education. These crucial concepts are often offered as optional or supplementary courses rather than being fully integrated into the core curriculum. As a result, many future educators graduate with only a surface-level understanding of sustainability and global citizenship, without the depth needed to effectively impart these principles to their students.

**Lack of Interdisciplinary Approach**

Education for Sustainable Development and Global Citizenship Education are inherently interdisciplinary, involving topics such as environmental science, social studies, ethics, and cultural studies. However, teacher education often lacks a comprehensive interdisciplinary approach, leading to fragmented knowledge and skills. Teachers may struggle to connect these concepts across subjects and miss the opportunity to teach their students about the interconnectedness of global issues.

**Insufficient Training on Pedagogical Approaches**

While teachers are expected to instil Education for Sustainable Development and Global Citizenship Education, values in their students and many teacher education programs fail to provide adequate training on pedagogical approaches specific to these concepts. This leaves future educators without the necessary tools to engage students effectively in critical thinking, problem-solving, and active citizenship within the context of sustainability and global awareness.

**Limited Exposure to Practical Implementation**

Teacher educators often lack exposure to practical implementation strategies. They may

learn about the theory of Education for Sustainable Development and Global Citizenship Education but receive minimal guidance on how to translate these principles into real classroom practices. This gap hinders the ability of teachers to design engaging lessons and activities that foster sustainable and globally aware behaviours.

**Scarce Access to Resources**

The scarcity of relevant teaching materials, textbooks, and up-to-date curricula aligned with Education for Sustainable Development and Global Citizenship Education is a significant challenge. Teachers frequently struggle to find appropriate resources that support their efforts to teach these concepts effectively. Without access to such materials, their capacity to integrate Education for Sustainable Development and Global Citizenship Education into the classroom is limited.

**Faculty Development**

Inadequate faculty development programs also contribute to the gaps in teacher education. Many teacher educators themselves may not be well-versed in Education for Sustainable Development and Global Citizenship Education, which leads to a lack of mentorship and guidance for teacher educators. Without knowledgeable and passionate mentors, teacher educators are less likely to recognize the importance of these concepts.

**Assessment and Accountability**

Finally, the absence of clear assessment criteria and accountability mechanisms for Education for Sustainable Development and Global Citizenship Education in teacher education programs can hinder their effectiveness. If these concepts are not measured or emphasised in teacher evaluations and program assessments, they may be overlooked or deprioritized in favour of more traditional educational priorities.

## Methodology

An exploratory study in qualitative research is designed to investigate a phenomenon or topic in a flexible and open-ended manner. It aims to gain a deeper understanding of a subject, generate hypotheses, and explore new ideas. Research methodology for such studies is characterized by its flexibility and adaptability to the evolving research process.

**Tools For Data Collection**

The tools proposed to use in this study include document analysis.

1. Primary data: Primary data will be collected from the documents remaining as pieces of evidence of sustainable development and global citizenship education.

2. Secondary data: The Secondary data sources will be the interpretations and narratives of sustainable development and global citizenship education.

**Best Practices for Promoting Sustainable Development and Global Citizenship Education**

Promoting sustainable development and global citizenship education among teacher educators in the Indian education system involves adopting innovative and effective best practices. Here are some examples:

**Incorporate Sustainability Across Disciplines**

Encourage teacher educators to infuse sustainability concepts into a wide range of subjects, not limited to environmental studies. For instance, in mathematics, humanities, science, commerce, teachers can explore real-world sustainability problems, and in history, they can analyse the historical context of environmental changes.

**Collaborative Projects**

Encourage collaborative projects that involve teacher educators from various disciplines working together. This interdisciplinary approach can help to develop a holistic perspective on sustainability and global citizenship.

**Field Visits and Experiential Learning**

Organise field visits and experiential learning opportunities for teacher educators to witness sustainability initiatives firsthand. For example, visits to sustainable agriculture projects, renewable energy sites, or eco-friendly schools can be eye-opening experiences.

**Global Partnerships**

Foster partnerships with international institutions and educators. Collaborating with educators from other countries can provide a broader perspective on global citizenship and cross-cultural understanding.

**Sustainability Workshops and Training**

Conduct regular workshops and training sessions to keep teacher educators updated on the latest trends and practices in sustainable development and global citizenship education. This can help them develop the necessary skills and knowledge to integrate these concepts effectively.

**Community Engagement**

Encourage teacher educators to involve their students in community engagement projects related to sustainability. In addition to teaching useful skills, this hands-on approach fosters empathy and a sense of responsibility for the environment and the community.

**Use of Technology**

Leverage technology for online courses, webinars, and virtual collaborations with global partners. This allows teacher educators to access a wealth of resources and connect with experts and educators worldwide.

**Research and Publications**

Support teacher educators in conducting research related to sustainable development and global citizenship. Urge them to speak at conferences and publish their research in scholarly publications in order to add to the corpus of knowledge in this area.

**Service-Learning Programs**

Develop service-learning programs that enable teacher educators and their students to actively engage in sustainability projects. These programs not only contribute to community development but also promote global citizenship.

**Professional Development**

Invest in the ongoing professional development of teacher educators by sending them to conferences and workshops focused on sustainable development and global citizenship education. This exposure can inspire them to bring innovative practices to their own classrooms.

**Assessment and Evaluation**

Develop assessment tools to measure the impact of sustainability and global citizenship education. Collect and analyse data to continuously improve the effectiveness of these educational practices.

**Advocacy and Policy Engagement**

Encourage teacher educators to actively engage with policymakers and educational institutions to advocate for the integration of sustainability and global citizenship in the Indian education system.

By implementing these best practices, India can enhance the quality of teacher education and empower educators to foster a new generation of students who are environmentally conscious, globally aware, and committed to sustainable development and responsible global citizens. In India, there are possibilities as well as obstacles associated with integrating global citizenship and sustainable development into teacher education. Here's an overview of some of the key

obstacles and advantages:

**Major Challenges**

- Traditional Curriculum Emphasis

- Resource Constraints

- Inadequate knowledge about existing curriculum

- Cultural and Regional Variations

- Assessment and Evaluation

- Lack of digital literacy

## Conclusion

This exploratory research concludes by highlighting the transformational potential of education for global citizenship and sustainable development in teacher preparation. It calls for a paradigm shift, emphasising the role of teacher educators as agents of change. By incorporating above mentioned practices, teacher education institutions can prepare future educators who not only transmit knowledge but also cultivate a sense of global responsibility, environmental consciousness, and the capacity to address the multifaceted global challenges of current scenario. The journey ahead may be demanding, but it is undoubtedly a journey worth undertaking for a more sustainable and globally aware society.

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# Empowering Transgender Education: Analyzing NEP-2020's Impact and Opportunities

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## Abstract

Transgender individuals are defined as people who act in unique ways, have different physical traits, or defy assumptions about what men and women are "supposed" to look like. They can be any age or gender. When they were counted for the first time in the 2011 Census, between 4 and 9 lakh people in our nation identified as transgender. Global interest in and discussion around the National Education Policy (NEP) of 2020 have increased. This abstract provides a succinct analysis of the NEP-2020's impact on transgender education and the opportunities it presents. Recognizing the historical marginalization of transgender individuals in education, this study delves into the policy's potential to bring about positive change. It explores the key provisions of NEP-2020 that directly or indirectly affect transgender education, such as inclusive curriculum development, the promotion of non-discriminatory practices, and teacher training. Additionally, this abstract highlights the practical challenges and barriers that may hinder the policy's effective implementation, emphasizing the need for collaborative efforts among policymakers, educators, and transgender communities. To establish an inclusive and inspiring learning environment for all students, regardless of gender identity, this paper discusses the distinct viewpoints and experiences of transgender people in education. The worldwide background of advancing social justice and equitable access to education makes this topic extremely important.

*Keywords:* transgender, inclusivity, nep-2020, bullying, empowerment, social justice

## Introduction

The National Education Policy 2020 (NEP-2020) has ushered in a new era of transformation in India's educational landscape. The policy document offers millions of students around the nation hope for a better future with its aspirational goal of a comprehensive, inclusive, and equitable education system. Central to this vision is the belief that education is not merely a means of acquiring knowledge but a pathway to empowerment—a force that can break down barriers, challenge biases, and pave the way for social change. However, as we embark on this journey of educational reform, it is essential to cast a discerning eye on those whose experiences have long been overshadowed and voices muted—the transgender community. The term "transgender" is used to describe people who do not conform to conventional, binary gender classifications (Prakasha, C., 2023). Transgender students face multiple layers of trauma and challenges in schools, such as coming to terms with their own sexuality, internal challenges and confusions, emotional, behavioral, and physical trauma, violence, the use of washrooms, uniforms, mocking, bullying, and teasing, and choosing a character or role in school play, games, or other activities (Dange et al., 2022). The question that emerges is whether the NEP-2020, with its grand ambitions, will also be the catalyst for empowering transgender education and dismantling these age-old barriers. The national education policy draft was released in March 2019 by the Dr. K. Kasturirangan Committee. The revised policy paper was approved by the government on July 29, 2020. The 34-year-old education policy was replaced by the new education policy of 2020 in order to promote transformation and holistic growth in education (Thakur, P., & Kumar, R. 2020). Transgender individuals were counted for the first time in the 2011 census after the government decided to include them as another group in the population count. There were just two gender categories in the 2011 census: male and female. There was no option for a third gender. Nonetheless, the Indian Supreme Court accepted transgender people as a third gender in 2014 (Pallav Das, 2019).

The goal of this article is to critically examine the NEP-2020 through the lens of transgender education, shining a spotlight on the policy's impact, potential, and challenges in this regard. While the NEP-2020 addresses several aspects of educational reform, including curriculum diversification, quality enhancement, and the promotion of critical thinking, its specific provisions for transgender education remain somewhat limited. This, in itself, highlights the need for a focused analysis that highlights both the policy's strengths and its shortcomings. The significance of transgender education cannot be overstated. It is a question of social fairness and human rights as much as admission to universities and other educational institutions. Education has the power to transform lives, instill confidence, and open doors to economic opportunities. By recognizing the challenges faced by transgender individuals in accessing quality education and providing solutions to overcome these challenges, India can move one step closer to realizing the principles of inclusion and equity enshrined in the NEP-2020. A journey that begins by dissecting the key highlights of the NEP-2020 and understanding its vision for education in India. From there, we will delve into the historical exclusion of transgender individuals from educational spaces and the unique challenges they face. The heart of this article lies in the examination of these challenges, ranging from a lack of awareness and sensitization to discrimination, barriers to higher education, and the glaring gaps in data collection and research. Yet, this journey does not stop at identifying challenges; it extends into the realm of solutions. We will put forth a series of practical, actionable steps that policymakers, educators, and advocates can take to empower transgender education. These recommendations include fostering an inclusive curriculum, providing teacher training and sensitization, establishing anti-discrimination policies, offering scholarships and financial support, and engaging the transgender community itself in the educational process. In conclusion, this article is a call to action. It recognizes the potential of the NEP-2020 to be a transformative force in the lives of transgender individuals. It underscores the need for proactive, targeted measures to

ensure that the policy's promises of inclusiveness and equity are extended to every corner of the educational landscape. It serves as a reminder that real empowerment comes from everyone's commitment to putting policy texts into practice and upholding the values they represent. We are starting a journey, not just of understanding but of promotion, as we examine the impact and opportunities presented by NEP-2020 in the context of transgender education. This journey aims to empower marginalized people, give voice to their concerns, and create a future in which education genuinely becomes a beacon of hope and opportunity for everyone, regardless of gender identity.

## Objectives

Assess NEP-2020's Impact: Evaluate the impact of NEP-2020 on transgender education by examining its potential to address the challenges and create an inclusive and equitable educational environment for transgender students.

**Propose Recommendations:**

Offer comprehensive recommendations to foster inclusion and equity in the education system for transgender individuals. These recommendations include practical strategies for policymakers, educators, and advocates.

**Explore the Role of Education in Empowerment:**

Discuss the transformative power of education as a means of empowerment and social change, emphasizing its potential to break down barriers and challenge biases.

**Transgender Rights Campaign:**

Establish a platform to advocate for the rights and fair treatment of transgender individuals inside the educational system, emphasizing the importance of education as a fundamental human right.

**Raise Awareness:**

Inform readers about the special difficulties experienced by transgender people in the educational system and the need for action. This includes legislators, educators, and the general public.

**Promote Evidence-Based Policy:**

Stress the importance of data collection and research in understanding the extent of challenges faced by transgender students and in developing evidence-based policies and interventions.

Inspire Action: Inspire action by emphasizing the role of individuals, institutions, and the government in implementing the recommendations and creating a more inclusive educational environment.

**Contribute to Academic Discourse:**

Contribute to the academic discourse on transgender rights and educational equity in India, providing a comprehensive analysis that can inform future research and policy making.

**Advance Social Justice:**

Advocate for social justice and equality by highlighting the significance of transgender education within the broader context of human rights and social inclusion.

Empower Transgender Individuals: Ultimately, empower transgender individuals by shedding light on the challenges they face and providing actionable solutions to improve their access to quality education, thereby enhancing their life prospects and contributions to society.

## Status of Transgender in Education

The largest gap in the system is that no one is aware of what transgender actually means. Sensitization won't help in the hopes that people will be willing to embrace change; acceptance can only occur via education. According to the Indian Constitution, transgender people are the new

gender or the third gender. This new gender appears in significant numbers. They lack social and cultural participation, which limits their access to healthcare, education, and public areas. This further robs them of the constitutional guarantee of equal protection under the law and equality before the law (Ashok Raj, 2019).

## Educational Status:

In India, there is no formal school system that is popular for transgender individuals. Transgender persons lose their family and their educational environment; they stop their studies and jeopardize their chances of finding employment in the future. Transgender persons, who are largely illiterate or undereducated, may become reluctant to pursue higher education, according to a detailed examination of numerous publications and conversations with stakeholders and the community. Secondary (major) or senior secondary level qualifications are typical. Enrollment is obviously low, and the primary and secondary dropout rates remain quite high (RajKumar, 2016).

## Problems of Transgender Education

### Discrimination and Stigma:

Transgender individuals often face discrimination and stigma in educational institutions. This can manifest as bullying, exclusion, and harassment, making it difficult for them to access quality education.

### Lack of Inclusive Curriculum:

The NEP 2020 emphasizes the development of a more holistic and flexible curriculum. However, it does not explicitly address the need for a curriculum that is inclusive of gender and sexuality diversity, including transgender issues.

### Gender-Segregated Facilities:

Many educational institutions in India have gender-segregated facilities, which can be

challenging for transgender students who do not fit into traditional gender binaries. The NEP 2020 does not address the need for gender-neutral facilities.

**Teacher Training:**

The policy does mention the importance of teacher training, but it does not specifically address the need for training teachers on how to create inclusive and safe environments for transgender students.

**Data Collection:**

The NEP 2020 emphasizes the use of data for planning and policy development. However, there is a lack of data on transgender students' enrollment, retention, and performance in educational institutions, making it difficult to design targeted interventions.

**Affirmative Action:**

The NEP 2020 does not mention affirmative action measures for transgender students, such as scholarships or reservations, to improve their access to education.

**Mental Health Support:**

Transgender individuals often face mental health challenges due to societal discrimination and family rejection. The policy does not explicitly address the need for mental health support services within educational institutions.

**Parental and Community Engagement:**

In many cases, families and communities may not be supportive of transgender individuals' education. The NEP 2020 does not emphasize strategies for engaging parents and communities to create a more inclusive environment.

## Challenges

**Inclusion in School, College, and University:**

It might be difficult to include transgender students in both high school and college. Giving transgender pupils the same educational opportunities as other students of the same gender is extremely difficult due to the inclusion issue with male and female students (Prakasha C., Jagannath K. Dange, 2023).

**Narrow-mindedness:**

Transgender students frequently encounter narrow-mindedness, bullying, and prejudice from their peers, educators, and administrative staff within educational institutions, hindering their ability to learn and participate fully.

**Teacher Training and Sensitization:**

Teachers often lack adequate training and sensitization regarding transgender issues, which impacts their ability to provide a supportive and inclusive environment for transgender students.

**Lack of Comprehensive Sexuality Education:**

One major deficiency in the education system that affects transgender students' awareness of their own identities and rights is the lack of comprehensive and inclusive sexuality education covering a range of gender identities and sexual preferences.

**Bullying and Harassment:**

Transgender students face a higher risk of bullying, harassment, and violence within educational institutions due to societal prejudice and lack of understanding. The NEP 2020 does not outline specific strategies to combat such issues.

**Mental Health and Well-being:**

Because they are stigmatized and discriminated against in society, transgender people frequently have mental health issues, such as increased rates of anxiety and depression. Transgender pupils' mental health support is not given priority in the educational system by the NEP 2020.

**Lack of Affirmative Action:**

The NEP 2020 does not highlight specific affirmative action measures, such as scholarships or reserved quotas, to enhance access to education for transgender individuals.

**Lack of Ideal Personality:**

Transgender youth experience significant loneliness. Libraries and youth programs often lack information about gender identity, biological sex and gender, and transgender identity (Raj Kumar, 2016).

## Solutions

The National Education Policy (NEP) 2020 in India aims to provide inclusive and equitable education for all, including transgender individuals. Here are some recommendations for incorporating transgender education into the NEP 2020 framework:

## Inclusive Curriculum Development:

Develop and implement a curriculum that is inclusive of transgender history, issues, and perspectives across subjects such as social studies, history, and gender studies.
Introduce age-appropriate content about gender diversity and transgender experiences in school textbooks.

## Teacher Training and Sensitization:

Provide mandatory training for teachers and educators on transgender community issues, including transgender awareness, cultural sensitivity, and classroom management strategies.
Create a safe and inclusive environment in schools where transgender students can express their gender identity without fear of discrimination.

### Safe and Inclusive School Environment:

Develop and enforce anti-discrimination policies that explicitly protect transgender students from bullying, harassment, and discrimination.

Establish gender-neutral restroom facilities and dress codes to accommodate transgender students.

### Counselling and Support Services:

Ensure that schools have trained counselors who can provide mental health support to transgender students who may face unique challenges.
Provide resources and peer support groups for students who identify as transgender and their families.

### Gender Identity Recognition

Allow students to self-identify their gender and name, regardless of legal documentation or medical transition status.

Unless the student specifically requests disclosure, keep information about their gender identification private.

### Inclusive Sexuality Education

Integrate comprehensive and inclusive sexuality education that covers topics related to sexual orientation and gender identity.

Ensure that this education is age-appropriate and culturally sensitive.

## Teacher Recruitment and Diversity

Encourage the recruitment of transgender educators to serve as role models and mentors for transgender students.

Promote diversity and inclusion in the teaching workforce.

## Research and Data Collection

Support research initiatives on transgender education, including surveys and studies to better understand the needs and experiences of transgender students.

Use data to track progress and assess the effectiveness of policies and programs.

## Community Engagement

Collaborate with parents, community members, and transgender groups to ensure transgender youth receive the advocacy and support they need.

If a student is unwilling to disclose, do not provide any information regarding their gender identity.

## Awareness Campaigns

Launch awareness campaigns aimed at reducing stigma and promoting acceptance of transgender individuals in society.

Involve students in these campaigns to foster understanding and empathy.

## Review and Revision

Periodically review policies and practices to adapt to changing needs and challenges faced by transgender students and educators.

## Legal Protections

Advocate for legal protections against discrimination based on gender identity in educational institutions and ensure that these protections are enforced.

## Conclusion

In conclusion, the article "Empowering Transgender Education: Analyzing NEP-2020's Impact and Opportunities" sheds light on the critical importance of inclusiveness and equity within the framework of the National Education Policy (NEP) 2020 in India. It emphasizes the need to acknowledge and address the particular difficulties transgender individuals face while pursuing education and highlights the opportunity that NEP 2020 presents for positive change. NEP 2020's focus on inclusion and flexibility in education provides a significant opportunity to transform the educational landscape for transgender students. By integrating transgender-specific measures into the policy framework, such as inclusive curricula, teacher sensitization, and a supportive school environment, strides can be made toward a more equitable education system that respects and values gender diversity. The article also underscores the importance of data collection, research, and community engagement to inform policy decisions accurately and address the needs of transgender students. Collaborating with other transgender organizations and the transgender community is crucial to creating policies that are not only well-intentioned but also effective in practice. Although the path ahead may be challenging, it holds promise. Empowering transgender education is a matter of social justice and an investment in a more inclusive and tolerant society.

By recognizing the potential of NEP 2020 as a catalyst for change and actively working to implement the recommendations outlined in this article, significant steps can be taken toward a brighter future in which transgender individuals have equal access to quality education and the opportunities it offers. Ultimately, this benefits not only the transgender community but also society by fostering diversity, empathy, and progress.

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# A Study of Children with Disabilities' Transition from Home into Inclusive Schools and Student-Teacher Relationship

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## Abstract

Research has indicated inclusive schools are the cornerstones to reducing and eliminating discrimination among the different social and economic hierarchies in a society. The objective of inclusion is to develop a unified school system that can serve all sorts of people together (Lipsky & Garter, 1998). (Thousand et. al., 2007) emphasize, "Quality inclusion is not merely determined by student placement, but rather is based on creating an environment that supports and includes all learners". Teachers play a significant role in the lives of children, and the influence of teachers increases with the increasing amount of time children spend in formal education settings (Baker et al., 2008; Hamre and Pianta, 2001; Silver et al., 2010). Researches (Hamre and Pianta, 2001; Zhang and Sun, 2011) indicate that teachers also provide, like parents, similar emotional support and guidance to young children during their early years of schooling.

This study focused on children with disabilities' (CWD) inclusive schooling experiences through the lens of parents: quality over the transition from home into school and the strengths and difficulties faced by children with disabilities (CWD), their parents, and the teachers in government schools of Delhi. The sample for the study consisted of children with

disabilities who were categorized as children with mental health problems and had varying disabilities. Hence, the study sample consisted of children with visual impairment (VI), low-vision (LV), orthopedically handicapped (OH), hearing impaired (HI), and mental retardation (MR). It is a qualitative study using the narrative approach. Findings of the study indicate that teachers have a careless and negligent attitude towards CWD, and the transition of CWD from home into inclusive schools is fraught with challenges.

*Keywords:* children with disabilities (CWD), special education teachers (SETt), inclusive schools, transition of CWD, student-teacher relationship

## Background of the Study

The philosophy of inclusion is a paradigm shift from earlier segregation of people with disabilities to one of integration and now inclusion. It may be difficult to trace its evolution across nations; however, now inclusive education is the forte of all member nations of the United Nations, globally. In the Indian context, the Right to Education (RTE) Act, 2009 heralded the paramount mandate of inclusive education for all its children in the age group of 06-14 years. The National Education Policy (NEP), 2020 has contextualized the education of all its children from ages 03-14 years under the mandate of the State, who shall be responsible for the quality education of this age group.

The International Classification of Functioning, Disability, and Health (ICF) has classified disability into: hearing, visual, speech, mental, and locomotor for understanding

disability and health (Ustun Et al., 2003). As per Census data (2011), India has a population of 1.23 billion, and about 2.1 percent (over 21 million people) suffer from disability of a kind. Out of this, the total disabled population of males stands at 12.6 million, and females are placed at 9.3 million. In India, the "prevalence of disability" based "on secondary data analysis" of National Family and Health Survey -5 (NFHS, 2019-21) was 4.52 percent (www.frontiers.org.articles). In India, the most common form of disability is locomotor disability (www.ncbi.mih.gov.pmc), which accounts for 44.70 percent of all disabilities followed by mental and speech disabilities.

## Rationale and Significance of the Study

People with disabilities have poorer academic outcomes, low employment rates, and face a host of challenges from society. Societal taboos are highly prevalent too. Inclusive schools are promoted with the idea of creating a just and inclusive society. The percentage of the disabled population in India as per the 2011 census stood at 2.21%, an increase from 2.13% in 2001 (www.ccdisabilities.nic.in). India has a well-articulated policy on the inclusion of children with disabilities in regular mainstream schools. The RTE Act, 2009 has mandated the inclusion of CWD into the regular schools. The 8th edition of All India School Education Survey (AISES, [NCERT], 2016) places the statistics for children with disabilities at 835,287 for differently-abled students enrolled in 55,574 schools which comprise 22,192 (39.93%) primary, 10,730 (19.30%) upper primary, 16,054 (28.89%) secondary, and 6,598 (11.87%) higher secondary schools (https://ncert.nic.in). The number of physically or mentally challenged

children who are dropouts is a cause for concern. Of the total, 34.12% (988,359) were out-of-school. All-round decline has been witnessed in the number of CWD dropping out. However, the same phenomenon was not observed as far as out-of-school disabled children are concerned. For example, in 2005, out-of-school disabled children stood at 34.19%, which remained at 34.12% in 2009. (Sub-group report for the XII Plan, Elementary Education, [Erstwhile HMRD[ now Ministry of Education, Government of India, 2011).

Hence, a study was conducted to understand, through the lens of parents of children with disabilities (CWD), the transition of CWD into inclusive schools and the teacher-student relationship in fully-funded government schools under the Directorate of Education, in the capital city of India, Delhi.

## Definition of Key Terms

- Student-teacher relationship: In this study, it is the interaction and academic engagement of CWD and their classroom teachers and special education teachers who are responsible for managing and coordinating the affairs of CWD in regular/inclusive schools.

- Children with disabilities (CWD): In this study, the definition given by the Convention on the Rights of Persons with Disabilities (CRPD, 2006), children with disabilities (CWD) "include those who have long-term physical, mental, intellectual, or sensory impairments which, in interaction with various barriers, may hinder their full and effective participation in society on an equal basis".

- Inclusive education: UNESCO's definition of "inclusive education" as "a process of addressing and responding to the needs of all learners through increasing participation in learning, cultures, and communities and reducing exclusion and from within education. It involves changes and modifications in content, approaches, structures, and strategies with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the state to educate all children".

## Research Questions

1. What is the schooling experience of Children with Disabilities (CWD) in inclusive schools of Delhi?

2. Do CWD experience student-teacher conflicts which, in turn, lead to more emotional and mental health problems?

## Objectives of the Study

1. To study the transition experiences from home into school of children with disabilities in inclusive schools

2. To study the challenges faced by CWD, parents of CWD and teachers in their inclusive school education experience

## Methodology

The study was qualitative in nature using a descriptive design with a narrative approach.

## Population

All fully -funded government schools, teachers, special education teachers, children with disabilities and their parents under the Directorate of Education, Delhi consisted the population of the study.

## Sample and Sampling

Sample consisted of 7 fully-funded government schools of Delhi from Central and South-East district of Delhi. The districts were chosen on the basis of convenience sampling as inclusive education is mandated by the Right to Education Act (RTE), 2009. Hence, inclusive education is the forte for all schools to be followed irrespective of location. From each district, educational zones were selected on purposive basis from the list of students with disabilities, zone-wise, available and maintained with Inclusive Education of Disabled at Secondary Stage (IEDSS), New Delhi. Hence, from each district two zones which had a significant presence of CWD in schools (at least 5-6 CWD enrolled and present in school) situated within such zones were considered for the study.  From each school the special education teacher (SET) and two general education teachers in whose classrooms CWD were a part of the schooling process constituted the sample of the study.  Parents of CWD were selected on basis of purposive sampling as only those parents whose children with disabilities were part of the study were

contacted by researcher with teachers being the "gate-keepers" (Silverman, 2013) who

provided the data regarding selection and availability of parents. The following formed the

description of the sample as given in Table 01.

Table 1

Description of Sample

| Sl. No. | District (s) | Zone | Sample | Total N |
|---|---|---|---|---|
| 1. | South-East district of Dehi | School I | Special -education teacher (SET-1). General teachers (2), CWD (02), parents (2), one classroom observation only (about 30 minutes approx..) | N= SET (07), general teachers- 12, parents of CWD – 11, CWD- 14 |
|  |  | School II | Special -education teacher (SET-1). General teachers (2), CWD (02), parents (01) |  |
|  |  | School III | Special -education teacher (SET-1). General teachers (01), CWD (02), parents (2) |  |
| 2. | Central district of Delhi | School I | Special -education teacher (SET-1). General teachers (01), CWD (02), parents (01) |  |
|  |  | School II | Special -education teacher (SET-1). General teachers (2), CWD (02), parents (2) |  |
|  |  | School III | Special -education teacher (SET-1). General teachers (02), CWD (02), parents (2) |  |
|  |  | School IV | Special -education teacher (SET-1). General teachers (2), CWD (02), parents (01) |  |
| | | | N = 7 (fully -Funded Government schools) | |

**Tools and Techniques used in the study and Procedure of Study**

The general education teachers were given a Questionnaire and interviews were conducted with special education teachers in the first stage. After analysis of interview responses, a Focus Group Discussion (FGD) was held with special education teachers to gain a greater dept-of-understanding regarding the educational experiences of CWD in inclusive schools. 2 FGDs were held zone wise at the monthly meetings of special education teachers. The researcher could also observe only one classroom due to permission and time constraints. The classroom which was observed had the presence of (02) two orthopaedically handicapped CWD. The researcher contacted for interviews and FGD, the parents and CWD for data collection at the distribution camps for (03) CWD who were OH category and [(02-LV): the data for 04 CWD in total were from low vision (LV) category], 02 CWD belonged to hearing impaired (HI) category and 03 were certified as multiple disabilities (MD): having the presence of more than one disability as per the Rights of Persons with Disability (RPWD) Act, 2016. Rest of the interviews and FGDs was gathered from two more sites apart from the aid distribution camp site: at homes of CWD and in schools at school closure time. The (3) FGDs with CWD was held for about 15-20 minutes each in 3 different sites at : (a) aid distribution camp (03 -OH CWD and 02 -LV CWD comprised the participants of FGD along with the presence of their parents and the two (02) special education teachers of respective schools who accompanied the CWD to the aid distribution camp for devices (b) home vicinity of CWD  - (02 – LV CWD and 01- HI child with disability with 3 participants in presence of parents and (c) FGD was held at school premises when parents had come to fetch their CWD after school (03) CWD – MD, in the presence of parents and class teacher.

The dimensions of the tool for understanding the inclusive schooling experience of CWD included: peer relationship, transition and emotional-bond formation needs, background of children, self-esteem needs, social behaviour/ interaction. The dimensions were taken after an analysis of a review of literature.

## Ethical Considerations

The data was collected after observing proper ethical considerations. The principal of each school was informed about the nature of study and permission for access was sought. The sample was informed regarding the purpose of data collection and the nature of the study involved. In a few schools, teachers acted as "gate-keepers" (Silverman, 2013) and this helped the researcher to gain access to the schools and Principals. Confidentiality was observed and triangulation was carried out through FGD with parents and teachers both, after the interview phase to cross -check the evidence as part of the inclusive schooling experiences of children with disabilities. The consent of parents and teachers were taken as consent of children with disabilities.

## Analysis of the data

Based on the analysis of the responses of general classroom teachers, special educators and parents of children with disabilities and CWD collected through the questionnaire, interview schedules, Focus-group discussion and classroom observation the following themes emerged related to the two objectives of the study. The responses of the sample have been clubbed together following the narrative approach.  The researcher used Thematic Analysis to analyses and interpret the data.

## Findings and Discussion

## Transition experiences from home into school of children with disabilities in inclusive schools

### Social Behaviour /Interaction and Peer Relationship

The teachers' responses indicated that teachers do encourage the children to interact with each other and make them sit and play together, form groups etc. However, teachers expressed that peer interaction with CWD and the regular children *"do not happen as they should".*

The children with disabilities expressed that "few students are good to us but few make fun of us and call us "mental", "mad", "lame etc.

The parents responded that "schools are still not welcoming children with disabilities like they welcome the "other" children.

### Developing Positive Relationship/ Forging a Bond

The teachers expressed that "as a philosophy inclusive education is very good" but "as a practice it is difficult to implement" due to academic limitations and teachers are also not

trained in different disabilities "which makes the task of classroom interaction / engagement with teaching-learning difficult".

The parents expressed that *"kuch bachchje madad karte ..kuch matlab nahin rakhte…..(*some students help CWD and some are aloof to them)".

The CWD expressed that *"kuchh bachche achche hain ….hum chips, biscuits khabhi mil ke khate   .. kuch hamare mazak udhate….* (some are good and friendly us, we eat and share chips, biscuits with them and some make fun of us").

## Classroom Observation

The clubbed responses of the teachers and parents indicated that real inclusive education for children with disabilities is yet to happen. Few rudimentary initiatives like ramps, infrastructure for disabled -friendly toilets have been initiated but proper social and academic inclusion is yet to happen. Through informal conversation with the classroom teachers in whose classes children with special needs were a part of the above was revealed.

## Challenges faced by parents of CWD and teachers in the inclusive school education experience of children with disabilities

## Background of the Children

## Challenges faced by teachers (general education teachers and special education teachers)

Findings of the study reveal that both kinds of teachers: special education teachers (SETs) and general classroom teachers who engage with CWD struggle in understanding the background of the child.

Teachers are faced with the challenge of "not knowing the history of children with disabilities… in case of any emergency …. the whereabouts of their prior health history and problems are not known ….this creates a fear and confusion over uncertainty to deal with the child's disability ". Teachers' reported that "with children having mental problems the challenge is double-fold.. they do not know the predictive behaviour of such children and also how to deal if such behaviour occurs". On being probed further the teachers mentioned "CWD can stay in schools till the age of 18 years…. Some children with disabilities grow physically and are difficult to be restrained in their actions during behaviour problems". Teachers also highlighted that "most of the CWD in the government schools come from weak financial backgrounds and with poor or little attention to school rules and regulations….even though free books and uniform etc, are provided by schools (government provision)… CWD still stand out and apart from the rest of non-disabled peers due to their non-adaptive behaviour ….not wearing proper uniform, no academic work done in copies, sheets etc.

### Challenges faced by parents of children with disabilities

Regarding parents, the findings revealed that

*"teacher kehte school nein waqt zaya kyoun karte….. bache pe dhyan nahin dete…. Mazak banate…..(teachers do not take care of our child and embarrass them…say "cannot study ..why waste time in school here?")*

## Challenges faced by children with disabilities

The interview and FGD responses of CWD indicated that they liked going to schools but few students were hostile to them. They reported that teachers liked them and they sit in classrooms. They also reported that *"during games and tiffin breaks they do not get to play"*. When probed *"What would they like to change in their school?"*The CWD reported that they also wished to "engage in games and sports" which indicated that access to sports and games was not available to them.

## Student-teacher conflicts

The clubbed responses indicated that student -teacher conflicts occur as a part of the academic engagement. General classroom teachers face difficulty in planning academic -oriented outcome for CWD.

Teachers feel, "it is time-consuming" and "unsure about the learning which has occurred in the child". Teachers' responses also revealed "one is at a loss to predict the kind of curriculum that should be planned for such children and how to engage such children in classes is challenging". It was surprising that few teachers also mentioned that "usually CWD

are not academically-sound and no responsibility for learning can be fixed on them due to their mental and state of being".

This finding indeed is not surprising as it may be interpreted that teachers have the hegemony of power in classrooms and Gramsci has mentioned of the "common-sense" approach of theory of Subaltern Consciousness in Hegemony's processes. This is reflected through the teachers' responses and the common sense" about learning that CWD cannot learn as it is their genetic fault. Teachers fail to owe up their responsibility to teach CWD and make them a part of their social classroom.

### Challenges faced by parents

This is reflected in the responses of parents who reported

*"teacher bacche ko dhyaan nahin deta, pyar se baat bhi nahin karta…. Hamara bacha class main kuch bhi nahin karta.. .. doosre bache bhi majak karte…. Waqt barbaad hota hai.. humare bache ki". ( teachers do not engage our children…..do not love/ support/ care for them…. Our children are not engaged in classwork/ class activities… other children in class make fun of our children….our children just while away time"*

Apart from the challenge of teachers not academically engaging CWD, parents when probed *"as what do you do when your children report the misbehaviour that happens to them"*.

The parents reported that

*"school mein bacche jaate hain (our CWD kids at least go to school)… varna yeh kahan jayenge (what else can they do?).. ghar se yahi behtaar haai (implied…going to school is better than staying at home),,,, teachger ke nazroon ke saamne hain (teachers are there to look after them… ghar mein koi dhyan nahin de pata (at home no one is there to look after them)".*

These are working parents and mostly do regular household chores and run small time- grocery stores. This implies that CWD are not attended to by parents at home and in fact schools are also not inclusive- friendly to engage CWD in the best manner.

## Responses of Special Education Teachers (SETs)

Regarding responses of special education teacher it is worth narrating that

*"as special education teachers we have to fill -up more forms than doing actual teaching-learning …or planning for Individual Education Plans (IEPs)…..most of the special education teachers have to spend time on the portal for children with special needs" .*

Few special education teachers also reported "*even if IEP's with short-term objectives are planned… it is difficult to implement in classrooms as resources are limited in schools and procuring them form each district headquarters is difficult and infused with red-tapism*".

**Teacher-parent Conflicts**

Parents reported that

*"madam sab humein izzat nahin dete… sochhte hum bachcho ko paise ke vaaste school bhejte…account mein paise banaane ke liye...(teachers do not value us during PTM and also whenever we visit schools as teachers embarrass us thinking we come only for the money given to our disabled child through bank accounts)".*

When probed further to parents to understand if teachers explicitly implied that parents are only interested in the money given to CWD for their specific needs, parents responded:

*"hum yeh samaj jatae.. teacher humaire bare kya ssoch te (we can make out what teachers think about us)… schhol jjana humein pasand nahin (we do not look forward to visiting schools)… waqt bhi nahin milta (we are hard-pressed for time).. teacher beetha ke rakhte humein (we have long waiting periods before we meet teachers …."*

All this indicated that parents of CWD did not prefer visiting schools even during PTMs (parent-Teacher Meetings).

In contrast, the findings related to teacher-parent conflicts from the teachers' responses indicated *"parents do not come during scheduled times of PTMs or appointment which makes it difficult to collaborate with parents on academic planning or holistic development of CWD".*

Teachers also reported that

*"CWD need parental care and attention at home more than in school as majority of the times they are at home".* Teachers were also of the view that *"in school we take care of different children including CWD and parents look after only their own children at homes so parents should focus on their children at homes better for their growth and future".*

This implied that ownership of CWD and their better future is on the parents of CWD rather than on schools or external agencies of disabled organizations. Government has

provisions and schemes for CWD and many disabled organizations are advocating and working for CWD. But such awareness measures need to be made to parents of CWD and their siblings.

Parents also reported

*"teacher humare bachche ke saath hamdardi se pesh aaye ..ya na ki hamesha use hi kusoorvar mmane....(we want teachers to treat our child with love and respect and have patience)"* and mentioned "Ghar par humere bacchha aisa bilkul nahin karta… kissi se laarta bhi nahin" (*Our child does not behave in an appropriate way as mentioned by teachers). (they do not quarrel with anyone at home).*

The above responses indicated that there is also a lack of parent-teacher trust in the inclusive learning environment and blame -game runs supreme in the educational experiences of children with disabilities in inclusive schools. In a nutshell, the CWD are at crossroads in inclusive schools due to the lack of understanding on part of parents and teachers.

## Conclusion

Early intervention and prevention strategies which focus on building high-quality student-teacher relationship during children's transition into formal schooling may help reduce rates of childhood emotional and mental health problems during early school years. Research indicates the impact of teachers' relationship with children especially at critical developmental periods as "salient" (Silver et. al. 2010); Moore (2008 cited by Lewis et. al. 2017); Silver 2005) states that transition from preschool to formal schooling is one such critical period in the life of a child as this is "a time of new academic challenges in a more structured

learning environment" and involves "complex changes" in "children's roles, responsibilities and relationships. A crucial step in "children's successful adaptation to the school environment" is "caring and supportive student-teacher relationships" (Birch and Ladd, 19997; Myers and Pianta, 2008 Cited by Lewis et. al., 2017). Hence, the underlying significance of a supportive and smooth transition for children with disabilities into inclusive schools is paramount for positive educational experiences for children with disabilities and their parents.

## Implications of the Study

- Teachers to be more understanding towards children with disabilities
- Teachers to value CWD and appreciate and encourage them at whatever value-addition they bring to the classroom
- Teachers and non-disabled peers become more aware of the diversity of population in a global world and can seek out ways to reach out to CWD
- Teachers and peer support is essential to make inclusive education a reality and create inclusive-learner friendly environments for CWD

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# Educational Implication of Bhagavad Gita and Its Relevance in the 21<sup>st</sup> Century

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## Abstract

*The ancient Hindu scripture, the Bhagavad Gita, is a timeless source of wisdom that significantly informs modern education and life in the 21st century. This sacred dialogue between Prince Arjuna and Lord Krishna during the battle of Kurukshetra provides a treasure trove of insights into layers of Moral education, which is an integral part of the teachings of the Gita. Leadership development is another critical area, providing a moral compass to navigate the ethical challenges of the modern world and helping individuals and nations make moral choices in the face of complex ethical challenges. The Gita principles of selfless leadership and ethics are critical in an era of dynamic and varied leadership challenges. It guides confronting with humility, compassion, and commitment to the greater good. Furthermore, the Gita speaks of mental transformation and well-being, necessary in an age marked by high stress and emotional turmoil. It provides individuals with practical tools for better mindfulness, stress management, and emotional balance. Conflict resolution and diplomacy, skills invaluable in a world marked by geopolitical and interpersonal tensions, are deeply embedded in the essence of the Gita. Its teachings offer essential strategies to balance and achieve peaceful conflict resolution. Interpretations and interreligious relationships are also essential factors. The universal themes of the Gita and its compatibility with*

*belief systems encourage a broad approach to spirituality, ethics and philosophy. It fosters tolerance, understanding and cooperation across faiths and academic disciplines.*

*Keywords:* bhagavad gita, ethical education, leadership development, emotional intelligence, mental wellbeing, conflict resolution

## Introduction

The Bhagavad Gita, generally referred to as the Gita, is a 700-section Hindu sacred writing essential for the Indian incredible Mahabharata. This is a significantly philosophical and otherworldly work with an exchange between Sovereign Arjuna and Master Krishna, his charioteer and heavenly aide (Rampal et al., 2022). The Gita handles critical inquiries of life, obligation, religion, and otherworldly knowledge, making it an immortal and all-inclusive wellspring of intelligence. In the 21st 100 years, the Bhagavad Gita has significant and applicable instructive ramifications in different everyday issues, from self-awareness to moral administration and then some. His lessons give significant knowledge and direction that can improve how we interpret the world and upgrade our capacity to address the difficulties of present-day life. This series will look at the instructive meaning of the Bhagavad Gita and its proceeded with importance in the 21st century. We will investigate its central lessons inside and out and consider how they can be applied to morals, authority, mental prosperity and self-awareness. By looking at the insight of the Gita in the radiance of the present difficulties and potential open doors, we can acquire a more profound comprehension of its perseverance through esteem as a wellspring of direction for people and countries in the cutting-edge world (Rukmini et al., 2022). The Bhagavad Gita, the heavenly book of antiquated India, remarkably

applies to current training and life in the twenty-first 100 years. His immortal lessons incorporate many scholastic ramifications that stretch out to the centre of human existence. During a time of intense moral difficulties, initiative difficulties and a developing requirement for mental prosperity, the Gita gives significant direction to Its accentuation on profound quality, moral obligation, uprightness, custom, and artistry accentuation can direct people and countries as they wrestle with advancement moral issues Gita illustrations on authority by the centre, showing others how it's done are pertinent to the necessities of administration in the cutting edge world a to the quick and associated. Illustrations learned in overseeing pressure, keeping up with mental adaptability and discovering a sense of harmony are a higher priority than at any time in recent memory as society manages the tensions of the computerized age (Lolla et al., 2021).

Moreover, the significant insight of the Gita on compromise, profound satisfaction, and general, interreligious connections gives a complete perspective on schooling and 21st-century life, and it's tied in with everything. The Bhagavad Gita, a respected sacred text at the core of the Indian way of thinking and otherworldliness, contains significant educational ramifications and pertinence in the perplexing setting of the 21st 100 years. At its centre, the Gita gives a philosophical establishment to people looking to explore the difficulties of present-day life. During a time loaded with different moral difficulties - from ecological issues to mechanical advances - Gita's lessons on dharma (obligation) and dharma give a directing light. His illustrations on the way to profound quality, which underline the significance of following one's honest convictions, hold extraordinary incentives for people and social orders and

encourage a feeling of direction and profound quality in a frequently ethically equivocal world. Besides, Gita's shrewdness stretches past private morals to the domain of authority and the board. In a quickly developing existence where initiative styles are continually being reclassified, Gita's standards of sacrificial initiative, the craft of motivating and directing others by looking for greatness, are the need to adopt a fair and agreeable strategy reverberates unequivocally. This is particularly significant in regions from business to government, where moral authority isn't just significant but essential for progress and social union (Smith et al., 2019).

The advanced world is additionally full of mental prosperity challenges. The Gita offers significant knowledge and functional systems for keeping up with mental solidarity to adapt to pressure and uncertainty by inspecting the human brain, controlling longings and accomplishing internal harmony. Notwithstanding this reasonable application, the story of the Gita in the war zone fills in as a representation of compromise in a contemporary setting. It gives the bits of knowledge expected to oversee relational clashes, manage high-pressure circumstances, and discover a true sense of reconciliation in outside unrest. These standards are significant in our current reality, where discretion and collaboration are crucial for all the help and improvement of the world. Besides, Gita's investigation of otherworldliness and theory rises above strict limits, making it a significant instrument for interreligious discourse and interdisciplinary examinations. Its widespread subjects and its pertinence to conviction frameworks advance a more extensive feeling of otherworldliness and ethical quality, making an additional comprehensive and agreeable world (Puranik et al.,2022). The Bhagavad Gita

remains an immortal manual for moral living, administration, mental prosperity and compromise, making it even more significant in the 21st 100 years. People and networks who participate in his lessons can utilize his significant insight to examine contemporary social and instructive difficulties, at last molding how they might interpret the world and their place in it more critically.

## What is Bhagavad Gita, and How Does it Transform?

The Bhagavad Gita is a 700-refrain Hindu sacred text that stands as a groundbreaking aide, offering significant understanding and intelligence to the individuals who look for it. The ruler appears as the discourse among Arjuna and Master Krishna and turns into his charioteer and heavenly aide. At its heart, the Gita resolves the most profound philosophical and otherworldly inquiries regarding life, obligation, and the journey for otherworldly illumination. This hallowed book is extraordinary on numerous scales: otherworldly, moral, scholarly, and as a manual for initiative and compromise. It welcomes perusers into an otherworldly change, empowering them to look for self-revelation and a more profound association with the heavenly. It transforms one's point of view by stressing the need to comply with one's standards and obligations according to an ethical perspective. Mentally, it gives instruments to profound equilibrium and mental adaptability, empowering internal harmony and strength. It likewise cultivates initiative characteristics like benevolence and morals and gives people systems for managing struggle and stress (Ghosh et al., 2020). Besides, it advances a broad way to deal with otherworldliness and morals, working with interfaith

discourse and interdisciplinary comprehension. The Bhagavad Gita is an immortal wellspring of progress, giving significant direction to people looking to explore life's difficulties and training. The Bhagavad Gita is a progressive text critical in the cutting-edge world. It gives exhaustive direction to individual and moral development, profound development, and compelling initiative. His lessons offer philosophical understanding and reasonable instruments for living a significant and reason-driven life (Mukherjee et al., 2020).

Profoundly, the Gita fills in as an aide for the people looking to figure out their personality and relationship with the heavenly. It energizes self-disclosure and the mission for higher cognizance and assists people with changing comprehension of how they might interpret themselves and their general surroundings. Morally, the Gita presents a feeling of dharma or obligation, underscoring the significance of acting as per one's qualities and commitments. This conduct change guides people to pursue ethically sound choices and lead upright lives, significantly under troublesome conditions (Nadkarni et al.,2019). Mentally, the Gita offers significant procedures for managing the brain, feelings and stress. It shows the speciality of keeping up with internal harmony and profound equilibrium while encouraging mental flexibility notwithstanding life's difficulties and afflictions.

Regarding authority, the Gita stresses benevolent initiative, where administration serves everyone's benefit and is propelled as a visual demonstration. It gives a structure to moral authority, empathy and obligation to the prosperity of others, advancing groundbreaking initiatives in a world that needs morally sympathetic pioneers. Moreover, Gita's illustrations on compromise and stress the board assume a tremendous part in the present high speed and associated world. Its endeavours to offset and oversee the struggle with intelligence and equity can change how people explore the difficulties and tensions of present-day life.

During a time set apart by the conjunction of different people groups and conviction frameworks, the general and comprehensive lessons of the Gita make it a significant device for interreligious discourse and interdisciplinary comprehension. It advances resistance, regard and a comprehensive way to deal with otherworldliness and ethical quality (Kathuria et al., 2022). The Bhagavad Gita is a groundbreaking sacred text that rises above the way of life of time. It furnishes people with the insight and direction to carry on with their entire lives, settle on moral decisions, and accomplish otherworldly development in the dynamic and complex climate of the 21st 100 years. Its enduring worth lies in its capacity to work with individual and social change, offering a pathway to an additional amicable and illuminated world.

## Need snd Significance of Bhagavad Gita

The Bhagavad Gita, a respected sacred text of extraordinary need and significance, stays a directing light for people and society in the 21st 100 years. Its getting through esteem lies in its multi-layered esteem. Profoundly, it is a signal of light giving significant knowledge into the idea of self and heavenly that meets the primary requirement for understanding and internal harmony in the cutting-edge world. Ethically, the Gita gives a steadfast moral compass, where the lessons of obligation and honorableness light the way to moral dynamic in an ethically difficult time (Jijina et al., 2020). The insight of the Gita on psychological well-being gives significant direction in accomplishing mental change and close-to-home equilibrium, which is pivotal to exploring a quick-moving and upsetting world. The Gita's standards of authority and magnanimous help give an ethical system to pioneers in different fields, forming a caring and conscientious world.

Moreover, his hypothesis of compromise, drawn from war stories, offers immortal answers for compromise, essential in a world set apart by international pressures and private issues in increments. At long last, comprehending the Gita is fundamental for grasping Indian culture and history in our globalized world, consequently working with multifaceted participation. The implications of this literary and philosophical masterpiece are vast. Its wisdom continues to shape thought and life in the modern age, making the Bhagavad Gita an essential guide for individuals seeking understanding, morality and harmony in their lives and society. Sustainable relevance is also at the heart of the critical needs and challenges of the 21st century. It provides comfort and guidance for individuals seeking to live their lives spiritually and find meaning in themselves and the heavenly. In a world grappling with moral dilemmas, the Gita provides a clear moral and ethical framework, providing clarity in decision-making and grounding individual and collective action on principles of righteousness and duty. Mental health and well-being are a priority in today's age, where stress and emotional challenges are expected. The teachings of Gita, which focus on the proper control of the mind, prepare individuals with strategies for attaining inner peace and mental transformation, which are very important for meeting the demands of modern life. Leaders must also adopt the principles of the Gita of selfless service and ethical leadership as a beacon for those in positions of influence, encouraging them to serve with integrity and compassion and promoting a just and ethical world (Puri et al., 2023).

Set at war in a world of unmarked strife and conflict globally and between people, the story of Gita gives us a profound insight into conflict resolution and diplomacy. Its lessons about maintaining equality and achieving peaceful conflict resolution are critical to cooperation and conflict tensions. Moreover, its universal themes bring together interreligious dialogue and interdisciplinary understanding, fostering tolerance and cooperation across belief

systems and academic disciplines. As our world becomes more interconnected and diverse, understanding the Gita helps us appreciate the rich fabric of Indian culture and history and encourages cross-cultural communication and harmony. Ultimately, as a literary and philosophical masterpiece, the Bhagavad Gita is an influential text that inspires thinkers, writers and scholars, leaving an indelible mark on modern thought. In summary, the Bhagavad Gita is a timeless source of wisdom and enlightenment that meets the basic needs of individuals and societies in the 21st century, including spiritual insight, moral clarity existence, ideological change, moral leadership, conflict resolution and interreligious understanding. Its influence extends beyond Indian culture, shaping global ideals and values, making it an indispensable guide for those seeking meaning, morality and harmony in their lives and a world seeking peace and understanding (Sarkar et al., 2020).

## Educational Implications

### 1. Ethical Education:

Moral guidance is fundamental to the lessons of the Bhagavad Gita. The feeling of religion or obligation and the ethical situations of the imaginary people give a decent premise to conversation and illustrations about profound quality. This is particularly significant in the 21st century, when individuals and society manage troublesome moral inquiries in different regions. Educators can integrate the Gita into their educational plan to energize conversations about moral direction. By dissecting how characters are picked and the ethical standards supporting them, understudies can better comprehend the significance of profound quality in

their lives. Furthermore, the Gita's showing the reason for social results and the requirement for strict practices can start the investigation of conduct.

## 2. Leadership Development:

The Bhagavad Gita offers significant knowledge of initiative and sacrificial help, making it an essential asset for administration training. The standards of the Gita are particularly pertinent during a time set apart by powerful and different initiative difficulties. Educators can integrate Gita into authority projects and educational plans to motivate the administration to communicate with trustworthiness, sympathy, and an emphasis on everyone's benefit. The Gita's accentuation on showing others how it's done and serving the necessities of others can teach groundbreaking moral administration characteristics to understudies. By concentrating on the initiative characteristics of Arjuna and Ruler Krishna, understudies can get familiar with moral navigation, establishing a solid starting point for influential positions in their future professions.

## 3. Emotional Intelligence and Mental Well-Being:

The Gita gives significant experiences into the capacity to appreciate anyone on a profound level and mental prosperity. He investigates the idea of the brain, will control, and internal harmony, which are significant in current training. Educators can consolidate Gita's lessons on close-to-home guidelines and stress the executives into profound social and educational plans. Understudies can learn helpful strategies for keeping up with mental

equilibrium and profound adaptability, which are significant abilities for self-awareness. Understanding the idea of the psyche and the significance of mindfulness will permit understudies to manage difficulties in scholarly and individual existence with a more noteworthy ability to appreciate people profoundly.

## 4. Conflict Resolution and Diplomacy:

The Gita's story is set regarding war and offers significant examples of compromise and discretion. This showing is significant in training in a world overwhelmed by international contentions and relational struggles. Educators can integrate Gita's experiences on compromise and tact into examples of compromise, global relations, and human relations. Understudies can learn methodologies for serene compromise and value in high-pressure circumstances in the bellies. By investigating Gita's way of dealing with debate goals and the job of exchange in compromise, understudies can acquire functional information for congruity and understanding in a world set apart by distinction and pressure.

## 5. Interdisciplinary Studies and Interfaith Dialogue:

The widespread topics of the Bhagavad Gita and its similarity with conviction frameworks make it an essential asset for interdisciplinary investigations and interreligious exchange. Instructors can utilize the Gita to energize interdisciplinary reasoning by showing how its lessons converge with different scholastic trains like way of thinking, brain science, writing, and history. This urges understudies to investigate associations among information

and genuine applications between various aspects. Besides, the Gita can act as an impetus for interreligious discourse, cultivating resistance and understanding among people from various religions. When the Gita is inspected closely by other holy texts or moral codes, it furnishes understudies with a significant exchange about shared values, moral standards and general profound insight.

Considering the Bhagavad Gita in scholarly educational plans can affect understudies' scholarly turn of events. Its courses in morals, administration, the capacity to appreciate people on a deeper level, compromise, and interdisciplinary comprehension give an extensive instructive encounter that engages people to explore the 21st 100 years with knowledge and trustworthiness in the solid places of the nineteenth 100 years.

## Relevance of Bhagavad Gita in 21ˢᵗ Century

There is no question that the significance of the Bhagavad Gita in the 21st century is significant. During a time set apart by moral clearness, the Gita offers a signal of moral clarity, giving immortal direction on the job, exemplary nature, and moral dynamic. It stays a significant asset for pioneers and executives, stresses caring help, moral authority and showing others how it's done — significant characteristics in a world portrayed by unique and fluctuated administration challenges. Besides, Gita's lessons on mental prosperity, profound versatility, and stress the executives have never been more significant as people manage the tensions of a quick-moving and data-soaked world. Gita universe subjects Interreligious discourse and interdisciplinary comprehension are advanced, and resilience and participation

between various conviction frameworks and scholarly disciplines are advanced. Besides, it stays a manual for self-awareness and self-revelation, assisting people with tracking down their motivation and internal harmony. The Bhagavad Gita is a priceless wellspring of shrewdness for managing the difficulties and chances of the 21st hundred years, giving significant bits of knowledge into morals, initiative, mental prosperity, compromise, and self-improvement, and cultivates interreligious understanding and interdisciplinary comprehension (Paudel et al., 2023). The Bhagavad Gita's proceeding with pertinence in the 21st century stretches to complete direction on significant parts of life and society. In morals, the Gita's accentuation on uprightness or obligation is immovably accepted when people and associations battle with troublesome moral choices, while the Gita's instructing of shrewdness to carefully assembled ecological morals and civil rights to furnish people with the setting for pursuing principled and mindful decisions despite these difficulties. The standards of administration from the lessons of the Gita have become progressively significant in the advanced world. Its emphasis on sacrificial help and moral initiative gives a solid system for pioneers to explore the complicated and different landscape of the 21st 100 years. When inquiries of initiative and honesty are fundamental, the standards of the Gita offer a way to authority with a merciful vision that stretches out past individual desires. Also, Gita's lessons on mental prosperity have added importance as people manage the tensions of the computerized age (Maitra et al., 2022). The Gita offers necessary procedures for profound strength, discretion, and internal harmony, engaging people with sound and healthy lifestyles amidst a steady flood of data and upgrades (Sahu et al., 2022).

The Gita's insight on compromise and discretion remains essential as the world is under international pressures and relational struggles. Its emphasis on discourse, compassion and cultivating uniformity in struggle is essential to building harmony and understanding in a worldwide society portrayed by distinction and conflict. In our current reality, where individuals of various religions and convictions coincide, interreligious exchange is fundamental, and the Bhagavad Gita energizes such exchange with widespread subjects and conviction frameworks. It advances shared values and a more profound comprehension of moral standards across confidence customs, adding to worldwide solidarity. At long last, Gita's lessons on self-awareness and self-acknowledgment are significant when numerous people seek more profound reason and satisfaction. His significant experiences in self-revelation, personality, and the quest for otherworldly development give an extraordinary way to deal with those trying to associate with their internal identity and track down importance in their lives. The significance of the Bhagavad Gita in the 21st century is diverse and expansive, including profound quality, authority, mental prosperity, compromise, interreligious discourse, and self-improvement.

## Conclusion

Overall, India's antiquated sacred writing, the Bhagavad Gita, has been significant and getting through pertinence in the 21st century. His lessons and intelligence give significant understanding and direction on current life's fundamental necessities and difficulties. Morally, Gita's accentuation on the job, exemplary nature, and moral direction give a reasonable system for exploring complex moral difficulties in an undeniably interconnected world. It fills in as an ethical compass and gives standards to direct people and countries in settling on moral decisions, be they

specialized business or civil rights. The standards of authority and the board from the lessons of the Gita are progressively pertinent in a world portrayed by powerful and fluctuating initiative difficulties. Its accentuation of generous help, moral initiative and authority as a visual cue fosters an empathetic and conscientious viewpoint on the initiative, which is significant in various ventures from legislative issues to business. In speedy, unpleasant years, mental prosperity and profound flexibility are vital. The Gita's bits of knowledge about the idea of the brain, procedures for controlling longings and keeping up with close-to-home offset give people the necessary instruments for carrying on with a sound and healthy lifestyle (Frazier et al., 2021). Gita's insight into compromise and discretion is significant in a world set apart by international strains and relational pressures. Its lessons on exchange, sympathy, and keeping up with equity significantly structure harmony and understanding. Interfaith discourse and interdisciplinary examinations are becoming progressively significant because of the concurrence of individuals of various religions and convictions. The Gita energizes such discourse with general subjects and agreeable conviction frameworks, supporting resilience and concordance between confidence customs.

At last, the Gita's lessons on self-improvement and self-acknowledgement offer an extraordinary way for people looking for more profound significance, reason and internal harmony in their lives (Setiawati et al., 2023). With its boundless pertinence in profound quality, authority, mental prosperity, compromise, interreligious exchange, and self-improvement, the Bhagavad Gita remains a persevering wellspring of cunning and direction. It gives required apparatuses and tended to in the intricacies and difficulties of the 21st hundred years for people and society Purne, adding to an interconnected world.

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# Integration of 21st-century skills: Problem-solving in Mathematics Curriculum

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## Abstract

Students need more than just traditional mathematical knowledge in the fast-changing modern world of the 21st century. In this knowledge-based, globalized, and technologized world, our living and interacting styles are changing. Therefore, we, especially the growing generation, should have to attain the competing skills to critically think, maintain a collaborative mindset, enable exemplary communication, and adapt to a more challenging life and work environment. These modern and newly important competing skills are collectively called 21st-century skills. Many international frameworks like OECD, ATCS, P21, and UNESCO have listed some 21st-century skills such as critical thinking, problem-solving, creativity, communication, media literacy, technological literacy, innovation, metacognition, leadership, collaboration, etc. All such organizations agree that these modern skills can be taught by teaching different subjects in a well-framed curriculum. Mathematics is a subject that includes numbers, angles, formulas, and finding the correct answer to difficult problems. So, the students can find solutions to each problem. Problem-solving skills help people arrive at an appropriate answer through components such as planned observation, critical thinking, creativity, communication and collaboration. This paper discusses the importance of the 21st-century skill Problem problem-solving, the idea behind problem-solving skills, the importance of developing problem-solving skills, strategies for integrating problem-solving skills, the role of the teacher in integrating problem-solving skills and challenges in the integration of Problem-solving skills in the Mathematics curriculum.

*Keywords:* 21st-century skills, problem-solving, mathematics curriculum, critical thinking, collaboration, communication, analytical thinking

## Introduction

The competing skills developed through various stages of human life are needed to survive in a more challenging day-to-day life and work environment. Therefore, all over the world most of the educational systems currently focus on integrating competing skills, newly called 21st century skills in the Curriculum. As with all other subjects, Mathematics is also a platform where students can practice these skills. Integrating modern skills like problem-solving skills into the Mathematics curriculum is very significant in the technologically advanced and globalised world because it develops creativity, and enhances the capacity of critical thinking, communication and collaboration among the students. This leads us to a new approach that combines traditional mathematics concepts with innovative problem-solving techniques to develop these modern competencies. This approach not only enhances academic achievement but also prepares students to become creative thinkers ready to meet the dynamic challenges of the twenty-first century. The teachers have been facing some challenges in integrating these skills into lessons and assessing them. However, systematic and strategic techniques that are developed by many international frameworks and organizations enable the successful integration of modern skills into lessons and mold skilled generations.

## The 21st -century skills

The term "21st-century skills" refers to the knowledge, abilities, habits, and characteristics that are critical to students' success in the modern world when they proceed to higher education, employment, and family and social life. In general, students can use 21st-century skills throughout their lives in all academic subject areas as well as in educational, professional, and civic contexts. P21, an American organization founded in 2002 by business leaders, consultants, and educators, conceptualized a framework for 21st -century skills. They classified these skills mainly into three categories, such as

- Learning and innovation skills include competencies such as creativity and invention, communication and teamwork, critical thinking and problem-solving

- Information, media, and technology skills—Media literacy, Information literacy and information and Communication Technology literacy (ICT) are examples of digital literacy skills.

- Life and career skills: adaptability and flexibility, self-motivation and initiative, social and intercultural communication, productivity, and accountability are the sub-competencies of this skill. (learning, 2019)

These abilities are thought to be essential for people to prosper in the contemporary world, both in their personal and professional spheres.

### The Idea Behind Problem-solving Skills

Problem-solving skills are essential to cutting through such situations when faced with crises in a child's daily life. Life skills can be acquired by the individual both inside and outside the classroom. In such situations, problem-solving is the most important skill that the teacher should impart to the child and develop by the student himself. The teachers were focused on attempting to clarify and define problem-solving approaches almost all the time in the 20th century. Still, some people believe that a set of machine-driven, systematic, and decontextualized skills is required for problem-solving as these skills are required for solving equations and mathematics puzzles. But actually, problem-solving skills are a mental process which involves critical thinking, decision - making and reflective thinking.

According to PISA (2012), "Problem-solving competency is an individual's capacity to engage in cognitive processing to understand and resolve problem situations where a method of solution is not immediately obvious.  It includes the willingness to engage with such situations in

order to achieve one's potential as a constructive and reflective citizen." (TRIAL, 2010)

A problem is a non-routine state or condition for which there are no simple, regular solution approaches, in contrast to an easy task. Problem-solving therefore involves logical reasoning in order to process information in a way that may be used to solve the problem effectively and efficiently.

## The Importance of Developing Problem-Solving Skills

### Enhancing Critical Thinking

In the complicated and quickly changing world of today, critical thinking is an essential talent. It entails information analysis, argument evaluation, and well-informed decision-making. People who have developed their critical thinking abilities are better able to overcome obstacles, make wise decisions, and positively impact society.

### Fostering Collaboration and Communication

To tackle complicated problems and come up with creative solutions, problem-solving requires collaboration and communication. To create a more comprehensive grasp of the issue at hand, effective collaboration entails bringing together a variety of viewpoints, specialities, and life experiences. It facilitates the integration of diverse methods, fosters critical thinking, and encourages the exchange of ideas.

### Creativity and Innovation

In the subject of mathematics, creativity and innovation are essential abilities that propel advancement, discovery, and the creation of novel ideas and solutions. Mathematical creativity is thinking outside the box, making connections between seemingly unrelated ideas, and coming up with new concepts or methods. Mathematicians frequently have to come up with fresh approaches to issues, investigate different avenues, or develop original theories. Innovative approaches to

solving challenging mathematical problems can be developed with the use of creative thinking. (Lewis, 2023)

## Integration of Problem-Solving Skills at Different Levels

A child must acquire different types of problem-solving skills at each stage of education. For example, for a person in primary education, the basic problem-solving skills are multiplication, division, addition, and subtraction. In the upper primary level, the student begins to use the basic problem-solving skills that he or she learned from the primary level to solve some daily life problems. Then, in the secondary levels, the child moves into higher levels of problem-solving skills. By the time that student reaches adulthood, he must have acquired thousands of problem-solving skills from inside and outside of the classroom that will contribute to the self-development and self-realization of an individual and healthy progress in society.

## Pre-Primary Mathematics Curriculum

A teacher provides a problematic situation, for example,

Problem: "Three friends have 12 toys. How can they be divided equally?"

- Students can use different approaches, such as drawing pictures of the toys, grouping them into sets of 3, or counting to find that each friend should get 4 toys. This exercise teaches division, sharing, and problem-solving in a fun and interactive way.
- By incorporating these elements into the pre-primary math curriculum, young children can lay a solid foundation for 21st-century problem-solving skills while making learning fun and relatable.

## Primary mathematics curriculum

- The teacher asks the children to work on "mathematical pattern recognition.".

- Then the student should understand the problem by discussing it in the class. They should raise many questions to realise what we already know and what we have to find out.

- Understand the problem: Begin by reading the problem and discussing it as a class. "What do we know?" Ask the students questions such as "What are we trying to find?"

- Identify patterns and relationships: Encourage students to identify any patterns, relationships, or similarities in the problem. In our example, you can present a sequence of numbers using a hidden pattern.

- Brainstorming Solutions: Have students brainstorm multiple ways to approach the problem. It encourages creativity. For the pattern recognition problem, ask them how to find the next number in the sequence.

- Collaborative Learning: Encourage students to work in pairs or small groups to discuss their solutions and insights. It encourages cooperation.

- Present and discuss solutions: Students present their findings to the class. It builds communication skills.

- Reflect and revise: After discussing solutions, ask students if there are alternative approaches or if what they learned can be applied to other problems. This stage encourages critical thinking and self-evaluation.

- Evaluation: Assess students not only for the accuracy of their answers but also for their ability to articulate their problem-solving process and creativity in approaching the problem.

**High School Mathematics Curriculum**

Example: Real-World Geometry Problem

Problem: Your backyard is a rectangular area 10 m long and 6 m wide. You want to design a garden in this space while increasing the area of the garden. The garden should be divided into two parts: one for flowers and one for vegetables. What are the dimensions of each section for the maximum garden area?

- Break the problem into parts: Calculate the maximum area of the garden while keeping the length and width of each part constant.

- Use algebra to create an equation that represents the total garden area in terms of the width of each section.

- Find the critical points of the area function using calculus.

- Analyse the results and select measurements that maximize the garden area.

This example combines geometry, algebra, and calculus to encourage critical thinking and creativity in solving real-world problems.

## The higher Secondary Mathematics Curriculum

Example: Scenario: Pupils need to plan their savings for retirement. They are given a certain amount to invest, and they have to decide between different investment options, taking into account factors like interest rates, time horizon, and risk tolerance.

Mathematical Concepts: Students apply exponential growth equations to compound interest and probability concepts to evaluate investment risks.

By following this approach, you can integrate 21st-century problem-solving skills into the math curriculum while addressing practical, real-world problems. This method not only

enhances mathematical skills but also equips students with critical thinking, teamwork, and research skills.

**Role of the Teacher in Integrating Problem-Solving Skills in The Mathematics Curriculum**

- Encourage students to analyse a given problem from multiple angles and explore various approaches and solutions for that particular problem.

- Generate curiosity in given problems and create a mind to find their own solutions.

- Motivate the students to collaborate with others to find out the solution, and guide them to cooperate with peers and ensure teamwork.

- Adapt the individual needs and Caliber of each student. Let them follow unique learning styles and provide the instructions needed accordingly.

- Familiarise available modern technology and tools that are suitable for each lesson to solve mathematics problems.

- Provide constructive and timely feedback to refine their problem-solving techniques and keep moving on till a solution is found.

**Challenges Facing the Integration of Problem-solving Skills in the Mathematics curriculum**

Integrating 21st-century problem-solving skills into the math curriculum presents several challenges. They are:

- Resistance to change: Traditional teaching methods are resistant to integration, and teachers may be reluctant to move away from traditional approaches.

- Curricular constraints: Incorporating new skills into existing curriculum requirements can be challenging.

- Teacher Training: Many teachers may need additional training to effectively teach problem-solving skills.

- Assessment Difficulties: The traditional assessment method is being replaced by modern complex problem-solving skills.

- Resource constraints: The availability of technology and materials to support this integration may vary between schools.

- Varying Student Readiness: Student readiness to adapt to these skills can vary, making it challenging to effectively tackle all levels.

- Time Constraints: Finding time in the curriculum for skill development with quality content may be a limitation. (Michiel Doorman,Paul Drijvers Truus Dekker, Marja van den Heuvel-Panhuizen, Jan de Lange ,Monica Wijers, 2007)

**Suggestions for Improving the Integration of Problem-Solving Skills in the Mathematics Curriculum**

The following best practices will help for the practical integration of problem-solving skills in the mathematics curriculum and make the students equipped with problem-solving skills.

- Divide the problem-solving skills into different sub-key competencies that can be easily teachable to all age groups.

- Prepare real-life scenarios and problems related to all the mathematics topics and list out the technology and tools that can help the smooth integration.

- Use very attractive traditional or modern games that make problem-solving more engaging and enjoyable.

- Include lengthy complex projects that needed research and enquiry in the teaching and learning process that need critical thinking, collaboration and proper communication for a long time (weeks)

- Provide special care and differentiated instructions for those who struggle with all the sub-skills such as critical thinking, collaboration, communication etc. The language barrier also should be considered while presenting the scenario before the students.

- Keep curricular connections with other subjects such as physics, economics, commerce etc so that the solutions can be found from different dimensions.

- Frequently conduct professional development sessions to educate the teachers on how to select suitable sub-skills for each lesson, how to prepare matching problem-solving scenarios and use modern tools and techniques that enable easy problem-solving skills practice.

- Prepare unit-wise checklist skills and sub-skills and record the performance of the students regularly so that the teacher can identify the weaker area of each student and provide feedback.

- By implementing these strategies, math teachers can better equip students with the problem-solving skills needed in the 21st century.

## Conclusion

21st-century skills, particularly problem-solving skills should be included in the Mathematics Curriculum for preparing students to be successful in the modern world that is changing quickly. As a subject that student's study from the very beginning of their school days, proper integration of the skills according to their physical and cognitive development stages helps to develop problem-solving skills gradually. Educators have a significant role in developing these skills and there should be a proper framework to eliminate the challenges they face in the integration. To conclude, the subject of mathematics is a very effective

platform for developing problem-solving skills in students and making them successful citizens

of the country and flexible problem-solvers in the constantly changing world.

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# Adversity Quotient and Logical Thinking Skill of Prospective Teachers at Secondary Level: A Correlational Analysis

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**Abstract**

Adversity quotient is the measure that determines the ability of the person to deal with adversities in their life and which indicates the person's success in life. Everyone faces so many problems in everyday life that will affect the behaviour of that person. So, everyone needs continuous processes of adjustment in every aspect of life. The way a person thinks or handles the problem to solve differs from person to person. The researcher thinks that the way of thinking will help every person to face adversities in life and hence one needs Logical Thinking Skill. The present study aims to investigate the relationship between Adversity Quotient and Logical thinking skill of Prospective teachers at secondary level. This study also analyses the level of Adversity Quotient and Logical Thinking skill of Prospective teachers at secondary level. A random sample consisting 106 prospective teachers at secondary level from Kerala state participated in the study. A percentage analysis was used to find the level of Logical thinking skill and Adversity Quotient level and Karl Pearson's Product Moment correlation was used to analyse the relationship between the variables. The result shows that there was a weak significant positive correlation between Adversity Quotient and Logical Thinking skill of prospective teachers at secondary level. (r=0.195, significant at 0.05 level).

*Keywords:* adversity quotient, logical thinking skill, prospective teachers

### Introduction

Education helps in realizing our true potential and serves as a tool for empowerment. It teaches values, sharpens critical skills, creates equal opportunities, helps to know ourselves, improves mental as well as physical health, promotes and maintains peace, develops problem solving skills and logical thinking skills, improves healthy life style and quality of life. A teacher is responsible to develop these qualities. Teacher Education is the formal training programme to prepare the teachers at the Elementary school level and the Secondary school level. It is an ongoing process that helps the teacher to learn how to deal with the students and makes the learning effective in a new way. The curriculum and the syllabus of the teacher education programme are designed to produce professionally competent teachers. Competency is the capacity of the individual to meet the complex demands by drawing and mobilizing skills and attitude. Competency is an educator's pursuit of excellence (Nessipbayeva, n.d.). Good teaching skills that help a teacher to create a better generation in future life. The important skills are critical thinking skill, problem solving skill, logical thinking skill, communication skill, organizational skill etc. Logical thinking skills are important because in thinking process, one needs to use the logics and reasoning, and from them one comes up with a satisfactory answer, conclusion or solution. This thinking process in logical thinking will help them to lead a satisfactory answer or solution in any circumstances. A teacher with logical thinking skill has a solution for any problem.

The researcher thinks that the logical thinking skill has great importance in life as it enhances the ability to survive any adverse situation. So, the present study aims to find any relationship between

Logical thinking and adversity quotient of prospective teachers at secondary level students.

## Adversity Quotient (AQ):

The term Adversity Quotient was first coined by Dr. Paul G Stoltz in 1997. It tells the ability of the individual to manage any difficult situation and find any solution to challenging problems. The four dimensions to measure Adversity quotient was proposed by Stoltz (2000) are:

- Control: Control is the capability to influence an existing situation, change a difficult situation and become a person who does not give up easily. It determines resilience, health, and tenacity.

- Origin and Ownership: It is the ability of the person to be responsible for improving the situation at hand. It determines accountability, responsibility, action and engagement.

- Reach: Reach is the ability to manage difficulties or problems encountered to not have an effect in other aspects of life. It determines stress, energy, and effort. It tends to have a cumulative effect.

- Endurance: Endurance is the length of the time the individual perceives the situation. It determines optimism, hope and willingness to persevere.

## Logical Thinking Skill:

Logical thinking skill is the capability to analyse a problem or situation and using thinking processes to come up with a sensible solution. It involves reasoning skills and helps to take important decisions, solving problems, make communication and generate creative ideas through reasoning. The components of Logical thinking are:

Inductive reasoning: Inductive reasoning is the process of logical thinking that involves drawing conclusions using specific observation, experience or facts. It starts from particular cases and arrive at general principles.

Deductive reasoning: Deductive reasoning is a type of logical reasoning that starts with a general statement or principle and verifies all possibilities to reach the specific conclusion.

Analogy: Analogy is the logical reasoning which depicts similarities between two or more objects. It is the ability to discover the relationship between the pairs.

Abductive reasoning: Abductive reasoning is a form of logical thinking that helps reach a logical conclusion based on a single observation or a group of observations. It involves forming a conclusion from the information that is known.

## Review Of Related Studies

Parvathy, D.U & Praseeda, M (2014) published an article entitled "Relationship between Adversity Quotient and Academic problem among Student teachers". This study portrays that there was a significant, negative, substantial correlation between Academic problem and Adversity Quotient among student Teachers. Nikam, V. B & Uplane, M.M (2013) found no significant difference in the Adversity Quotient and Defence mechanism on the basis of gender. Biswas, R& Banerjee, D (2018) observed that there was a significant difference in the level of AQ of the pre-service and In-service B. Ed Teacher Trainees. Ristiana, M.G., Istianah, E., & Pratama, D. F (2023) investigated that the students following their Adversity Quotient in Climber category had very good Logical thinking skills, in Camper category had good Logical Thinking skill and in Quitter category had a

very bad logical thinking skill.

## Definition Of Key Terms

Adversity Quotient: The Adversity quotient is a person's capability to face situations, problems and other obstacles in life. (Safi'i et al., 2021)

Logical Thinking: Logical Thinking is analysing a situation or problem using reason and coming up with potential solutions. (Kaplan, Z.,2023)

Prospective Teachers: Prospective teacher means people who are trained to be able to do teaching profession (Filiz, 2020)

## Objectives

1. To find the level of Adversity Quotient of Prospective Teachers at Secondary level.

2. To find the level of Logical Thinking Skill of Prospective Teachers at Secondary level.

3. To find the relationship between Adversity Quotient and Logical Thinking Skill of prospective teachers at Secondary level.

## Hypothesis

There will be a significant relationship between Adversity Quotient and Logical Thinking Skill of Prospective teachers at Secondary level.

## Methodology

A normative survey method was adopted for the study. The tools used for the study was Logical Thinking test and Adversity Response profile.  A Logical thinking test was prepared by the researcher to find the level of Logical thinking skills of prospective teachers at

secondary level. The test contains 10 questions, each question has four options and 1 mark for every correct answer. Adversity Quotient was measured using Adversity Response Profile prepared by Dr Paul Stoltz, the author of Adversity Quotient. It measures how many adverse events an individual experiences on an average day. Adversity Quotient comprised of four CORE dimensions. (C= Control, O= Ownership, R= Reach, E= Endurance). A random sample of 106 prospective teachers at secondary level from Kerala State was taken for the study. The statistics used for the present study was percentage analysis and Karl Pearson's Product Moment Correlation.

## Analysis And Interpretation

**Table 1**

Grouping of Prospective teachers at secondary level based on the scores of Logical thinking skill

| Group | Number of prospective teachers at Secondary level | Percentage |
|---|---|---|
| Low | 26 | 24.52% |
| Average | 60 | 56.60% |
| High | 20 | 18.86% |

On the basis of the scores obtained for Logical Thinking skill, prospective teachers at secondary level were divided into three groups as low group, average group and high group. Statistical analysis revealed that 24.52% prospective teachers at secondary level have low

Logical thinking skill, 56.60% have average level Logical thinking skill and 18.86% have high

level Logical thinking skill.

**Table 2**

Grouping of Prospective teachers at secondary level based on the scores of Adversity Quotient

| Group | Number of prospective teachers at secondary level | Percentage |
|---|---|---|
| Low | 6 | 15.09% |
| Average | 70 | 66.03% |
| High | 20 | 18.86% |

From the above table, it is clear that the level of Adversity Quotient of prospective

teachers at secondary level, 15.09% student teachers belonged to the low category, 66.03%

belonged to the average category and 18.86% belong to the high category.

**Table 4**

Relationship Between Adversity Quotient and Logical Thinking Skill of Prospective Teachers at

Secondary Level

| variables | Mean | Standard Deviation | Correlation |
|---|---|---|---|
| Adversity Quotient | 129.83 | 22.45 | 0.195 |
| Logical Thinking Skill | 6.86 | 2.12 | |

*Level of significance at 0.05 level

The correlation coefficient obtained for Adversity Quotient and Logical Thinking skill

was 0.195. The obtained value is positive which indicates a positive relationship between

Adversity Quotient and Logical thinking skill score of prospective teachers at secondary level. Negligible positive correlation shows that with the increase or decrease in Logical thinking skill, there may be a corresponding increase or decrease in Adversity Quotient.

## Major Findings of the Study

The major findings of the present study are given below:

- Regarding the Logical Thinking skill, the number of prospective teachers at high and low group is less while those in the average group is more.

- Analysing the scores of Adversity quotient of Prospective teachers at secondary level showed that, numbers in high group and low group is very low when compared with average group.

- There is a weak but significant, positive correlation between Adversity quotient and Logical Thinking skill of Prospective teachers at secondary level.

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# Mindfulness and Social Emotional Learning in Nurturing Global Citizens

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## Abstract

The present study aims to explore the impact of mindfulness and social emotional learning on fostering Global citizenship among young learners. A synthesis of the literature on global citizenship, its components, and various strategies for developing various skills involved in it revealed that Mindfulness and socio emotional learning have a significant impact on its development. It is an attempt to explore and elaborate on how mindfulness and socio emotional learning is helpful in nurturing Global citizenship. Implications for further research and suggestions to policy makers, administrators, teachers, and family members are also highlighted.

## Introduction

Global citizenship being an umbrella term for social, political, economic, and environmental actions of globally minded individuals and communities across the globe. It includes the individuals that are members of multiple, diverse, local, and foreign communities. A global citizen is one who is aware of the wider world and has a sense of his or her own role as a world citizen. To request and value diversity, to be sensitive to social injustice and understanding how the world works economically and socially is a must for global citizenship. A global citizen is always willing to act to make the world a more sustainable place and takes the responsibility for his or her actions.

Mindfulness is the capacity of an individual to pay attention to    the present moment with curiosity and kindness. It contributes to a richer internal leaning environment and helps the learner to relate in the moment of learning and experience. Mindfulness supports the cognitive, emotional, physical and relational aspects of teaching and learning. It improves power and concentration along with an increase in self-awareness. Further it is helpful in exercising control over impulsive and reducing stress. *Its practice shows a greater increase in empathy.*

Social emotional learning (SEL) is the process of developing self-awareness, self-control and interpersonal skills that are vital for school, work, and life success. It is a method that aims to foster social and emotional skills within school curricula. It emphasizes social and emotional skills along with the other school subjects like reading, writing, mathematics,etc. Social emotional learning helps kids in successfully managing everyday life. It helps students to focus, improve decision making and become supportive members of their societies, communities, and nation at large.

## Global Citizenship

A global citizen is the one who may belong to a specific region, but the overall awareness of the world and universal culture offers them a unique understanding of the interconnectedness of different countries. It also instills in them the consciousness of their actions and their effects across the globe.

The present era of globalization and technological revolution seeks citizens to work together and find solutions for global issues like climatic changes and pandemics. The citizens need to collaborate their skills and expertise to perform mammoth tasks by undertaking global responsibilities. The same being recognized by the policy makers in India as a result NEP 2020 aimed the youth of India to be tolerant, experience-oriented human with a global outlook. The characteristics of global citizens are diverse, inclusive, humane, global outlook, awareness of global issues, experience oriented, thinking out of the box and solution oriented.

Basically, global citizenship is an idea that everyone is a part of world community across the globe. It is inclusive of four aspects i.e. civic responsibilities, cultural awareness, environment and global economy. Promoting global citizenship requires understanding the model of five pillars of global citizenship as discussed by united planet (NGO). This model is based on principle of relational diplomacy given by David Santali (2003). These five pillars include relational diplomacy, global leadership, global understanding, civic engagement, and academic and professional competencies.

Relational diplomacy means building strong relationships and a feeling of brotherhood even across boundaries. By inculcating it, stronger connections and a peace-loving society is achieved worldwide. Global leadership aims to develop leaders equipped with the knowledge and skills needed to address global challenges in an effective manner. It helps global leaders to lead with a wider perspective and a deeper understanding of the world which enables them to solve various issues.

Global understanding is about nurturing the younger citizens in a way that they should be able to have respect for the cultural differences that exist in a multicultural society. This would require breaking down the barriers between people from diverse cultures and promoting mutual understanding. Civic engagement means that individuals from local global communities participate actively. To achieve this the knowledge and skills are required to have a positive impact on the world around. It is basically engaging the citizens in achieving a cohesive and peaceful world. Academic and professional competency is all about the skill development and acquisition of knowledge needed to achieve success in the intellectual and professional front and hereby leaving a positive impact on the world around.

In a nutshell it can be said that being CLUED in is a global citizen (www.unitedplanet--org) . Here the acronym CLUED means connect, lead, understand, engage, and develop within a global cross-cultural context. Each of these foundations requires a lot of knowledge, skills and values that are to be mastered to achieve the umbrella term global citizenship.

## Nurturing Global Citizenship

In the present era of globalization there is a dire need to have citizens ready to collaborate their knowledge & expertise in finding solutions to mammoth global issues.  This has already been spelled by NEP2020 through recommending for nurturing global citizens. though it is a long process as it is not that easy to change the human mind set or perspective. It may take ages to shift education system from traditional to global one. The process may be a slower one but evident in the form of students decision making, treating other people,

approach to a problem etc. During this course teachers must be mindful of the fact that they are preparing global citizens and hence focus should be on their holistic growth. Chandwani.R,Agarwal.N>M>.& Kedia.B.L(2015) in an attempt to study on mindfulness: nurturing global mind set and leadership , explicates that mindfulness is very important in developing a global mind set and thereby acquiring global leadership competencies . With the help of task analytic approach, it has been elaborated on how mindfulness can act as an important antecedent for global mind set and hence global leadership. Krishnan.Hema.A(2023) carried out a study on practice of mindfulness nurture in sustaining ethical leadership skills in top managers in the aftermath of Covid-19. The findings of the study are in tune with the previous studies conducted by Goleman &Davidson (2017), Kahat-Zinn(2013). Hence it can be said that mindfulness practices enable the leaders to develop leadership skills that are helpful in wise strategically planning to get favourable outcomes in this rapidly progressing modern world. Vogus and Dane (2016) in a study on organizational and individual mindfulness found that mindfulness has certain advantages including expanded scanning, considering diverse viewpoints, interpretations of the context and appreciation of various viewpoints. All this is essential for the global citizenship.

Social emotional learning (SEL) as we all know is becoming increasingly popular nowadays as there is a pressing need of nurturing informed, empathetic, compassionate, and responsible citizens.  This approach towards nurturing global citizens holds the education system to shoulder the responsibility of instilling these skills within the youth. Now it cannot be assumed that social and emotional development is the sole responsibility of the family or

the community. Various new reforms and policies across the globe have highlighted the need to foster social emotional skills and values among the children. NCFTE2010 clearly recommends that teachers are expected to adhere to the constitutional values to enable future citizens to be sensitive, respectful & divergent thinkers. National Curriculum Framework (NCF) 2005 also states that there is a need of curriculum whose creativity, innovativeness and development of whole being, the hall mark of good education, makes uniform tests that assesses memorised facts and textbook based learning obsolete. New Education Policy (NEP) 2020 envisions that students should learn certain life skillsalong with other academic skills. The policy clearly states that ethical, moral, reasoning and socio –emotional skills should be incorporated through the school curriculum. It further adds that scientific temper and socio emotional values are equally important as constitutional values.

Weare.K(2003) emphasised the significant role of social emotional skills in promoting self-awareness and awareness of others along with the creative thinking which are the fundamental requirements of global citizenship. Jhonson.D.W& Jhonson.R.T(2006) revealed that being aware of their own emotions , being able to manage them and knowing their own thoughts and feelings and emotions paves the way for them to be able to understand emotions of others and develop into an effective member of  society. Hence it can be said that effective integration of mindfulness and social emotional skills have a significant impact on nurturing the global citizenship. There is a growing body of research accentuating the positive correlation among mindfulness, social emotional skills in nurturing global citizens.

## Conclusion and Implications

The present age of globalisation seeks citizens to work together in collaboration to find solutions to the gigantic problems. the need is further accentuated by the pandemic and major climate changes for global citizens to come forward and join hands and face the challenges. Nurturing youth to be a global citizen is a lengthy process with no shortcut. We still have a long way to go to transform the educational ecosystem. Together social emotional learning and mindfulness can help learners to inculcate all the skills required to be a global citizen. Mindfulness and social emotional learning fortify their educational, social, and emotional well-being. This fosters essential skills making them useful for the family, society, and nation at large.

At the end of discussion, it is suggested that policy makers, administrators, teachers, and family members should aim to foster the life skills and socio emotional values among the future citizens from an early age. As only knowledge of the various subjects like English, Hindi, Mathematics, Science etc. alone will not be able to make them fit for future citizenship. Mindfulness techniques are also required to be taught to them to increase the level of self-awareness, leadership, compassion, divergent thinking etc. as these are the fundamentals of global citizenship. Opportunities are to be provided to the learners in school and even after the school that may foster mindfulness and social emotional learning through various curricular and co-curricular activities.

Suggestions for further research may include carrying out a study on the various domains of global citizenship and how that can be fostered. Studies may also be carried out on the impact of mindfulness and socio emotional learning on various pillars and characteristics of global citizenship and various factors affecting its inculcation.

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# Mindfulness and Resilience to Foster Mental Health

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## Abstract

Psychologists were always intrigued by the thoughts of how do human mind work. In the recent years, the focus of psychologists around the world is on finding sustainable solutions to the various problems faced by at individual level as well as at societal level. Numerous schools of psychological and spiritual thought have highlighted the need of consciousness for overall wellbeing. The aspect of consciousness known as mindfulness is one that significantly contributes to wellbeing. Mindfulness is the state of being alert and aware of the present. Positive mental health is facilitated by mindfulness, which enhances general well-being. Equally important is resilience which is the ability to put the mind and life into its track again even while facing challenges. The present study was an attempt to find out mindfulness and resilience of individuals of different age group-referred to as young adults and middle age adults and educational qualifications. The relationship if any, between mindfulness and resilience in general and with respect to age groups and educational qualifications has also been looked into. The researcher used descriptive research method for the present study and the tools employed were Mindful Attention Awareness Scale and a researcher made tool to assess resilience. The results indicated that there is no difference either in mindfulness or resilience of individuals with respect to age group or educational qualifications. Also there existed a strong positive correlation between mindfulness and resilience, in general and also with respect to age group and educational qualifications. The research has underlined the need to develop mindfulness techniques to develop resilience and there by fostering positive mental health

*Keywords:* mindfulness, resilience, young adults, middle age adults, positive mental health, positive psychology

## Introduction

Human mind is a mystery box. Psychologists have long been intrigued by the how and why of its behaviour. Finding solutions to the issues faced by individuals or groups of persons has been the main focus of psychology for many centuries. Recently, psychology has turned its emphasis to establishing a framework for fostering wellness and happiness. In other words, psychology was viewed as a tool to help people live happy lives. Numerous schools of psychological and spiritual thought have underlined the need of consciousness for overall wellbeing. The aspect of consciousness known as mindfulness is one that significantly contributes to wellbeing.

Mindfulness is the state of being alert and aware of the present. It involves teaching one's mind to pay attention to what is happening right now rather than getting upset about the past or worrying about the future. Positive mental health is facilitated by mindfulness, which enhances wellbeing. Resilience is the ability to bounce back from difficulties or failures. We can develop higher resilience and a stronger resistance to stress with the aid of mindfulness.

According to Jason and Mancini (2021), who studied the relationship between resilience and mindfulness, mindfulness merits further attention in the literature and research on resilience as a hypothesis to explain how resilient behaviours develop. The relationship between mindfulness and resilience in predicting psychological wellbeing in university students was explored by Pidgeon and Keye (2014) researchers, and they found a significant positive correlation between the two. Research on resilience, mindfulness, and flourishing in

middle-aged persons was conducted by Sonthalia (2020), and the findings showed a strong connection between mindfulness, resilience, and thriving. There is a dearth of literature on these three traits specifically in relation to age, so Choudhary *et.al* (2021) studied the role of mindfulness and self-efficacy in resilience among young and older people and found that it offered a welcome perspective on the subject and encouraged further research. It highlights the opportunity to develop interventions that will help people of all ages build these good traits. The two most important factors fostering resilience are mindfulness and positive personal well-being, according to a study on mindfulness as an intervening factor for improved psychological well-being in boosting resilience by Oh *et al* (2022). The results of this experimental investigation supported past findings that mindfulness training improves millennials' personal wellbeing and resilience. The present study aims to find out the level of mindfulness and resilience and also any relationship between mindfulness and resilience in individuals.

## Objectives of the study

1. To find out the level of mindfulness with respect to age group.

2. To find out the level of mindfulness with respect to educational qualification.

3. To find out the level of resilience with respect to age group.

4. To find out the level of resilience with respect to educational qualification.

5. To examine the relationship between mindfulness and resilience.

6. To examine the relationship between mindfulness and resilience with respect to age group

7. To check the relationship between mindfulness and resilience with respect to educational qualification

For finding out these null hypotheses were formulated.

## Methodology.

The researcher has used descriptive method for the present study. For collection of data, the researcher used two tools.

a) Tool A-The Mindful Attention Awareness Scale (MAAS) (Brown and Ryan (2003, Carlson and Brown (2005).

The MAAS is made to assess mindful awareness. It is a 15-item scale designed to assess one of the core components of mindfulness, namely a receptive mental state where attention is controlled by a sensitive awareness of what is happening. The tool consisted of statements related to daily life experiences. In a scale of 1-6, the respondent has to indicate the frequency of their experience in each situation.

The scoring is done as below as in table 1

**Table 1**

Scoring of Statements of MAAS

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| Always | Very frequently | Frequently | Infrequently | Very infrequently | Never |

**b) Tool B- Questionnaire to test Resilience**

The level of resilience was assessed by a researcher made questionnaire which is based on four elements of resilience (Cooper *et.al* 2013). The tool consisted of 16 statements related to self-assurance, social support, flexibility, purposefulness. The respondents were to indicate their response on a five-point scale from Disagree to Agree. To reduce ambiguous answering few statements were to be reversely scored. The scoring is given in Table 2.

**Table 2**

Scoring of the Questionnaire on Resilience

| Type of statement | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|
| Positive | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| Negative | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |

Both the tools were shared with the respondents through google forms and the responses were collected. Apart from the statements to measure MAAS and Resilience the researcher also collected data like age, educational qualification and employment status. To ensure complete confidentiality of the respondents and to ascertain their anonymity, the

google form did not collect information like name, email id etc. This ensured that respondents responded to the statements in an honest and trust worthy manner

**Sampling and Sample**

The researcher used simple random sampling to select the sample. The sample size was 126 and it included adults of different age groups and with diverse educational qualifications. In the present study, the researcher has identified two age groups. The age group (20-40) was denoted as young adults whereas the age group (40-60) was designated as middle age adults.

The educational qualifications of the respondents were compiled and the respondents were categorised as graduates and post graduates. The sample distribution according to the age group and educational qualification is given below:

**Figure 1**

Sample Distribution According to Age Group



Fig 1    Sample distribution according to age group

- Young adults   ■ Middle Age Adults
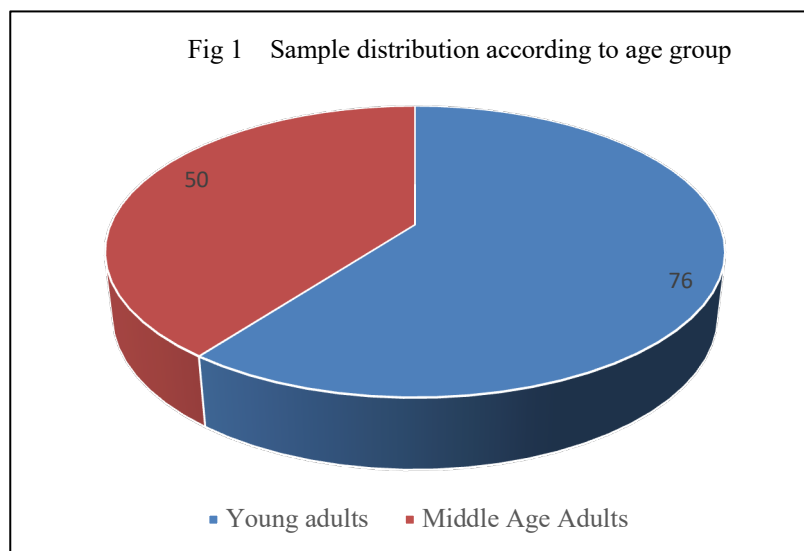
**Figure 2**

Sample Distribution According to Educational Qualifications



Fig 2.Sample Distribution according to educational qualifications

■ Graduates  ■ Post Graduates
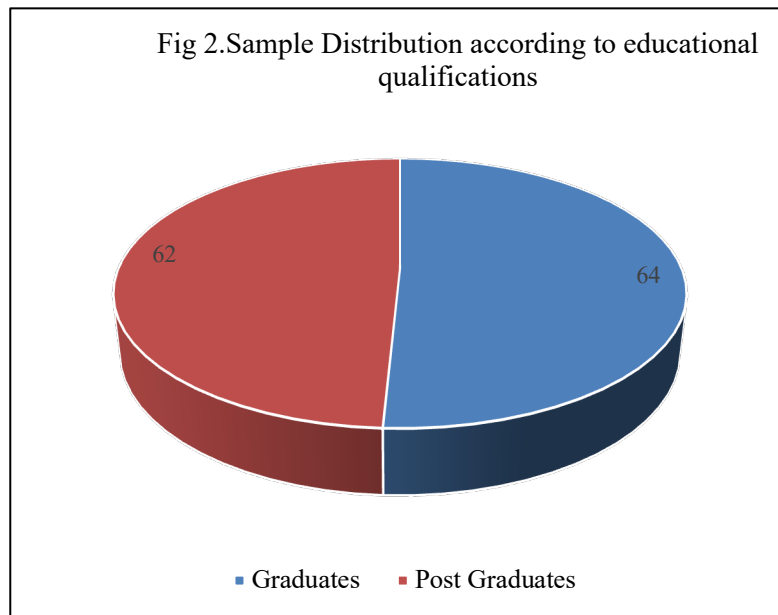
## Data Analysis

The data thus collected was compiled and hypothesis testing was conducted using relevant statistical tests.

**Hypothesis 1**

$H_0 1$: There is no significant difference in mean scores of mindfulness with respect to age group

**Table 1**

Significance of Difference in Mean Scores of Mindfulness with sespect to Age Group

| Age Group | N | Mean | $t$ value | Accepted/Rejected |
|---|---|---|---|---|
| Young adults | 76 | 51.31 | 0.57 | Accepted |
| Middle Age Adults | 50 | 52.08 | | |

*df* =124

From the table 1, it was observed that difference in mean scores of mindfulness of both the age groups is 0.77. The calculated $t$ value is 0.57. The table value of $t$ at 0.05 level is 1.98 and at 0.01 level is 2.62. The obtained $t$ value is lesser than the table value of $t$ and hence the hypothesis is accepted.

**Hypothesis 2**

$H_0$2: There is no significant difference in mean scores of mindfulness with respect to educational qualifications.

**Table 2**

Significance of Difference in Mean Scores of Mindfulness with respect Educational Qualification

| Edu.Qual. | N | Mean | $t$ value | Accepted/Rejected |
|---|---|---|---|---|
| Graduate | 64 | 51.14 | 0.74 | Accepted |
| Post -Graduate | 62 | 52.20 | | |

df=124

From the table 2, it was observed that difference in mean scores of mindfulness of graduates and post graduate is 1.06. The calculated $t$ value is 0.74 at $df$ 124.The table value of $t$ at 0.05 level is 1.98 and at 0.01 level is 2.62. The obtained $t$ value is lesser than the table value of $t$ and hence the hypothesis is accepted.

**Hypothesis 3**

$H_0$3: There is no significant difference in mean scores of resilience with respect to age group

**Table 3**

Significance of Difference in Mean Scores of Resilience with Respect to Age Group

| Age Group | N | Mean | $t$ value | Accepted/Rejected |
|---|---|---|---|---|
| Young adults | 76 | 39.81 | 0.88 | Accepted |
| Middle Age Adults | 50 | 38.9 | | |

*df*=124

From the table 5, it was observed that difference in mean scores of resilience of both the age groups is 0.91. The calculated $t$ value is 0.88. The table value of $t$ at 0.05 level is 1.98 and at 0.01 level is 2.62. The obtained $t$ value is lesser than the table value of $t$ and hence the hypothesis is accepted.

**Hypothesis 4**

H₀4: There is no significant difference in mean scores of resilience with respect to educational qualification

**Table 4**

Significance of Difference in Mean Scores of Resilience with respect to Educational Qualification

| Edu.Qual. | N | Mean | $t$ value | Accepted/Rejected |
|---|---|---|---|---|
| Graduate | 64 | 39.26 | 1.27 | Accepted |
| Post -graduate | 62 | 40.62 | | |

df=124

From the table 5, it was observed that difference in mean scores of resilience of post graduates and graduates is 1.36. The calculated *t* value is 1.27. The table value of *t* at 0.05 level is 1.98 and at 0.01 level is 2.62. The obtained *t* value is lesser than the table value of *t* and hence the hypothesis is accepted.

**Hypothesis 5**

$H_0 5$: There is no significant relation between mindfulness and resilience.
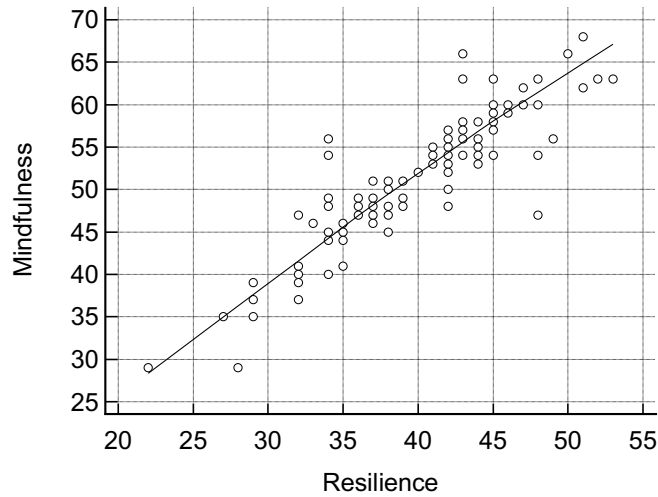
**Table 5**

Coefficient of Correlation between Mindfulness and Resilience

| Variable | N | Mean | Coefficient of correlation | p value | Accepted/Rejected |
|---|---|---|---|---|---|
| Mindfulness (Y) | 126 | 51.62 | 0.90 | P<0.0001 | Rejected |
| Resilience(X) | | 39.99 | | | |

**Figure 3**

Scattergram of Mindfulness and Resilience

From the above table it is observed that the coefficient of correlation of resilience and mindfulness is 0.90. The 95% confidence interval for r is between 08587 to 0.9277. This indicates there is a strong positive correlation between resilience and mindfulness. The p value<0.001.Hence the hypothesis is rejected.

**Hypothesis 6**

$H_0$6: There is no significant relation between mindfulness and resilience with respect to age group

**Table 6**

Coefficient of Correlation between Mindfulness and Resilience with respect to Age Group

| Age group | N | Variable | Mean | Coefficient of correlation | p value | Accepted/Rejected |
|---|---|---|---|---|---|---|
| Young Adults | 76 | Mindfulness | 51.31 | 0.88 | P<0.0001 | Rejected |
|  |  | Resilience | 39.81 |  |  |  |
|  | 50 | Mindfulness | 52.08 | 0.77 | P<0.0001 | Rejected |

| Middle | Resilience | 38.9 | |
|--------|------------|------|--|
| Age | | | |
| Adults | | | |

From the above table it is observed that the coefficient of correlation of resilience and mindfulness of the age group 20-40 is 0.88. The 95% confidence interval for r is between0.81 to 0.92. This indicates there is a strong positive correlation between resilience and mindfulness. The p value<0.001. Hence the hypothesis is rejected.

From the above table it is observed that the coefficient of correlation of resilience and mindfulness of the age group 40-60 is 0.77. The 95% confidence interval for r is between 0.63 to 0.86. This indicates there is a strong positive correlation between resilience and mindfulness. The p value<0.001. Hence the hypothesis is rejected.

**Figure 4**

Scatter gram of Mindfulness and Resilience of Young Adults



**Figure 5**

Scatter gram of Mindfulness and Resilience of Middle Age Adults
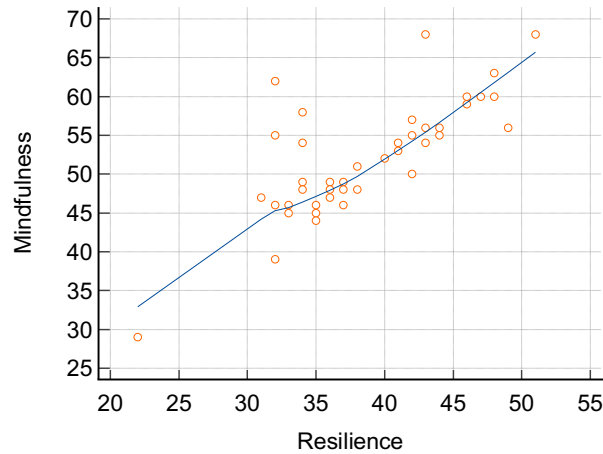
**Hypothesis 7**

$H_07$: There is no significant relation between mindfulness and resilience with respect to educational qualification

**Table 7**

Coefficient of Correlation between Mindfulness and Resilience with respect to Educational Qualification

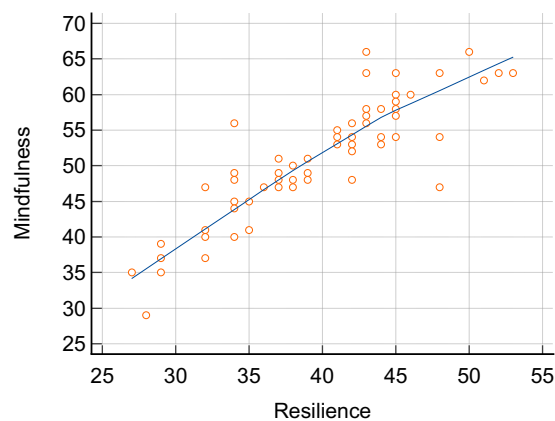| Edu.Qual. | N | Variable | Mean | Coefficient of correlation | p value | Accepted/Rejected |
|-----------|---|----------|------|----------------------------|---------|-------------------|
| Graduate | 64 | Mindfulness | 51.14 | 0.89 | p<0.0001 | Rejected |
|          |    | Resilience | 39.26 |      |          |          |
| Post Graduate | 62 | Mindfulness | 52.20 | 0.91 | p<0.0001 | Rejected |
|          |    | Resilience | 40.62 |      |          |          |

From the above table it is observed that the coefficient of correlation of resilience and mindfulness of the graduates is 0.89. The 95% confidence interval for r is between0.83 to 0.93.

This indicates there is a strong positive correlation between resilience and mindfulness. The p value<0.001. Hence the hypothesis is rejected.

From the above table it is observed that the coefficient of correlation of resilience and mindfulness of the post graduate is   0.91. The 95% confidence interval for r is between 0.85 to 0.94. This indicates there is a strong positive correlation between resilience and mindfulness. The p value<0.001. Hence the hypothesis is rejected

**Figure 6**

Scattergram of Mindfulness and Resilience of Graduates
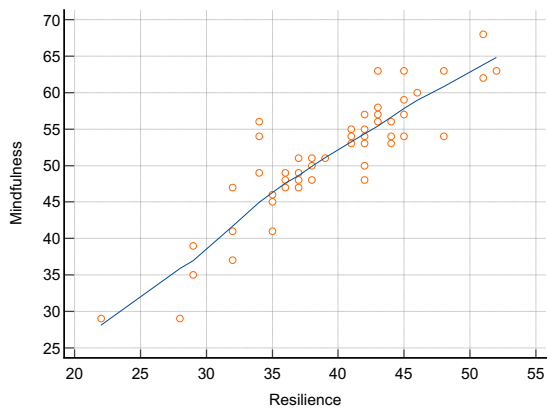


**Figure 7**

Scattergram of Mindfulness and Resilience of Post graduates

## Findings and Conclusion

The findings of the study can be summarised as follows:

1. There is no significant difference in mindfulness of young adults and middle age adults

2. There is no significant difference in mindfulness between graduates and post graduates.

3. There is no significant difference in resilience of young adults and middle age adults.

4. There is no significant difference in resilience of graduates and post graduates

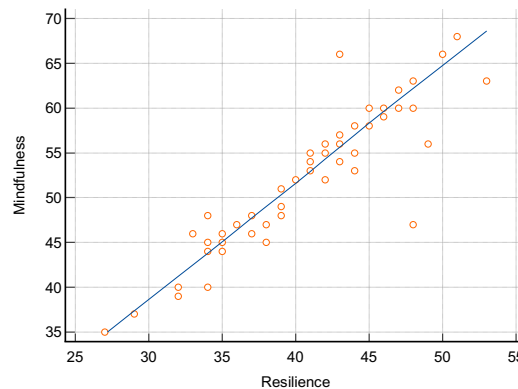5. There is a strong positive correlation between mindfulness and resilience.

6. There is a strong positive correlation between mindfulness and resilience of both young adults and middle age adults.

7. There is a strong positive correlation between mindfulness and resilience of both graduates and post graduates.

## Conclusion

The fast pace of changes that happen in world today has made it imperative for an individual to be ready to accept the various setbacks in life. The ability to handle difficulties without losing their bearings or their capacity to carry out daily chores characterizes resilient people. Resilient people are typically positive, emotionally and socially sensitive, and capable of handling challenges. Therefore, it is imperative that you build your ability to recover from setbacks when facing adversities. The recent COVID-19 pandemic and its recovery process have highlighted the importance of resilience. Resilience is frequently thought of as a trait, a process, a skill that can be learned, and an outcome to anticipate. Mindfulness a concept from

Buddhist traditions urges us to be aware of each moment of our life and live life with full energy and enthusiasm. It empowers us to live rather than to simply survive.

As indicated in the results of current study, mindfulness and resilience has strong positive correlation. Hence, conscious efforts should be undertaken to cultivate mindfulness in every moment of our life. Mindfulness can cause biological changes in brain and body such as increase in immunoglobulins (Davidson *et al* 2003). Mindfulness also promotes physical health, cognitive functioning and ultimately help to foster good mental health. Resilience is crucial in improving mental health and healing from trauma, depression, anxiety, and other difficult experiences.

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# Mindfulness and Social Emotional Learning: Need and Relevance in Teacher Education

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## Abstract

During turbulence it's difficult to see clearly whereas things become clear when everything is calm. The state of calmness is mindfulness, total attention towards the present, observing minutely and dealing the difficult situations with various coping strategies. Mindfulness is an important tool to teach social and emotional competence. The present study is an attempt to explore the concepts of mindfulness, social and emotional learning, and benefits of practicing mindfulness. The study is descriptive in nature and the researcher has reviewed various research papers published in the journals. The present study explored that mindfulness can facilitate physical and mental well being which in turn can aid social and emotional learning.

*Keywords:* mindfulness, social competence, emotional competence

## Introduction

The term mindfulness is in full swing in educational institutions. Practice of mindfulness is evident in ancient times in Indian education system.  Mindfulness, rooted in Buddhist philosophy (Lyons & DeLange, 2016), has been defined by Kabat-Zinn (2013) as the deliberate, nonjudgmental focus on the present moment, leading to heightened awareness. This practice is beneficial, especially for children and adolescents, promoting self-awareness,

improved impulse control, and reduced emotional reactivity (Thompson and Gilbert, 2008). It's particularly useful for those facing developmental challenges. Lyons and De Lange (2016) further suggest that mindfulness can enhance self-regulation among adolescents by targeting conscious control over emotions and behaviours while mitigating reactive, automatic responses.

Since students vary in their self-regulation abilities, introducing mindfulness training in classrooms can assist teachers in addressing the diverse needs of their students (p. 273). This perspective is echoed by other researchers; for instance, Meiklejohn et. al. (2012) propose that mindfulness fosters present-cantered, objective, and responsive behaviours, as opposed to future-oriented, subjective, and reactive ones.

Being conscious and aware of the present moment is very much important in today's time as the level of distractions has been increased number of times due to revolutionised use of technology.

Social Emotional Learning: SEL is a strengths-oriented, lifelong process that commences from birth and progresses throughout one's life journey (Weissberg et al., 2015). It represents the journey by which individuals, spanning from children to adults, acquire the skills needed to facilitate healthy development and nurturing relationships. The competencies within social and emotional learning, for both adults and students, encompass self-awareness, self-regulation, empathy, interpersonal skills, and the ability to make responsible decisions (Weissberg et al., 2015).

Research findings underscore the positive influence of social and emotional learning on academic success, overall well-being, favourable life outcomes, and a reduction in teacher burnout. Moreover, when conscientiously integrated into curriculum, teaching methods, and the overall school environment, it becomes a potent tool for prevention and bolstering resilience (Durlak et al., 2011; Taylor et al., 2017).

Within the framework of a Multi-Tiered System of Support, systemic social and emotional learning plays a vital role, encompassing not only school-wide but also district-wide initiatives aimed at fostering a positive school atmosphere (Berg & Moroney, n.d.). This approach additionally places emphasis on forging authentic partnerships with families, caregivers, young learners, and the broader community (Weissberg et al., 2015).

Five competencies are included in Social Emotional Learning (Weissberg et al., 2015).

**Figure 1**

*Five Competencies of SEL*
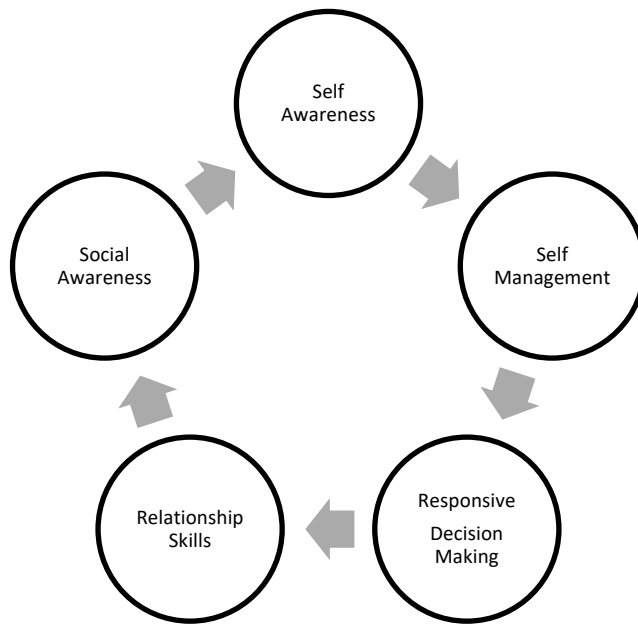
Social emotional learning supports in developing conducive environment; and helps in promoting mental well-being, effective living as well as resilience.

## Rationale of the Study

To be successful in life, one has to collaborate with others and must have the skills to work in a group/community harmoniously. SEL emerged to prepare children "for citizenship in a democracy and for leading a morally-guided life" (Elias, et al. 2014, pg. 286). Stress created in life has challenged the good physical and mental health of teachers and students which is limiting the potential of both.  Mindfulness is an important tool to develop the capacity of self-awareness and self-management which are the key components of SEL. The present study is the thrust to explore the need and relevance of mindfulness in developing social emotional learning among teachers.

## Review of Related Literature

| Sl. | Author/s | Title of Research | Year | Findings |
|---|---|---|---|---|
| 1. | Katherine Weare | Where Have We Been and Where Are We Going with Mindfulness in Schools | 2023 | Mindfulness education is a transformative process and effective in developing life skills among the students. |
| 2. | Phillipa Mckeering & Yoon-Suk Hwang | A Systematic Review of Mindfulness-Based School Interventions with Early Adolescents | 2019 | MBI's aim to support learning behaviour among adolescents. |
| 3. | Daniel Simpson | From Me to We: Revolutionizing Mindfulness in Schools | 2017 | Mindfulness has great impacts on students' life teaching them resilience. |
| 4. | J. David Creswell | Mindfulness Interventions | 2017 | Analysis of growing evidence of mindfulness interventions RCTs. |
| 5. | Chase Davenport Francesco & Pagnini | Mindful Learning: A Case Study of Langerian Mindfulness in Schools | 2016 | Mindfulness is an important tool for nurturing and enhancing social-emotional learning. |
| 6. | Shauna L. Shapiro, Linda E. Carlson | Mechanisms of Mindfulness | 2006 | Proposed a model of mindfulness and potential of mindfulness |

John A. Astin

& Benedict

Freedman

## Objectives

1. To explore the theoretical foundations of mindfulness and social emotional learning.

2. To study the role of SEL in teacher education.

## Research Questions

1. How can mindfulness help students and teachers?

2. What are the most important social and emotional skills?

3. How SEL can go a long way in creating a safe and inclusive classroom?

## Research Design

The present study is descriptive in nature and reflects on the conceptual understanding of mindfulness, social and emotional learning. For understanding the conceptual knowledge the journals, articles and books are referred.

## Discussion

In search of the ways mindfulness can help students and teachers, researcher found that mindfulness, being aware of the present is an important practice which has many positive effects psychologically and cognitive too. Implementation in schools can modify the learners' behaviour permanently making their life successful. During the review of literature, researcher found researches which are evident that mindfulness cultivates a positive sense of agency in learners to empower them to change the social context (Katherine Weare,2023). Mindfulness offers a satisfying and coherent story for the reader, bringing together several interrelated threads in a masterful and illuminating way (Roeser et al., 2023). Mindfulness has unwavering effects on physical health, improved sleep, enhanced immunity, strengthen physical stamina and even in chronic pains when practiced by psychologists. Clinical psychologists found MBI's (Mindful Based Interventions) to be comparatively effective than the CBT (Cognitive Behaviour Therapy). Mindfulness interventions provided to In-service teachers had great results in enhancing teacher well-being (Hwang, Y.S., Bartlett, B.,Greben,M.,& Hand, K.(2017). Experiences of mindfulness practices aided reduction in depression, enhancing mental well-being, managing addictive disorders.

In context of cognitive and effective outcomes, the learners can develop accepting attitude, understanding and practicing empathy, feeling compassionate to others, show kindness. Practice of mindfulness increases awareness and foster insights. Individuals using mindfulness are able to control and regulate their emotions.

The important social and emotional skills are self-awareness, self-management, empathy, effective communication, interpersonal relationship, social awareness, problem solving attitude and decision making. These skills if fostered there can be significant increase in mindfulness (Sarwate, Rucha., 2023).

Education, now a days is inclusive education, where learners irrespective of their abilities, class, creed, gender and economic status but in this context the major challenge faced by CWSN is the bullying or lack of empathy by the fellow students. Practicing mindfulness can help students to empathise and facilitate the conducive learning environment.

## Conclusion

Awareness and practice of mindfulness is operative in increasing the social competence as well as emotional competence. Learners and teachers can well adjust in their working environment by adapting. The curriculum of in-service and pre-service teacher training programmes must focus on the practical implementation of mindfulness intervention strategies. These practices can facilitate the teachers and students with physical and mental well-being. The procrastinations can be dealt effectively with mindfulness. Skills of coping with stress and emotions be learnt through mindfulness. Challenges regarding the class room management of an inclusive setup can be met by developing social-emotional competence among students.  Cognitive Behaviour Therapy with Mindfulness based Interventions can facilitate Clinical Psychologists to achieve better cognitive and effective outcomes. Self-awareness is one of the key elements of social emotional competencies which aids in learning

self-management in very simple ways and proceeds to social awareness, and in emotion

proving situation the individual responds by applying various coping strategies. In nut shell it

can be concluded that mindfulness is the ultimate weapon against the adverse situations.

## Limitations

The present study is descriptive in nature limited to gain the understanding of

theoretical framework.

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# Interpretation of the CASEL Framework and its Application to foster Socio-Emotional Learning in School Children from Kindergarten to Grade X

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## Abstract

Education and human development both include social and emotional learning (SEL). In order to develop healthy identities, manage emotions, accomplish personal and group goals, feel and demonstrate empathy for others, build and maintain supportive relationships, and make caring decisions, all young people and adults must go through the SEL process.  Research has shown that SEL-focused education has a positive impact and leads to a favourable effect on a variety of outcomes, including academic performance, good relationships, mental wellbeing, and more. The CASEL Framework is one of the commonly used SEL frameworks developed by the Collaborative for Academic, Social and Emotional Learning (CASEL). The five core SEL competencies of Self-awareness, Self-management, Social awareness, Relationship skills and Responsible decision making are supported within varying contexts where SEL can occur which includes classrooms, schools, families and caregivers and communities.  The present paper examines the role of a school from Kindergarten to Grade X with respect to interpreting the CASEL framework and applying its core competencies to facilitate holistic learning in children of a School affiliated to Maharashtra Board of Secondary Education – the SIES High School, Matunga, Mumbai, India. SEL is transformative in nature.  Research suggests that that

Social and Emotional skills are key to future success in an individual.  The fact that they are malleable accentuates the need for understanding, interpreting and applying these core SEL competencies by the school along with its other stakeholders.

*Keywords:* socio-emotional learning, CASEL framework, education

## Introduction

Holistic Education is the need of the hour.   This is also the main objective of Education. While there is a tremendous emphasis on development of cognitive and linguistic competencies in academic settings, socio-emotional development is often not given the due importance.  Hence it becomes imperative that the curriculum followed at educational institutions ought to integrate socio emotional skills in the curriculum.

### What is Socio-Emotional Learning?

Socio-Emotional Learning (SEL) is the process by which all children and adults gain and use the information, abilities, and attitudes necessary to:

- o   create wholesome identities

- o   controlling feelings

- o   realise individual and group objectives

- o   feel and demonstrate compassion and empathy for others

- o   create and uphold supportive connections

    o   make thoughtful, accountable judgements

Thus, SEL is the process through which all of us understand and manage our own emotions, maintain positive relationships and make responsible decisions. Social and emotional competencies  not only  raise academic achievement and educational attainment but also display strong correlations with personal satisfaction and growth, citizenship and reduced risky behaviours like violence and drug use.  In fact, the education of the whole child has been observed in cultures around the world for generations (First Nations Health Authority, 2012).

## Need for Socio-Emotional Learning

Research reiterates the 3 important outcomes of SEL:

### Future Success is Predicted by Socio Emotional Learning

According to Oberle et al. (2014), social and emotional intelligence is a predictor of superior academic accomplishment. Important adult outcomes, such as educational attainment, stable employment, and decreased crime rates, are predicted by a child's social and emotional development (Jones et al., 2015).

### Socio-Emotional Learning is Malleable

Research in the field of developmental cognitive neuroscience has shown that social and emotional abilities can be developed at any age (Diamond, 2012).  The brain develops throughout sensitive times in childhood and adolescence, which is a good time for social and

emotional learning (Immordino-Yang et al., 2019).  In comparison to children who did not participate in high quality SEL programming, findings from a major meta-analysis of 213 research involving more than 270,000 pupils revealed the following advantages for those who did:

Improvements in behaviour in the classroom and in students' attitudes towards themselves, others, and the school.

An improved capacity for controlling anxiety and despair.

A 11-percentile points improvement in academic performance.

### Socio Emotional Learning is Sticky

In a comparison of four meta-analyses looking at the impacts of universal school-based SEL programmes, it was found that kids benefited on a variety of behavioural, attitudinal, emotional, and academic outcomes, and that these benefits maintained over numerous follow-up periods.

In addition to achieving higher levels of economic and educational success, those who received SEL intervention were significantly less likely to experience mental health disorders (such as anxiety and depression) 12 and 15 years after the SEL intervention, according to research on the long-term effects of multi-year SEL programming (Hawkins et al., 2008).

There is a significant association between social and emotional skills measured after an intervention and higher levels of wellbeing up to 18 years later, according to the findings of a recent analysis investigating the long-term effectiveness of SEL treatments (Taylor, et., al 2017).

## The CASEL Framework

The CASEL Framework is one of the commonly used SEL frameworks developed by the Collaborative for Academic, Social and Emotional Learning (CASEL) a Chicago-based Non-Profit Organization. CASEL Framework recommends that SEL programmes should have  key competencies as direct targets.

Competence in Self Awareness – Understand one's own emotions, personal goals and values.

Competencies in self-management- Ability to regulate emotions and behaviours.

Competence in social awareness - Ability to take perspective of those from different cultures and backgrounds.

Competence in relationship skills - Providing students with tools they require to establish and maintain a healthy and rewarding relationships.

Competencies in responsible decision making- Ability to consider ethical standards, safety concerns and accurate behaviours.

The five core SEL competencies of Self-awareness, Self-management, Social awareness, Relationship skills and Responsible decision making are supported within varying contexts where SEL can occur which includes classrooms, schools, families and caregivers and communities.

In the recent years, the world has been facing the rise of intolerance, hate and extremism.  The youth need critical solutions and coping mechanisms to address such grave issues. The present paper examines the role of a school from Kindergarten to Grade X with respect to interpreting the CASEL framework and applying its core competencies to facilitate holistic learning in children of a School affiliated to Maharashtra Board of Secondary Education – the SIES High School, Matunga, Mumbai, India. For this paper, we are presenting the Love- kindness Model adopted by our school.  This model can be adopted  by  schools  to sensitise  the  school  students  and  build  their  socio emotional  quotient.

We have hereby mapped excerpts of the activities carried out by our school with the five core CASEL Competencies:

1. Competency in Self Awareness:  In order to build this competency in  school students, we at SIES  High  School organized  the  following  programmes:

a)  Life skill sessions that help students to look inward and value themselves, reflect on their actions and accordingly manage emotions that will result in their holistic well-being.

b)  Breathing exercises and prayers are regularly carried out during the morning assemblies which  has helped students to think calmly and plan their day ahead in a better manner.

c)  Weekly yoga sessions are carried out under expert guidance.  These sessions reiterate the importance of being physically and mentally fit.

d) Students are encouraged to eat healthy and be kind to themselves through the organization of special fests such as the Millet festival, wild vegetable fest, to name a few.

e) Preschool children have activities that focus on self-awareness as circle time activities. Activities such as I am…. Or I like…. Or what makes me happy helps them to look inwards and focusses on enhancement of self-esteem.

e)  Since physical fitness and health is a precursor to good mental health, our students are encouraged to focus on physical fitness through participation in various tournaments like Kabaddi, shot put, Football, cricket, chess etc.

2.      Competency in self-management:  In order to build this competency in school students, SIES High School organized the following  programmes:

The alpha generation of today are exposed  to  social  and digital media and consume a lot of inappropriate content.  This could  possibly  make  them  vulnerable  to  evils like  drug addiction.  To combat this peril a session is  organized  for  all  students  enlightening  them about  the  consequences of drug abuse and addiction.  Reflective exercises and activities are

conducted following which students are asked to think and take a decision that is good for themselves . These exercises remind the students that they need to be kind to their body.

Case studies are given to students, and they are asked to discuss and deliberate. In this manner students attempt to solve their stress, anger and learn to manage their time effectively. Vignettes of cases for example, anecdotes of bullying episodes are given and children discuss, deliberate on feelings experienced by the one bullied and the bully. Such discussions help children to internalise feelings thereby leading to a change in behaviour. The session is facilitated by an educator.

3.      Competence in social awareness: In order to build this competency in school students the following programmes were organized:

a) Deputing Climate ambassadors – This activity was carried out under the aegis of our sister institution that works for environment management. Select children from our school were deputed as climate ambassadors. These children work towards understanding the challenges faced by our planet Earth, think and reflect on the problems and take informed decisions. For example, the climate ambassadors chose topics such as 'Say no to Plastic' or 'segregate dry and wet waste' or 'Be kind to our planet' and work on sustainable solutions. For example, when discussions took place about how they can show their kindness to our planet, they came up with ideas like 'Making eco-friendly bags and eco-friendly ganpatis'.

c)  Elocution competitions were carried out on 'Say No To Corruption.  This helped students to research and develop  awareness , thereby encouraging  them  to  be  ethical citizens.

d) Preschool children carried out simple cleanliness drives in their section of the school.  From rhymes and songs to stories to lessons on social responsibility the school aims to bring in an attitudinal change from the foundational years.

Competence in relationship skills:  The following activities were organized to foster competence in relationship skills:

a)  Activities like Talentia are organized wherein students are given an opportunity to nurture their talents.  Through this they learn to work as a team and be kind and  considerate to one another.

b) Through the celebration of festivals like Onam, Pongal, Raksha Bandhan, children are taught to experience social diversity which is a key aspect.

c) An event titled 'Confluence of languages' was organised to not only recognise the diversity of languages that exist in our country but also ato learn to respect all cultures and languages.

c)  Grand Parents' Day celebration teaches the students the importance of having elders at home and being kind towards senior citizens. This is actually the need of the hour.  This

celebration fosters a bond between the grand child and the grand parent. It is an annual activity for preschool section.

5. Competency in responsible decision making:  In order to build this competency in school students, SIES High School organized the following programmes:

a) The establishment of the student council, prefects, and discipline committee enables students to gather information, consider it, and then decide how an activity should be carried out or how a specific issue can be resolved without hurting feelings.  The school should work to produce a leader who is emotionally stable and composed.

b) A career advisory programme is set up to assist students in making an educated choice regarding their career.  Sister institutions conduct a program titled Career Panorama that showcases traditional as well as contemporary careers.

c) Circle time with HM – The prefects and the student council have a meeting with the principal on a regular basis.  The free conversation with the principal has helped the council take right decisions with confidence as well as with conviction.

## Conclusion

Social and emotional learning (SEL) is a component of both education and human development. All children and adults must go through the SEL process in order to form healthy identities, regulate emotions, achieve individual and group objectives, feel and show empathy for others, create and sustain supportive relationships, and make considerate

decisions.  The school plays a pivotal role in helping children achieve optimal Socio-emotional competencies.  To develop a well-rounded student, it is imperative that all stakeholders – teachers, support staff, parents, school management and the community work hand-in-hand to achieve the same. Such activities need to be commenced from the PreK level and progressively planned at all stages. Adopting the CASEL framework and mapping relevant activities would be an easy start to develop SEL competencies in any educational setting.  As the Dalai Lama states "Happiness is not something ready-made.  It come from your own actions".

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# A Study on Moral Judgement of B.Ed. Teacher Students in Relation to Demographic Variables

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## Abstract

In this study, B.Ed. (Bachelor of Education) education majors' moral judgment is compared to several demographic variables. Moral judgment is a crucial component of teachers' professional growth because they are responsible for shaping the moral and ethical principles of the future generation. An improved knowledge of the factors that influence moral judgment can aid in the creation of efficient teacher training programs and the promotion of ethical behavior in educational settings. The goal of this study is to determine the effects of age, gender, educational attainment, and socioeconomic status on the moral judgment of B.Ed. teacher students. The knowledge gathered from this investigation into the moral development of future educators can be used to inform educational policy and practice.

*Keywords:* moral judgement, B.Ed. (bachelor of education), demographic variable, teacher

## Introduction

Education is a valuable resource that has the ability to aid in national development. The main goal of education is to increase one's human capital. A nation transmits its history, pleasures, cultural customs, and economic advantages through its educational system. Because of the enormous benefits that education offers, it has been declared a fundamental human

right. The only effective means of escaping poverty is via education. Internal factors affecting human resource development include economic planning and training in various services. It is impossible to exaggerate the value of education. The degree of education a person has affects how successful they will be in both the workplace and in social settings. The discrepancy in educational achievement is still a serious problem that has to be addressed.

The society acts as an important channel through which people are granted a particular level of life and access to a variety of activities and vocations, ensuring progress is made in accordance with social needs. Since it is a growth characteristic that necessitates adjustment to the society in which they will eventually work, future teachers' social maturity is appreciated highly in the current environment.

The term "Teacher Education" describes the policies and procedures put in place to make sure that aspiring teachers have the knowledge, morals, and conduct necessary to perform their duties in the classroom, in the school, and in the community at large. A college student majoring in education who is obtaining teaching experience while being supervised by a professional teacher educator is known as a student teacher. This is a typical alternative term for "PreService Teacher." This broader definition also applies to students who are enrolled in the required pedagogy courses in addition to their specialty courses but have not yet started the supervised teaching component of their program. The preferred and official term for all education majors, who are now more frequently referred to as "student teachers," is "Pre-Service Teacher" in several educational institutions.**(Kumar C R, 2017)**

Moral judgment is the cognitive process through which people assess whether a specific action or set of circumstances is morally right or wrong. Students pursuing a B.Ed. in teaching are required to exhibit high moral standards in their classroom management, instructional strategies, and student interactions.

The process of moral development, which entails forming moral judgments, people consciously choose to adopt a certain standard of right and evil. As a result, one's perception of good and wrong is reversed. The English word "morality" was first used in Latin, where the word "moral" denotes societal rules based on concepts of good and evil. According to Jean Piaget (1932), "The essence of all morality is to be sought in the respect which the individual acquires for these rules." But there are several perspectives from which to explore the idea of morality, including the individual, the group, the state, and the globe. Moral judgment is the assessment of the propriety or impropriety of repeated, willingly performed activities. A person's moral worth is often judged based on their persistent, deliberate behavior. The moral weight of good and evil is carried by a person's purposeful, thoughtful, and determined actions. They are morally assessed in accordance with the moral standard that serves as a benchmark for what is good and bad. According to the moral standard, a behavior is only morally acceptable if it complies with the standard or ideal. If the behavior goes against a certain rule or set of norms, the moral judgment will indicate that it is wrong. As a result, moral evaluation is based on a comparison between an individual's free choices and the moral standard.**(Manju.N.D, 2016)**

## Moral Judgement

The core of human ethics is the capacity to judge whether a specific action or activity is morally righteous or evil. It entails understanding the distinction between good and evil or right and wrong. The goal of moral psychology is to comprehend the psychological and affective mechanisms as well as the social factors that underlie moral judgment.

The nature and growth of moral judgment is subject to a wide range of theories and points of view. One such crucial theory is the one advanced by **(Haidt, 2001)** and known as the social intuitionist model. According to this theory, moral decisions are typically made based on snap judgments or gut feelings and are only afterwards proven to be correct. According to Haidt, moral judgments are shaped by moral intuitions including justice, harm, loyalty, authority, and purity.

In addition to the core moral tenets, culture and society have a significant impact on how we see morality. Cultural values have a big impact on people's moral judgments, according to research by **(Schwartz et al., 2012)**. Allegiance to the group and deference to authority may be highly valued in collectivist societies, but equality and personal freedom may be valued more highly in individualistic ones.

In addition, a variety of psychological biases might influence one's moral judgment. The "trolley problem," a perennial brainteaser, highlights the significance of moral dilemmas in judgment. Five people will die if a trolley stays on its present track; if the trolley is diverted to

another track, one person will die. According to **(Greene et al., 2001)** functional magnetic resonance imaging (fMRI) research, emotional reactions that involve the emotional part of the brain tend to favor the status quo, whereas more deliberate reactions that involve the rational part of the brain are more likely to favor utilitarian outcomes.

## Demographic variables

### Age

Age is one of the most fundamental markers. It reveals the distribution of persons of different ages among the population. Children are frequently divided into age groups ranging from 0 to 14, adolescents from 15 to 24, adults from 25 to 64, and seniors from 65 and higher.

### Gender

Gender refers to the social and cultural roles, attitudes, and expectations that come along with being a man or a woman. It is a critical demographic characteristic for understanding the distribution and representation of males and females in a population.

### Education

The highest level of formal education completed by individuals in a population is indicated by their education level. It is frequently classified as primary, secondary, tertiary, or

depending on degrees obtained, such as a high school diploma, a bachelor's degree, a master's degree, or a doctoral degree.

**Income**

Income is a measure of a person's or families financial resources. To evaluate the distribution of wealth within a population, it is frequently classified into different income groups, such as low-income, middle-income, and high-income.

**Marital Status**

The legal relationship of an individual with a spouse is referred to as marital status. It is possible to be single, married, divorced, widowed, or separated. Understanding family structures, home dynamics, and social ties requires an understanding of marital status.**(Nations, 2019)**

## Literature Review

(Atari et al., 2020)Studies that were conducted exclusively inside one culture or sparse cross-cultural comparisons account for the majority of what we know about sex differences and cultural variations in morality. This study, which used data from samples from two distinct countries, is the first thorough analysis of gender differences in moral judgments across several cultures. "According to the Moral Foundations Theory," there are culturally changeable sex variations in moral judgments (Study 1; n = 336 691). Females consistently outperformed males on tests of compassion, justice, and purity. On the other hand, loyalty and power displayed

minimal gender differences and significant cultural diversity. When cultural, socioeconomic, and gender equality elements at the national level were associated, it was found that gender inequalities in moral judgments were more pronounced in individualist, Western, and gender equal countries. These results were mostly confirmed in Study 2 (19 nations; n = 11,969) using Bayesian multi-level modeling on a fresh set of data. Even after taking into consideration the fact that cultures are not mutually exclusive among nations, the results were still valid. Women regularly showed stronger concern for Care, Fairness, and Purity than men when making moral decisions, in particular. Sex disparities in moral judgment were more prominent in cultures that were more gender and individualist oriented and had more changeable social norms. We also look at the present debate over the origins of sex differences and culture differences in moral judgments, as well as the theoretical and practical implications of these results for moral and evolutionary psychology.

(Al-Disi & Rawadieh, 2019)This study sought to ascertain whether or not students at the University of Jordan's School of Educational Sciences had acquired a moral sensibility in connection to the ethical standards of the teaching profession. In order to develop their own Moral Judgment Scale, they modified the Adult Moral Judgment Scale by Abdul-Fattah (2001) and Kohlberg (1984). There were five different moral quandaries on the scale of ethics in education. The validity and reliability of the scale were confirmed. The study population includes (420) students from 5 different majors throughout the 2018–19 academic year. According to the study, 245 students, or 71.1 percent, placed their moral judgment squarely inside the fourth stage (Upholding/enforcing norms and rules), whereas 308 students, or 89.3

percent, placed it clearly within the second level (conventional morality) of Kohlberg's framework. At the first, second, or sixth levels, there were no students. Academic success and moral judgment did not correlate, but there were strong relationships between academic success and other factors. Additionally, there were noticeable differences in the stages of moral judgment that could be linked to the academic progress and curriculum of the pupils. These findings are in favor of investing more money in educating future teachers so that they can make better moral decisions in the classroom.

(Malle, 2021)The study of ethics has dramatically increased over the last ten years. This study focuses on moral judgments, which are determinations a perceiver makes in response to a violation of moral standards. But there are many different viewpoints on what constitutes moral judgment. This article offers a paradigm for differentiating among four different categories of moral judgment, such as those that involve appraisal, norm, moral wrongness, and blame. These tests range in terms of typical subjects, information processed, speed, and social functions. "The suggested framework gives the extensive body of literature structure and offers fresh perspectives on measurement, the nature of moral intuitions, the context of moral confusion, and the promise of dual-processing models of moral judgment." The framework not only identifies knowledge gaps but also lays the groundwork for a more complete theory of moral judgment in the future.

(Johnson, 2008)For today's diverse classrooms, it is crucial to prepare teacher candidates who can administer student assessments, draw moral conclusions to properly resolve moral

dilemmas, and manage resources. This ought to be a step in creating a professional mentality. At the center of the debate over the introduction of dispositions into teacher education and the compelling case against the movement is how to accurately assess the development of teacher candidates. In this study, the consistency of two moral assessment tools is investigated. Findings indicate a lack of coherence between the qualitative data (teacher candidate writing assignments) and the quantitative assessment ("Defining Issues Test 2") of moral judgment, suggesting that our understanding of the character of teacher candidates is insufficient. There are suggestions for teacher preparation programs on how to design congruent evaluations after a look at patterns of incongruence and their links to particular moral judgment phases.

(King & Mayhew, 2002)A review of "172 studies that used the Defining Issues Test to examine the moral development of undergraduate college students", as well as an organizational framework for studying higher education contexts, are both presented. These research articles discuss a variety of subjects, such as how college influences students' moral judgment, how it develops concurrently with other aspects of their development, and how college affects students' civic involvement and character. Results suggest that attending college is significantly connected with considerable improvement even after controlling for age and starting moral judgment. While many studies relied on general indicators of the tertiary context (like the type of institution or the field of study), those that dug deeper into students' individual characteristics and educational experiences were more successful in identifying the causes of students' moral development during their time at university. The consequences for student development practice are underlined as well as future research topics.

## Objectives

1. To study moral judgement of B. Ed teacher students in relation to Demographic variables.

2. To study how Demographic variables affect moral judgement of B. Ed teacher students.

## Methodology

The researcher had to overcome a number of obstacles in order to carry out this examination. There was extensive usage of other significant research results that were pertinent to the subject of the study's title. Additionally, it involved making judgements, setting review time restrictions, selecting publications with on moral judgement of B. Ed teacher students in relation to Demographic variables, and assessing journals for data collection and processing. The researcher will use interpretive, analytical, and comparative approaches for the present research project. We'll gather data from a number of renowned libraries. The focus will be on thoroughly reviewing the main and secondary materials that are accessible. Websites and other online resources may be used as data-collecting tools.

### Importance of Moral Judgment in Education

Because it helps to develop moral reasoning, which in turn affects students' ethical behaviors and personalities, the capacity to exercise moral judgment is essential in the

classroom. Making moral decisions and accepting responsibility for one's actions are required as well as knowing what is right and wrong. Moral judgment can be used in the classroom to help students develop into morally upright individuals.

For a number of reasons, moral judgment development must be emphasized in education. In the first place, it assists students in developing a strong moral compass. Through moral reasoning, students gain the skills necessary to analyze situations, think critically, and behave morally. With the help of this technique, moral principles can be more effectively internalized, empowering kids to take responsibility for their own behavior in the absence of an adult role model.

Second, moral judgment helps develop compassionate and empathic personalities. When challenged to consider how their actions might affect others, students gain a more in-depth understanding of how their choices might affect other people as well as a greater capacity for empathy. Empathy aids in the development of closer relationships between individuals by promoting a compassionate and responsible viewpoint.

Third, including moral judgment into the classroom gives students important skills for success in life. In order to navigate challenging moral conundrums in daily life and the workplace, one needs to be able to think critically, solve issues, and make ethical decisions. Students who master these skills will be better equipped to encounter and conquer challenges in their future efforts. **(Colby & Kohlberg, 1987)**

### Relation Between moral judgement and Demographic variables

Numerous research have examined the connection between moral judgment and demographic factors. While there is disagreement across the board on the specifics of this link, certain research results show that demographic characteristics can influence moral judgment to some extent. Here are a few noteworthy studies that provide insight into this issue:

The relationship between moral identity, moral perception, and demographic factors like age, gender, and educational level. The findings of the study done by **(Reynolds & Ceranic, 2007)**showed that people's moral judgment and behavior are correlated with demographic characteristics, particularly education level.

Studies have also looked into potential differences in moral judgment between the sexes. According to **(Gilligan, 1982)**, men typically support care-based morality, emphasizing empathy and compassion, whereas women prioritize justice-based morality, emphasizing concepts of fairness and rights. However, these gender differences are not constant and can differ from person to person.

Although these studies shed light on the correlation between moral perception and social characteristics, it is important to remember that moral judgment can also be profoundly influenced by factors such as personality and background. Cognitive, emotional, cultural, and social elements all have a role in shaping moral judgment, making it a multifaceted phenomenon.

## Conclusion

By strengthening their moral sense, people can better understand how to integrate in with society as a whole. It relates to how aspiring teachers develop their identities. To fit into the school environment, they must be able to use moral judgment. A teacher will be better equipped to mentor their students if they have improved their moral character and their emotional intelligence. This study increases our understanding of how moral judgment affects B.Ed. student teachers. It is intended that this research into the significance of demographic variables like age, gender, and educational attainment would contribute to the creation of programs that will prepare aspiring teachers to make morally sound choices in the classroom. It has been discovered that demographic characteristics have a considerable impact on the moral reasoning of B.Ed. education majors. To assist children develop into moral, upright people who can make moral decisions for themselves and their communities, moral reasoning is taught in schools. It recognizes that incorporating moral principles and ethical considerations into the classroom can promote a positive learning environment.

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# Professional Development of Teacher in Higher Education

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## Abstract

Professional development is an important factor for getting better results from an employ and if it is about teachers than it becomes very important as teacher is directly responsible to the future of the nation. This article attempts to highlight the importance, needs and barriers of professional development of teachers in higher education. Few suggestions have been presented for different stack holders, namely, government, higher education institutes and teachers of higher educational institutions in respect of professional development of teachers in higher education.

*Keywords:* professional development; teacher; education; higher education

## Introduction

The quality of a country's educational institutions has a significant impact on its development. The most potent and effective tool for causing profound behavioural changes in students is education. Education is a potent tool for a country's social, economic, and cultural development. The process of introducing a child to a way of life is education. In terms of a person's overall development, education is crucial. A teacher not only holds certain beliefs and ideal of life but also rise to convert his pupil to his own views and his own way of life. According to Gandhi, "by education I mean all about drawing out the best in child and man

body, mind and spirit". Education is considered not only as a tool of social change but also an asset to national development (Amareswaran, 2011).

The teacher occupies pivotal position in the system of education. According to Rabindranath Tagore "a teacher can never truly teach unless he is still learning himself. A lamp can never light another lamp unless it continues to burn its own flame". A teacher is one of the highly valued personalities in the society. As such teaching is considered to be the most sacred and distinctive profession. History is full of evidences about nation where education has bought significance progress. With the change in demands, the profession of teaching has become demanding. Many factors have been at work for years in bringing the change in the attitude towards in teaching. Thus, it is learned profession, global emphasis on literacy through program like education for all and right to education shows the world's concern for the teacher's role in the development of the society (Mohammad, & Mohammad, 2017).

## Teaching as a Profession

The profession of teaching is seen as being Nobel. It is possible to characterize teaching as a profession that offers highly specialized intellectual services. The teaching profession is built on intellectual training, demonstrating a high level of original thought, and advancing a variety of fields of study. Teaching as a profession also fulfills certain conditions which supports it as a profession, like teachers are organized as local, state and national level. Teaching requires careful skills and understanding (Sahoo et al, 2010).

Professional development of a teacher

The field of education is very specialized, thus it takes professional growth to become an expert in it. Formal education, specialized training, and creative professional learning are all examples of professional development. Its goal is to help teachers, administrators, and other educators increase their professional competence.

Today's teachers must possess a certain level of instructional expertise in order to create relevant teaching materials, organize lessons, and assess students' progress. For their job, teachers require a variety of professional skills. Professional development refers to the improvement of a teacher's success as well as their subject-matter knowledge, efficiency as a teacher, and understanding of educational issues. A person's growth in their professional job is referred to as professional development in a broad sense. It consists of learning both formal experiences, namely, attending workshops, seminars, conferences, and professional gatherings; taking refresher courses; etc. and casual ones, namely, reading trade magazines; viewing films on a certain academic field; etc.

## Responsibilities of Teachers

Responsibilities towards Students: Effective teaching is the main aim of the teaching and it occurs with the feeling of the mutual respect between teachers and students. As a teacher, he/she should understand them. The interest of the teacher should lie in the welfare of the students. Youngsters need support and appreciation from the adults and especially from the teachers. It helps the development of the self-confidence. So, the teacher should inspire students and works with them to create and maintain a pleasant and attractive learning

environment and to encourage students, to formulate and work for high individual's goals in the development of their physical, intellectual, creative and spiritual endowments.

Responsibilities towards others: A teacher is supposed to work in an institution with teaching and non-teaching staff, administrators, parents and community members to whom he formally and informally giving and receiving professional and social supports. A good and cordial relationship among teachers keeps all the staff members and administrators stress free at work place.

## Need of Professional Development Programmes for a Teacher

On the other hand, how professional development courses affect a profession's quality. After receiving a diploma or beginning a profession, the process of education continues throughout one's life. An individual may benefit from continuing education by developing their skills and increasing their work competence. In the higher education sector, where educational expectations are high for both students and teachers, the need for professional development is crucial. Students are expected to create new ideas, synthesise knowledge, build models, solve issues, and articulate them in this setting, while instructors must develop into critical and constructive thinkers and support students in every way they can. Classrooms are thought of as settings where active information and idea exchange occurs. In higher education institutions where lecturers often teach using traditional techniques and have been teaching for a long time, conventional teaching approach is a well-established style. Therefore, there is a strong demand for teachers' professional development to overcome stereotypes in teaching

and learning in higher education. Modern curriculum and new ideas suggest a move away from explanation and solitary seatwork, which characterise old and conventional teaching methods, and towards activities that stimulate students' active participation in knowledge production, problem solving, and application. The instructor should carry out instruction in accordance with the demands of the pupils while also evaluating student development. Teachers are supposed to speak to pupils clearly and concisely and to respond to them in an open-minded manner (Panda, 2018).

There are several ways that professional development is advantageous for teachers, some of which are emphasized as.

Efficiency: The main goal of the majority of professional development programs is to teach teachers how to do things better by using a variety of skills and techniques, increasing their efficiency and competence.

Credibility and assurance: Professional development programs give teachers new perspectives and insights by introducing them to new information.

Reach career objectives: Professional development aids teachers in reaching their objectives and climbing the professional ladder. These programs also aid in inspiring teachers to excel in their profession.

Keep up with the latest developments: Professional development programs give teachers the chance to stay current and develop their skills so they can meet the needs of the

students. It aids teachers in learning cutting-edge strategies and techniques used in the current system.

Network: Group-based developmental programs support teachers in building networks, connecting with others, and receiving feedback from them in order to improve their competence and effectiveness.

Ability to influence and lead: Professional development programs assist teachers in improving their knowledge and gaining more confidence, which in turn enables them to better influence and guide others.

## Barriers to Professional Development

There are numerous obstacles to high-quality professional development for teachers at all levels. Researchers have typically identified three categories of barriers to professional development, which are listed below.

Administrative hindrances: Administrative barriers are encountered when people who have the potential to advance professionally encounter issues with the implementation or administration of PDP. The following are a few administrative roadblocks to career development: Lack of resources, a lack of physical infrastructure, and bad government regulations, insufficient time; insufficient administration

Psychological barriers: People are said to have psychological barriers when they are psychologically unable to realise their potential or advance professionally. Such as teachers

who experience anxiety, stress, or frustration; teachers who lack interest; teachers who lack confidence; teachers who lack a positive attitude; and teachers who feel incompetent.

Material barriers: People who are unable to use the available tools or resources to advance their careers to their full potential are referred to as material barriers. Such as the environment at work, the environment at home, the time demands, and the energy demands (Ali & Shafeeq, 2021).

## Conclusion and Suggestions

Professional development is one the major factors responsible for the continuous development of an institution/organization. Professional development can have different dimensions such as efficiency, credibility, assurance, career objectives, knowledge of latest developments, network improvement, and ability to influence and lead. Professional development of a teacher have significant national and global implications by developing sound and inclusive global citizens for the future. Some suggestions have been drawn from the present work that are given below:

For Central and State Governments: Teachers should receive funding to begin projects and action research pertaining to the teaching and learning process. The education departments should support their staff members in pursuing higher degrees in order to improve the proficiency and competency of teachers. For their psychological and professional counselling, university teachers should have access to counselling centres. There should be

regular professional development programs set up, such as refresher courses, seminars, and workshops, to inform teachers of new skills and approaches to teaching and learning.

For Higher Educational Institutions: Meetings between senior and junior staff members ought to be planned at the institutional level in order to increase junior teachers' confidence and give them a chance to share ideas that will advance their careers. At the time of selection, the person should be screened. To expand their knowledge and develop their expertise in their fields, teachers should be encouraged to participate in faculty development programmes. The organization of various language improvement programmes is necessary. Teachers should be encouraged to engage in action research and projects that will improve their knowledge and perspectives in their fields and help them comprehend the issues that are unique to those fields.

For Teachers of HEIs: Teachers should stay current in their particular discipline. In order to advance their careers, teachers should pursue higher degrees. They ought to utilise the resources that are offered by their institutions effectively. They ought to utilise the internet effectively for career advancement. Different professional development programs should be attended by teachers. Teachers should frequently, both formally and informally, share their experiences with other staff members. To stay up to date on the most recent techniques in their field, teachers should make it a habit to visit other institutions.

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# Digital Pedagogy: From Screens to Minds

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## Abstract

This research paper investigates the overarching theme of the growing utilization of technology in education, exploring its multifaceted consequences and the dynamic transformations it has instigated in classrooms on a global scale as an avant-garde innovation. The increasing integration of technology in education represents a paradigm shift that has fundamentally altered traditional methods of teaching and learning. This transformation extends far beyond the mere introduction of smart boards and tablets in classrooms; it encompasses a wide spectrum of digital tools, platforms, and resources that have, in essence, revolutionized educational practices. The primary objective of this research paper is to meticulously examine the manifold impacts of this technological integration across various educational levels, ranging from secondary to higher education, and spanning diverse subject areas. It seeks to elucidate how technology shapes pedagogical approaches, engages students, and redefines the roles of educators. Moreover, it delves into the equity and access concerns that have surfaced in this digital age. By scrutinizing the ever-evolving landscape of education, this paper endeavors to provide profound insights and foster a comprehensive understanding of the expanding role of technology in our quest for knowledge.

*Keywords:* digital pedagogy, technology, pedagogy

## Introduction

Technology has the power to reinvent education for children in developing countries, but doing so needs an awareness of the communities that are utilizing the technology. Whether the intervention centers on teacher training or is tablet, computer, and mobile-based,

it must take into account the roles, influences, and values of all the participants in the school ecosystem.

In the 21st century, we stand witness to a profound transformation in the field of education, one driven by the accelerating integration of technology into the learning process. The ubiquity of digital devices, internet access, and innovative software has redefined the educational landscape, offering new opportunities and challenges. This proliferation of information technology has become a significant catalyst for education reforms, facilitating the dissemination of collective knowledge.

Strategic and meticulous incorporation of educational technology and information and communication technologies (ICTs) holds the potential to emancipate the educational system and facilitate the attainment of high-quality education in both schools and teacher training programs throughout the nation. Educators today have access to a wide range of cutting-edge tools that not only strengthen pedagogy but also encourage students' active participation (Wani, 2021). Through this dynamic change, the educational environment is made to both adapt and be precisely tuned to the 21st century's constantly changing demands. It's critical to recognize that resistance to change is an usual occurrence, particularly in the field of education, which frequently faces challenging issues and moves in many different directions. However, in this environment, digital pedagogy offers a significant and constructive revolution, promising a better and more promising future for both students and teachers (Arora, 2010).

Digital pedagogy is a subset of pedagogy and a part of the system of education sciences, but it is not a science of education. Furthermore, it fosters a dynamic, interactive learning environment that nurtures critical thinking, creativity, and problem-solving skills, there by promoting a more holistic and effective educational experience for all stakeholders.

In recent years, educators have integrated computers into their teaching practices. However, in many cases, these computers have added to teachers' workloads and remained underutilized, leading to questions about their effectiveness in the classroom. Some schools have introduced computers due to parental demand rather than a clear educational need.

On the other hand, educators who have transitioned to a more advanced stage are seeking to harness technology for a more powerful and transformative educational experience. They start by using technology to assess their students' needs and community characteristics. They consider the learning process and explore available tools and techniques. Only after this thorough assessment do they design innovative solutions. In this advanced stage, the focus is on what students actively do in their learning process, with educators and technology playing complementary roles to enhance the overall educational experience.

## Concept of Digital Pedagogy

Pedagogy is a teaching strategy in which instructors instruct students both in theory and in practice. Pedagogy is molded by educators' teaching philosophies and includes their knowledge of cultural and various learning styles. The primary goal of pedagogy is to build on

students' prior knowledge and work on the development of their abilities and attitudes. Pedagogy enables students to have a complete comprehension of the subject and facilitate them in applying what they learn outside of the classroom.

The term "digital pedagogy" has gained popularity over the past few years, ushering in a new era of teaching that transcends conventional confines such classroom walls, chairs, chalkboards, and podiums. In essence, it entails using technology to improve the educational process. Digital pedagogy is increasingly being used throughout the world. Digital pedagogy is actively being promoted in India by regulatory organizations like AICTE and UGC, who have made it a requirement for undergraduate degree curricula (Murty & Rao, 2019).

In order to define digital pedagogy, one must have a thorough understanding of how technological capabilities can be used to certain educational contexts. The experience of the past few years demonstrates that just a few uses of digital technologies in education have real worth and can contribute fresh pedagogical implications. Digital pedagogy can be defined as the comprehensive exploration of how the optimal utilization of digital technologies can enhance and maximize the teaching and learning experience. "In simple terms, a digital pedagogy is the study of how to teach using digital technologies" (Howell, 2013).

Digital pedagogy is the critical use of Information and Communication Technology (ICT) resources to transform the educational experience, going beyond the simple use of digital technologies in teaching. From conventional PowerPoint presentations to Massively Open

Online Courses (MOOCs), which provide free instruction to a large audience, it spans a spectrum of approaches.

Digital pedagogy includes practices like giving students blogging assignments, incorporating social media into the classroom, and encouraging students to test ideas using digital tools. As a result, the teaching and learning process undergoes a number of changes as a result of digital pedagogy.

As educators and learners adapt to this digital revolution, the concept of digital pedagogy emerges as an essential and contemporary approach to education. Digital pedagogy strives for an educational system characterized by dynamic interconnectedness, in harmony with the cosmos. Digital pedagogy in the digital age deviates from traditional, one-dimensional ways of teaching and learning. It incorporates a dynamic and integrated approach to education, promoting students' holistic growth in a technologically infused environment. On the other side, many traditional teaching approaches are strict and divided, which can lead to feelings of detachment and unhappiness (Robertson, 2020).

Howell & McMaster (2022) revealed in their research that when we utilize technology, we learn in different ways and generate information in different ways. Constructionism, distributed constructionism, and connectivism are three learning theories that have evolved as a result of research on the use of technology in teaching and learning. Teachers aspire to utilize these new technologies proficiently to enhance learning outcomes. This is where digital

pedagogy plays a crucial role, enabling teachers to adapt to and effectively use new digital tools in their classrooms.

Introducing a computer into a classroom alone does not guarantee effective learning. Teachers must possess the knowledge of how to utilize technology in an effective manner, comprehend the underlying learning theories, and be capable of choosing the appropriate technology to achieve their desired learning outcomes. Therefore, teachers require is a firm grasp of digital pedagogy (Angrist & Lavy, 2002).

Today's tech-savvy students demand dynamic educational experiences, but their formal educational literacy often falls short. This discrepancy highlights the need for educators to bridge the technological divide. While students excel in personal and extracurricular activities, they face challenges when introduced to new technologies in the classroom. The integration of digital tools and technology in pedagogy requires a mindset that promotes seamless integration and effective utilization within the learning environment.

This shift towards digital pedagogy signifies a pivotal transition within the educational landscape, a transformation driven by the need to bridge the gap between students' digital fluency and educators' ability to harness technology effectively. As educators embrace this mindset and develop the aptitude to navigate the ever-expanding digital realm, they unlock the full potential of digital technology as a tool to enrich teaching and learning, ensuring that they can cater to the expectations and demands of the technologically astute learners of today. The integration of pedagogy and technology offers an exciting future in which learning

becomes a dynamic, interactive, and interesting journey that reflects the digital world in which the students are immerse.

## A Digital Toolkit for 21st-Century Education

The educational objectives, subject matter, and unique requirements of the students and educators all influence the use of digital pedagogical tools. As technology develops, these tools are always being improved, giving teachers more opportunity to design engaging and successful lessons. Digital pedagogy encompasses a wide range of tools and technologies that can be used to enhance the teaching and learning process. These tools can vary from simple software applications to more complex learning management systems. Here are some common digital pedagogy tools:

- o Learning Management Systems (LMS): Platforms like Moodle, Canvas, and Blackboard facilitate the organization of course materials, assignments, discussions, and grading. They also enable communication and collaboration among students and instructors.

- o Online Collaborative Tools: Tools like Google Workspace (formerly G Suite), Microsoft 365, and Slack support real-time collaboration, document sharing, and communication among students and educators.

- o Educational Websites: Websites like Khan Academy, Coursera, edX, and Udemy offer online courses, lectures, and resources for learners.

- o Digital Content Creation Tools: Software like Adobe Creative Suite, Canva, and Prezi allows educators and students to create engaging multimedia content for presentations and assignments.

- o Online Assessment Tools: Platforms such as Kahoot!, Quizlet, and Poll Everywhere help

create interactive quizzes, polls, and surveys for assessing student knowledge and engagement.

o   Blogs and Wikis: Platforms like WordPress and Wikipedia offer opportunities for students to create and collaborate on written content.

o   Social Media: Platforms like Twitter, Facebook, and Instagram can be used to engage students, facilitate discussions, and share educational content.

o   Virtual Reality (VR) and Augmented Reality (AR): VR and AR technologies are increasingly used to create immersive educational experiences, particularly in fields like science, history, and geography.

o   Video Conferencing Tools: Tools such as Zoom and Microsoft Teams enable virtual classroom experiences, including live lectures and interactive discussions.

o   E-books and E-readers: Digital books and e-readers like Kindle and ePUB formats make reading and studying more accessible and interactive.

o   Podcasts and Webinars: These tools provide audio and video content that students can access on-demand for supplementary learning.

o   Gamification Platforms: Platforms like Kahoot! and Classcraft introduce gaming elements into the classroom to make learning more engaging.

o   Simulations and Virtual Labs: These tools provide virtual environments for hands-on learning in subjects like science and engineering.

o   Cloud Storage and File Sharing: Services like Google Drive, Dropbox, and OneDrive enable easy access to course materials and collaborative document sharing.

o   Digital Note-Taking Apps: Apps like Evernote, Notion, and OneNote facilitate digital note-taking and organization of study materials.

### Educational Possibilities with Digital Pedagogy

In the last five years or so, the usage of technology in Indian schools has expanded dramatically. Despite the fact that the majority of technology efforts grow in the private sector or autonomous higher education schools, several educational technology companies have been founded in the recent decade. Smart classrooms, online tutoring, personalized learning content, learning management systems, content distribution via tablets and laptops, cloud storage and file management, robots, and an integrated approach to technology are just a few of the topics being considered in the Indian education field. However, there are other problems, including a lack of professional development for teachers, access and availability, staff mindset and attitude, and a lack of digital leadership at the management level in schools.

### Empowering Self-Directed Learning

By allowing students the opportunity to engage in independent learning and releasing them from the restrictions of relying entirely on parental and teacher support, digital pedagogy reinvents education. Nowadays, students have the option of gaining access to a wide variety of study resources online. Digital resources, like e-books and web-based content, are dynamically updated in real-time in contrast to conventional textbooks, which frequently provide static information. As a result, a culture of independent learning is promoted, ensuring that students are always exposed to the most recent and pertinent material.

### Fostering Future Adaptability

The incorporation of digital technological resources into the educational environment of today is not simply an alternative; it is a sine qua non. The core knowledge of using technology for collaboration and communication should be imparted to learners at a young age to prepare them for a competitive job market and a future when digital proficiency would be required. In addition to facilitating learning, digital technologies help people gain the fundamental abilities they need to successfully use cutting-edge tools and processes.

## Enhancing Economic Viability

Traditional pedagogy can be expensive, requiring expenditures for infrastructure, staff, and reading materials. On the other side, digital pedagogy appears as a financially responsible choice, significantly lowering costs. Affordable fees, fewer tangible textbook purchases, and cost savings on utilities and transportation all benefit students. E-learning resources also show to be financially advantageous in the long run and are easily updated to meet changing educational needs.

## Engaging Edutainment

The widespread use of technological instruments in digital pedagogy turns learning into an exciting edutainment experience. During the teaching-learning process, educators might combine movies, images, specific websites, applications, and interactive programs. These multimedia learning tools develop a sincere interest in learning by establishing a dynamic and interesting learning environment.

### Enabling Learning Anywhere, Anytime

Traditional barriers such as time, place, distance, and expense are broken down by digital pedagogy. It simplifies the learning process by allowing students all around the world to attend courses given by renowned universities without being hampered by geographical or logistical constraints. Education becomes more adaptable and accessible, encouraging lifelong learning and worldwide cooperation.

### Facilitating Cultural Exchange

Learners' cross-cultural encounters are facilitated by digital pedagogy. It promotes communication and collaboration with people from varied cultural backgrounds by bringing students from different geographical places together. This open-minded attitude fosters universal friendship, helping students to appreciate and accept the richness of global diversity.

### Personalized Learning Journeys

Digital pedagogy provides a one-of-a-kind chance for tailored learning. Students can follow unique study pathways using adaptive learning systems, concentrating on their strengths and resolving their weaknesses. Customized material recommendations based on a

student's achievement, learning style, and interests ensure that students receive a tailored education.

### Real-World Application

One of the most evident advantages of digital education is its capacity to bridge the theoretical and practical divides. Students can engage in hands-on learning experiences that imitate real-world circumstances by using simulations, virtual labs, and interactive software. This hands-on approach not only broadens their comprehension but also provides them with transferable abilities for their future employment.

### Collaborative Learning Communities

Collaborative learning communities are fostered by digital pedagogy. Online discussion forums, collaborative initiatives, and peer-to-peer contacts make it easier to share ideas, viewpoints, and expertise. Students from various backgrounds can collaborate and learn from one another, fostering a rich and diverse learning environment.

### Accessibility and Inclusivity

Education for all is promoted via digital pedagogy. It removes physical impediments that may impede disabled students and ensures that learning materials are accessible through various assistive technologies. This all-inclusive strategy not only ensures equitable access, but also fosters a diverse and enriching learning environment.

## Data-Driven Insights

Using digital pedagogy, educators can collect vital data on student performance and engagement. Teachers can alter their teaching approaches to fit the unique needs of individual pupils by analyzing this data, resulting in a more effective and customized educational experience.

## Lifelong Learning and Skill Development

Learning continues after formal education thanks to digital pedagogy. It promotes lifelong learning, enabling people to continuously upgrade their knowledge and skills as the labor market changes. Continuous personal and professional development possibilities are offered by online courses, webinars, and micro-credentials.

## Environmental Sustainability

Digital pedagogy is in line with environmentally friendly practices because it lessens the need for printed materials and the carbon footprint of conventional classrooms. It promotes environmentally conscious education, assisting in the development of a sustainable future.

## Global Reach

Students can access educational materials from all over the world there is no Geographical boundaries in the digital world. This international scope improves cross-cultural comprehension, broadens viewpoints, and equips pupils to be global citizens.

## Challenges and Risk in Digital Pedagogy

### Waning Student Motivation

The prevalence of online tools could unintentionally cause students' intrinsic motivation to learn to drop. Without the direct direction and assistance of their teachers, pupils may approach their studies with less rigor. Less time for teachers to check on students' progress and make corrections may make it more difficult for kids to do well on tests and earn honorable grades.

### Vulnerability to Learning Obstacles

Digital learning has the danger of running into significant obstacles. These can range from technological difficulties like computer malfunctions that could result in data loss to limited internet connectivity, which can hinder online learning. These problems may result in increased stress levels, which are harmful to the learning process. Additionally, the abundance of irrelevant and off-topic web content poses a persistent danger to concentrated learning.

### Balancing Education and Entertainment

Unlike textbooks, which are associated with seriousness, digital tools, like computers and mobile devices, are frequently seen as entertainment rather than teaching aids. Traditional textbooks may give students the impression that learning is a more serious and demanding undertaking. The risk of students viewing digital learning as entertainment is another concern. Proper management may make studying fun, but poor management can result in distractions and a loss of academic focus.

### Occupational Challenges for Educators

It may be challenging for educators to transition to digital pedagogy if they are accustomed to traditional teaching approaches. Certain individuals can view the use of digital technology into their teaching methods as a danger to their employment security. In the future, educators might take a lazier stance and rely more on easily accessible online resources like pre-written presentations and reviews without necessarily checking their accuracy.

### Impairment of Personal Interaction

There can never be enough emphasis placed on the value of teacher-student connection. Face-to-face training encourages participation, prompt resolution of questions, and efficient information retention. Contrarily, the lack of a physical teacher might make it extremely difficult for students to understand difficult topics, which could lead to a high dropout rate and academic underachievement.

### Technological Barriers

Digital pedagogy frequently depends on having access to safe technology, such as computers, tablets, and internet connectivity. There is a digital divide since not all kids have access to these tools. In an increasingly digitalized educational environment, students who lack proper technology may find themselves at a major disadvantage.

## Information Overload

For students, the abundance of knowledge available online can be daunting. They might find it difficult to distinguish between trustworthy and dubious sources, which could result in the propagation of false information. The excess of information might make it difficult to conduct research and think critically.

## Cyber security Concerns

The risk of cyber security breaches is rising as digital platforms are used in education more and more. The security and privacy of online learning environments, as well as the protection of student data, are urgent considerations. Serious repercussions for both persons and institutions can result from data breaches.

## Pedagogical Adaptation

The difficulty of adjusting their teaching strategies to the digital environment is one that many educators must overcome. It may be necessary to make a considerable change in educational practices in order to develop effective and engaging digital content, apply online assessment strategies, and ensure student participation.

## Potential for Academic Dishonesty

Academic integrity now faces fresh difficulties as a result of digital education. Students may be more inclined to commit plagiarism given how simple it is to copy and paste information from the internet. Online tests might also be vulnerable to plagiarism and academic dishonesty.

## Teacher-Student Disconnect

A gulf between professors and pupils may result from a lack of direct physical contact and face-to-face engagement. In a digital setting, it can be harder to establish connections with pupils, provide emotional support, and attend to their unique requirements.

## Rapid Technological Changes

The risk of maintaining current educational resources and methodologies arises from the technology's rapid evolution. Digital tools and material need to be kept up to date in order to be useful.

## Digital Fatigue

Digital fatigue can cause attention span reduction and poorer learning results. It can be brought on by excessive screen usage and digital learning.

## Assessment Fairness

Inequitable grading can occur from unfair digital tests, especially for students without access to reliable equipment or a comfortable study space at home.

## Loss of Traditional Teaching Methods

The overwhelming reliance on digital technologies could result in the extinction of traditional teaching strategies and learning opportunities in the classroom, which are important for some pupils.

## Copyright and Intellectual Property Concerns

The use of digital content in education poses issues with copyright and intellectual property rights, which can provide moral and legal dilemmas.

## Cultural and Linguistic Barriers

Online learning resources might not always be diverse and inclusive. For non-native English speakers, language difficulties might also make learning more difficult.

Digital pedagogy offers various opportunities to use a variety of practices. It is important to consider how adopting digital technologies for teaching may affect student learning. Therefore, thorough strategic planning is required to maximize the benefits of digital pedagogy.

## Conclusion

As we navigate the ever-changing environment of education in the digital era, one reality stays constant: educators play an indispensable role in the world of learning. While technology might be a valuable tool, it cannot replace the dynamic, compassionate, and inspiring force of a determined educator. Teachers create strong, meaningful connections with their pupils that go beyond what technology can do. They have an incredible ability to instill an interest of learning in pupils, leading them on a journey of discovery and self-improvement. Furthermore, educators have the insight and compassion to understand and address their students' emotional needs, establishing a supportive and loving learning environment that technology cannot emulate. However, it important to remember that technology, when used wisely, may be extremely beneficial. Technology can enhance the impact of teachers by tailoring learning experiences to individual student needs, streamlining administrative tasks, and enhancing communication. By integrating technology and educators' wisdom, transformative education can be achieved, fostering a collaborative effort towards a brighter future. This synergy of human and technological potential leads to boundless possibilities and a continuous learning journey.

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# Early-Stage Ph.D. Scholars' Perception of Research Ethics

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## Abstract

In good research, research ethics is very essential to take care of. It not only prevents many evils to occur in the research process or product; but also promotes some of the necessary moral and social values. So, a well-balanced perception of the same is a must. And, as far as early-stage PhD scholars are concerned, it holds even more significance for them. Through this paper, the researcher has made a humble effort to access some important data regarding these scholars' perception of research ethics. For this, qualitative method has been adopted. And, the investigator has come across some interesting findings. While, the perception about positive statements of research ethics among the PhD students is amazing, that about the negative ones is not at that level.

*Keywords***:** research, ethics, Ph.D., scholar, perception

## Introduction

Famous polymath, **Albert Schweitzer (1875-1965)** has said: "The first step in the evolution of ethics is a sense of solidarity with other human beings." To be understood completely, this statement needs an explanation. And, it goes something like that: When people belonging to religion, began interfering into religious texts and started describing them according to their own comforts and material needs; common men and women in Greece got disturbed and they felt bored. This didn't stop there, rather their life fell prey to those religious people's explanations and commentaries and it became hell.

In such tough scenarios, thinkers and philosophers like Socrates, Plato and Aristotle emerged and laid down the foundations of ethics. In his book, ***Education and Ethics****,* renowned French philosopher, **Emile Boutroux (1845-1921)** sheds light on this saying: "Ethics came into being in

Greece, when reason grasped the reins of human life, which had hitherto been held by religion."  [As translated from French into English by Fred Rothwell, P: 02]

Actually, ethics is a branch of philosophy that involves systematizing, defending, and recommending concepts of right and wrong behaviour. It seeks to resolve questions of human morality by defining concepts such as good and evil, right

and wrong, virtue and vice, justice and crime. [As defined by Wikipedia]

**What Is Research Ethics?**

Basically, research ethics is a set of principles that guide our research designs and practices. Researchers must always adhere to a certain code of conduct when collecting data from people, and carrying out other steps of their researches.

The aims of research often include understanding real-life phenomena, studying effective treatments, investigating behaviours, and improving lives in other ways. What we decide to research and how we conduct that research, involve key ethical considerations. These considerations work to:

o   protect the rights of research participants

o   enhance research validity

- maintain scientific or academic integrity

## Why Does Research Ethics Matter?

Ethics matters in research for scientific integrity, human rights and dignity, and collaboration between science and society. These principles make sure that participation in studies is voluntary, informed, and safe for research subjects. Hence, there are several reasons for which we need to adhere to ethical considerations in our research. And, they are as follows:

**(a) Ethics promotes aims of research:** There's no doubt, ethical norms promote the aims of research, such as knowledge, truth, and avoidance of error. For example, prohibitions against fabricating, falsifying, or misrepresenting research data promote the truth and minimize error.

**(b) Ethics promotes the values of collaborative work:** It is beyond any suspicion that research is a work where cooperation and coordination among many people in different disciplines and even institutions, matter a lot. Ethical standards promote the values that are essential to collaborative work, such as trust, accountability, mutual respect, and fairness.  For example, many ethical norms in research, such as guidelines for authorship, copyright and patenting policies are designed to protect intellectual property interests while encouraging collaboration.

**(c) It helps in making the researcher more accountable:** A researcher must be accountable.  He/she can't act irresponsibly. Many of the ethical norms help to ensure that researchers can be held accountable to the public. For example, federal policies on research misconduct, conflicts of interest, the human subject protections, and animal care and use are necessary in order to make sure that researchers who are funded by public money can be held accountable.

**(d) Ethics works in getting public support:** In our researches, we often need public aid to carry out our work smoothly. Ethical norms in research help to build **public support** for research. People are more likely to fund a research project if they can trust the quality and integrity of research**.**

**(e) Ethics enhances moral and social values:** It is not to forget here that many of the research norms promote a variety of other important **moral values**, such as social responsibility, human rights, animal welfare, and public health and safety. Ethical lapses in research can significantly harm human and animal subjects, students, and the public. For example, a researcher who fabricates data in a clinical trial may harm or even kill patients, and a researcher who fails to abide by regulations relating to radiation or biological safety may jeopardize his health and safety or the health and safety of staff and students. [Scribbr]

If ethics has this much bigger role to play in research, then it is necessary for the researcher to have a right and well-balanced perception of the research ethics, before s/he gets engaged in the research process. Further, just having the right view is not enough here. Rather, it is necessary that they take care of ethical considerations in their work. Thus, this study aims at discovering the perception that early-stage PhD scholars have regarding research ethics. In this way, it is titled as:

### Statement of the Problem

"Early-Stage PhD Scholars' Perception of Research Ethics"

### Operational Definition of the Terms

The terms used in the title of this study are being defined below in order to ensure their exact operational meanings. And, they are as follows:

**Early-Stage PhD Scholars:** In this study, by 'Early-Stage PhD Scholars', the investigator means: those students who are admitted into a PhD program and have now completed their coursework. It will also include those who have recently taken admission in PhD and are yet to complete the coursework.

**Perception:** Describing the literal meaning of the word 'Perception', Cambridge Dictionary says: "a belief or opinion, often held by many people and based on how things seem." (https://dictionary.cambridge.org/dictionary/english/perception)

Defining the term 'Perception', Wikipedia writes:
"Perception (from Latin *perceptio* 'gathering, receiving') is the organization, identification, and interpretation of sensory information in order to represent and understand the presented information or environment." [https://en.wikipedia.org/wiki/Perception]

**Research Ethics:** As passed, 'Research Ethics' is a set of principles that guide our research designs and practices.

### Rationale of the Study

The goals of research include understanding real-life phenomena, studying effective treatments, investigating behaviours, and improving lives. What we decide to research and how we conduct that research, involve key ethical considerations. And, this is the very reason for which ethics has so much important role to play in research.

Ethical considerations matter in research for various reasons: for example, scientific integrity, human rights and dignity, and collaboration between science and society. These

principles of ethics make sure that participation in studies is voluntary, informed, and safe for research subjects.

Keeping in view this very significance, this investigator decided to check early-stage PhD scholars' perception of research ethics. And, this is because of the fact that holding a right perception is very crucial, for reacting towards any phenomenon. If it is missing, a person can treat it with biasness. Hence, it is necessary for the research scholars to have a well-balanced view of ethics.

This researcher is hopeful that through this study, he will come with the actual scenario about early-stage PhD scholars' perception of research ethics. And, it will help the stakeholders in a way or the other.

## Objectives of the Study

Any worthwhile human activity must have its objectives already set. Indeed, it is objectives which guide the person and show him/her the future course of the work. Furthermore, every research is carried out on the basis of certain objectives, as it deals with solving some problems of human interest. Therefore, this researcher had a definite aim and some specific objectives that he would like to try to achieve through this investigation. So, this study aims at achieving those objectives as follows:

1. To discover early-stage PhD scholars' perception level of research ethics, by finding out the overall mean;

2. To know the early-stage PhD scholars' perception of positive statements of research ethics;

3. To study these scholars' perception of negative statements of the research ethics tool;

4. To compare early-stage PhD scholars' perception of positive and negative statements.

## Hypotheses of the Study

The hypothesis is a specific statement of prediction. It describes in concrete (rather than theoretical) what is expected. It is a tool in research that helps the researcher to relate theory to observation and observation to the study. Hypotheses are formulated as tentative solutions to problems to ensure that the study may lead to either its acceptance or rejection. For this investigation, keeping in view the objectives mentioned above, these hypotheses were formulated:

**Ho1.** The mean of early-stage PhD scholars' perception of research ethics will not be good.

**Ho2.** There will be no difference in the perception of early-stage PhD scholars between positive and negative statements of research ethics.

## Research Questions of the Study

Any research is guided by certain research questions. It is actually those questions that show researcher the path to be walked upon. As far as this study is concerned, it was guided by the following questions:

**Research Question-1:** What will be the overall mean of early-stage PhD scholars' perception of research ethics?

**Research Question-2:** What will be the mean of early-stage PhD scholars' perception of positive statements of research ethics separately?

**Research Question-3:** What will be the mean of early-stage PhD scholars with respect to their perception of negative statements of research ethics separately?

## Delimitation of the Study

Any research (large or small) has some boundaries and limitations, as it is practically impossible to conduct a boundary-less study. The process of marking these limitations is called 'Delimitation'.

As far as this study is concerned, it is only for the partial fulfilment of the requirements, for the PhD coursework; and not full-fledged research. Full-fledged research requires several years to yield desired results in the concerned field. So, this investigation has the delimitation as follows:

- o This study is confined to early-stage PhD scholars only.

- o It just seeks to discover these scholars' perception of research ethics; and nothing else.

- o This investigation was conducted on a very small sample of 20 scholars.

- o While many of the participants were from the Department of TT&NFE (IASE), JMI, New Delhi; some were from the Department of Education, AMU, Aligarh.

## Review of the Related Literature

Review of the related literature is the search and evaluation of the available literature in the given subject or chosen topic area. It documents the state of the art with respect to the subject or topic one is writing their thesis/dissertation about. This type of review discusses published information in a particular subject area, within a certain time period.

**Arlene Fink (2014)** defines review of the related literature as: "A literature review surveys books, scholarly articles, and any other sources relevant to a particular issue, area of research, or theory. Actually, it provides a description, summary, and critical evaluation of those works in relation to the research problem being investigated."

In any research activity, literature review plays a very important role. It actually guides the researcher what he/she should do in his/her work and what not. Its significance can be understood by the purposes it serves. According to Fink, some of them are as the following:

o   Review of the related literature places each work in the context of its contribution to understand the research problem being studied.

o   It describes the relationship of each work to others under consideration.

o   It identifies new ways to interpret prior research.

o   Literature review reveals any gaps that exist in the literature.

o   It resolves conflicts amongst seemingly contradictory previous studies.

Now, here is review of the related literature of this study:

**Khurana Poonam (2011)** conducted a study on "Role of Ethics in Personal, Team and Organizational Effectiveness". The objective was to propose a model of personal ethics in relation to personal, team and organizational effectiveness. Results indicated that personal ethics are significantly positively correlated to personal effectiveness, team effectiveness and organizational effectiveness.

**Vijayalakshmi N. K. (2014)** did an investigation entitled "A Study of Interrelationship between Business Ethics and Consumer Protection". One of the most interesting findings of this study was that the demographic factors of business units like form of business units, nature of business, number of years of existence, annual turnover and type of the product/services have no relevance with their level of awareness about business ethics.

**Naaz Ishrat (2017)** carried out research entitled as "A Study of Teacher Education Institution Climate and Personal Values and Professional Ethics of Student Teachers in

Government and Private Institutions". She concluded that there is significant difference in the perception of student-teachers towards professional ethics in the government and private Teacher Education Institutions.

**Kaur Mandeep (2018)** did research on "Professional Ethics among College Teachers in Relation to Team Effectiveness, Emotional and Social Intelligence. She reached at the conclusion that the mean score of Professional Ethics of Teachers from Colleges of Education (193.84 ±5.33) was significantly higher than mean score of Professional Ethics of Teachers from Degree Colleges (191.50 ±7.26). The obtained difference was statistically significant at 0.01 level of confidence.

**Choudhury Abira (2019)** in her research work "Ethics of Care and Aware Parenting: A Study on Adolescents" came out with some interesting results. The findings of the study clearly revealed that adolescent boys have better perception about aware parenting towards their parents. But in case of parents, the consequence was different. It was revealed that female parents have better perception about ethics of care and aware parenting since ethics of care is a feminist's philosophical concept.

## Critical Appraisal of the Related Literature

This investigator consulted a number of PhD theses, in the same or overlapping areas to develop an overall understanding regarding the present study. But the related literature did not provide any comprehensive accounts on research ethics. However, they deal well with general ethics, professional ethics and even business ethics.

This is the reason the researcher understood it appropriate to conduct his study on perception of early-stage PhD scholars with respect to research ethics. In this way, he hopes to fill the gap that exists in this particular aspect of ethics.

## Methodology of the Study

**Research Design:**

The present study is quantitative in nature. And, the research design it falls under, is descriptive survey. According to **John W Best (2017),** descriptive survey gathers data from relatively large number of cases at a particular time. It is not connected with characteristics of individuals as individuals. It is connected with the statistics that result when data are abstracted from a n umber of individual cases.

**Population:**

As it is obvious from the topic itself, the population of this study is early-stage PhD scholars.

**Sample:**

For this small-scale study, 20 scholars with the specific characteristic were selected, as sample. Out of these, 15 were from the Department of Teacher Training & Non-Formal Education (IASE), JMI, New Delhi and the rest 5 were picked from the Department of Education, AMU, Aligarh. All belong to the 2021-22 batch of PhD scholars of the respective university.

**Sampling Technique:**

The purpose of this investigation was to get early-stage PhD scholars' perception of research ethics. And, the investigator wished to access a particular subset of the population that shares the above-mentioned characteristics (being enrolled in PhD and that too at an early stage). Further, the main goal of the study was to identify the PhD scholars' community best suited to help

this researcher give response to his questionnaire. That's why he had selected purposive sampling technique.

**Tool:**

For the purpose of data collection, the investigator had designed a questionnaire based on Likert scale. It was consisting of 10 questions. While, out of these ten, 5 statements were positive towards research ethics; the remaining 5 were negative in nature. Number-wise Statements are as follows:

Statement-1: For conducting a good research, research ethics is very important.

Statement-2: Research ethics involves the application of fundamental ethical principles to the research.

Statement-3: Research ethics safeguards the interests of all the stakeholders engaged in the research.

Statement-4: Research ethics helps to ensure that the researcher can be held accountable.

Statement-5:  Research ethics promotes some of the moral values essential for good research.

Statement-6: Research ethics hinders the research process.

Statement-7: Research ethics interferes with the freedom of a researcher.

Statement-8: Research ethics narrows down the scope of research.

Statement-9: Research ethics causes the feeling of boredom in the researcher.

Statement-10: Research ethics isn't in sync with the spirit of research.

**Statistical Techniques:**

For the purpose of data analysis, descriptive statistical techniques, like mean, median, mode, frequency were applied. While, mean, median, mode and standard deviation were used to

summarize and describe the central tendencies; frequency and percentage were applied to determine the frequency and distribution of different responses.

## Analysis And Interpretation of Data

Once the data are collected in research, the next step usually involves analysis of those data and their interpretation. The choice of analytical procedures depends on several factors including the type of research questions that was asked originally and the characteristics of the data that were collected **[Sowell & Casey, 1982].**

And, as far as the meaning of data analysis is concerned, it is actually studying the organized material in order to bring out information useful for decision making. Its purpose is to find out the relationship between variables which leads to the verification of hypotheses.

So, when the data were collected, they were analyzed. Then, the task of drawing inferences- known as 'interpretation'- was accomplished. The objective-wise analysis and interpretation of the collected data are as follows:

**Objective-1:** To discover early-stage PhD scholars' perception of research ethics (by finding out the overall mean)

**Ho1:** The mean of early-stage PhD scholars' perception of research ethics will not be good.

**Research Question-1:** What will be the overall mean of early-stage PhD scholars' perception of research ethics?

In order to verify the above-mentioned hypothesis and to achieve the first objective, by answering the first research question, the researcher used Excel. And, the results were as the following:

**Table 1**

*Highest, Lowest and Overall Means*

| Highest Mean | Lowest Mean | Overall Mean |
|---|---|---|
| 4.8 | 3 | 4.13 |

The above table shows the highest, lowest and overall means of the collected data. While, the highest mean out of 5, was very satisfactory, with 4.8 score; the lowest was quite different and surprising as well, at just 3. However, it couldn't make the researcher draw an inference that the perception is not satisfactory; because, the overall mean stands at 4.13. In this way, it can be easily concluded that the early-stage PhD scholars' perception of research ethics is good and on average their responses fall in the category of 'agree' with respect to research ethics. Thus, the hypothesis was rejected; and the first research question was answered.

**Objective-2:** To know the early-stage PhD scholars' perception of positive statements of research ethics

**Research Question-2:** What will be the mean of early-stage PhD scholars' perception of positive statements of research ethics separately?

**Table 2**

*Individual as well as Overall Means of Positive Statements*

| Participant Serial No. | Mean |
|---|---|
| 1 | 4.4 |
| 2 | 4.2 |
| 3 | 5 |
| 4 | 5 |
| 5 | 4.8 |
| 6 | 5 |
| 7 | 4.4 |

| | |
|---|---|
| 8 | 5 |
| 9 | 4.6 |
| 10 | 5 |
| 11 | 4.2 |
| 12 | 4 |
| 13 | 4.8 |
| 14 | 4.4 |
| 15 | 5 |
| 16 | 4.8 |
| 17 | 4.8 |
| 18 | 4.2 |
| 19 | 4.6 |
| 20 | 4.8 |
| Total Mean | 4.65 |

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Besides total/overall mean, this table also shows the individual means of the participants. An overall mean of 4.65 means that the early-stage PhD scholars' perception of positive statements is good enough to the extent that it would be counted in the category of 'strongly agree'. Thus, the research question-2 was answered.

**Objective-3:** To study the perception of early-stage PhD scholars regarding negative statements of research ethics

**Research Question-3:** What will be the mean of early-stage PhD scholars with respect to their perception of negative statements of research ethics separately?

**Table 3**

*Individual as well as Overall Means of Negative Statements*

| Participant Serial No. | Mean |
|:---:|:---:|
| 1 | 4 |
| 2 | 3.2 |
| 3 | 4.4 |
| 4 | 4.2 |
| 5 | 4 |
| 6 | 4.2 |
| 7 | 2.6 |
| 8 | 1 |
| 9 | 3.8 |
| 10 | 3 |
| 11 | 3.4 |
| 12 | 3.8 |
| 13 | 2.2 |
| 14 | 3 |
| 15 | 5 |
| 16 | 4.2 |
| 17 | 3.6 |
| 18 | 3.4 |
| 19 | 4.2 |
| 20 | 5 |
| Total Mean | 3.61 |

The above-drawn table reveals the perception of early-stage PhD scholars, with reference to negative statements of the research ethics tool. It clearly shows that the mean stands at 3.61. This means that these scholars' perception of negative statements is not that good. It hardly may be counted in the category of 'disagree' (just little bit above the 'neutral' position).

**Objective-4:** To compare early-stage PhD scholars' perception of positive and negative statements of the research ethics tool

Ho2: There will be no difference in early-stage PhD scholars' perception of positive and negative statements of research ethics.

In order to verify this hypothesis and achieve the fourth and last objective of his study, the researcher attempted to find out the means of positive and negative statements as shown in the tables presented above. These tables clearly showed that a big difference exists between the mean of positive statements and that of the negative ones. While, the first mean stands at 4.65; the second one falls to 3.61. In this way, there is a difference of 1.04. Thus, the hypothesis was rejected. A table is further being given here:

**Table 4**

*Means of Positive and Negative Statements & the Mean Difference*

| Mean of Positive Statements | Mean of Negative Statements | Difference Between Positive & Negative Means |
| --- | --- | --- |
| 4.65 | 3.61 | 1.04 |

### Findings, Implications and Suggestions

Thus far, a solid foundation has been laid down to draw some meaningful results of this study. So, step-wise, identification of the problem, review of the related literature, description of methodology and finally analysis and interpretation of data are done. Hence, the investigator is now ready to present findings of the study; give their adequate implications and come with some necessary suggestions for further research in the field of research ethics:

## Major Findings of the Study

### Findings Related to Perception of Research Ethics

The highest, lowest and overall means of early-stage PhD scholars' perception of research ethics stand respectively at 4.8, 3 and 4.13.

On average, these scholars' perception of research ethics is good and falls in the category of 'agree'.

### Finding Related to Early-Stage PhD Scholars' Perception of Positive Statements

Analysis of the data revealed that early-stage PhD scholars' perception of positive statements is good enough (in the category of 'strongly agree').

### Finding Related to Early-Stage PhD Scholars' Perception of Negative Statements

It was discovered that early-stage PhD scholars' perception of negative statements is not that good (just little bit above neutral position).

### Finding Related to Comparison Between Positive & Negative Statements

After analysis of the data, it was concluded that with a difference of 1.13 mean, early-stage PhD scholars' perception of positive statements is better than that of the negative ones.

## Educational Implications of the Study

Basic purpose of any research is its implication. So, researches in the field of education, for example, are carried out, to bring forward the findings; show what consequences they bear for various stakeholders and finally to direct how those findings can benefit the education sector at

large. If research does not have any appropriate implication, it will simply mean that all the efforts spent in it, have gone in vain.

In the light of the findings of this study, the investigator has made a humble attempt to bring forth the educational implications this research has. And, they are as follows:

1. Early-stage of PhD is an important phase of research. During this period, scholars should perceive well their topic and other related things including ethical issues that might arise in their topic. Also, they must have knowledge how they will tackle those issues effectively.

2. Research ethics is very crucial for good research. Hence, PhD scholars must have a good and well-balanced perception of it.

3. Research scholars must practice research ethics while conducting their work. Knowledge of ethics just for the sake of knowledge is not enough here.

4. Early-stage PhD scholars should make their perception of research ethics better, especially when it comes to negative statements. For example, they must not think that research ethics hinders the research process or it may interfere with their freedom etc.

5. Keeping in view its importance, it is necessary for educational institutions to include research ethics as an integral part of PhD coursework syllabus.

6. Teachers must not confine themselves to just impart the knowledge of research ethics. Rather, they should make research scholars practice it as much as possible. Further, teachers should try to inculcate moral values in their PhD students.

### Suggestions For Further Researches

Research is a never-ending process. Further, the nature of social sciences is so divergent that no study can be considered complete in itself. This work concentrated on early-stage PhD scholars' perception of research ethics. And, there are researches available in various fields of

ethics, like: professional, business, teaching etc. However, as told earlier in the rationale of the study, in his capacity, this investigator could not find any researches on research ethics. This in spite of the fact it is very important. Hence, considering the importance of this problem, more researches should be carried out in this sphere.

As we know, researches are designed on the basis of some selected variables. Methods and data collection techniques are also limited and in most of the cases, related to a very small proportion of the population. And, this is a matter of fact that all studies, whatever may be their nature, help in furthering ideas that may prove crucial for the researchers who wish to get insight and plan to fill the existing gap. Hence, here is a humble attempt, from the side of this investigator, with respect to suggestions for further researches in this area:

1.  Keeping in view the importance of this topic, studies on junior as well as senior research scholars' perception of research ethics should be carried out; so that it could be clear: is there any difference between the perceptions of these two groups.

2.  Researches should be conducted on male and female PhD scholars' perception of research ethics, to check whether any difference exists there, on the basis of gender.

3.  Likewise, investigations on public and private universities scholars' perception of research ethics can be carried out. In this way, it can be examined whether any difference in perception exists, on the basis of the type of institution.

4.  Similarly, researches on Indian and foreign scholars' perception of research ethics should be conducted. It will give insight about what we think and what they think of the topic.

5.  Studies on various aspects/dimensions of research ethics can be done.

6.  Apart from the perception, researches on implementation of research ethics should also be conducted. After all, practice is more important than mere knowledge.

7. All the bases of difference mentioned in perception, should be taken care of, while conducting investigations on implementation of research ethics.

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# Spiritual Intelligence and Teaching Aptitude of Prospective Teachers in Erode District

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## Abstract

This study aimed to find out the relationship between spiritual intelligence and teaching aptitude of prospective teachers in Erode district.  246 prospective teachers were selected by using simple random sampling technique. Spiritual Intelligence Scale by Sumathi (2010) and Teaching Aptitude Test by Nithya (2011) were used to collect the data. This study found that no significant relationship is found between spiritual intelligence and teaching aptitude of prospective teachers

*Keywords*: *spiritual intelligence, teaching aptitude, prospective teachers*

## Introduction

The term 'spiritual' originates from the Latin etymology 'spiritus', denoting 'breath', specifically alluding to the breath of life. This process entails the act of embracing our emotions and developing our ability to encounter profound wonder, deep respect, and appreciation. The capacity to perceive the divine inside everyday life is to experience the profoundness of existence, to comprehend the intensity of being, and to surrender oneself to entities beyond our own limitations. The objective of this endeavor is to foster an enhanced sense of affection and empathy towards both individuals and the various forms of life that

inhabit our world. The impact of this phenomenon is conducive to both physical and emotional well-being.

Spiritual intelligence is classified as one of the various forms of intelligence and has the potential for independent development. Spiritual intelligence necessitates the utilization of several modes of cognition and the harmonious blending of one's internal cognitive and spiritual experiences with their external professional endeavors. The development of this skill can be fostered through the processes of questing, inquiry, and practice. The development of spiritual experiences may be influenced by various factors, including the setting and methods of integration. The manifestation of spiritual maturity is demonstrated by the cultivation of wisdom and the engagement in compassionate deeds within the realm of human existence. The presence of spiritual intelligence is crucial in the process of discerning spiritual choices, as it plays a significant role in fostering psychological well-being and facilitating holistic spiritual growth.

## Review of Related Literature

Chakma, Chitra, Majid, and Ishfaqm (2023), examined both teachers and pupils spiritual intelligence. A holistic approach to life improves people's well-being, happiness, and success. Spiritual intelligence (SI) helps people improve their emotions, thoughts, body, and mind, promoting a holistic lifestyle. Discrimination promotes self-awareness, positive traits, and the distinction between good and bad. Therefore, this capability is effective in addressing personal, educational, societal, and other difficulties. Higher education aims to provide a broad

perspective on life, and Social Intelligence (SI) helps students and educators handle difficult situations and improve their well-being. With this in mind, the current study examined instructors' and students' social intelligence (SI), the impact of job titles on SI, and the numerous characteristics of SI using a cross-sectional survey. A self-developed SI rating scale was used to randomly collect data from 1266 students and 330 teachers. The study found that teachers and students with low, medium, and high social intelligence were evenly distributed. The study also found no association between classification and social IQ. It was also shown that participant categorization affected social interaction.

The relationship between Spiritual Intelligence and Self-Regulatory Behavior Skills of Education Faculty Students was examined by Aydin, Davut (2018). The purpose of this study is to clarify the relationship between the self-regulation skills and spiritual intelligence traits among education faculty students.  Research was conducted quantitatively using the relational screening approach. Data from 606 teacher candidates—352 female and 254 male students— selected through stratified sampling from students enrolled at Ahi Evran University's Education Faculty during the academic year 2017–2018 were used to conduct the study. According to the study's conclusions, there is only a weak relationship between students' capacities for self-regulation and their spiritual intelligence traits.

In his study, Nasel (2004) put out a distinct conceptualization of spiritual intelligence, wherein he characterized it as the utilization of spiritual capacities, resources, and contextual factors. According to the individual in question, individuals employ spiritual intelligence as a

means to address challenges encountered in their everyday lives, contemplate matters of existential significance, and arrive at rational judgments.

According to Coyle's 2002 review of the pertinent literature, spirituality was primarily defined in the following manners: the structural-behavioural definition, which focused on actions like praying and attending church, the value-driven approach, which saw spirituality as the framework for the development of human potential, and the transcendent approach, which focused on the feeling of overcoming one's own limitations in order to connect with higher meaning and power.

According to Mayer (2000), the notion of spiritual intelligence could be more accurately characterized as spiritual consciousness. In his view, consciousness refers to the capacity to perceive and comprehend mental operations and the organization of awareness. Mayer (2000) contends that it is more appropriate to conceptualize spiritual intelligence as a condition of heightened awareness and being, rather than a cognitive aptitude.

## Need for the Study

The prospective teacher should have a sound philosophy of education, knowledge of psychology and a dynamic sociological perspective. The teacher education programme should develop the whole personality of the student teacher. The future teacher should possess the necessary skills and competencies, which will make his teaching task easy, useful and effective. At present there are more than 600 colleges of education in Tamilnadu. The number of teacher

preparation institutions is going on increasing rapidly and lakhs of young graduates are undergoing the teacher training programmes. The mushroom growth of teacher education institutes without adequate instructional and infrastructure facilities has diluted the quality of teacher education. Moreover, student teachers are admitted into the institutes on the basis of their academic marks. Teaching aptitude and spiritual well-being are considered the important input variables for successful teacher preparation programme. Unfortunately, this aspect is not considered for admission in teacher education programme. In the present setting, the problem has been selected for study.

## Objectives of the Study

1. To find out the level of spiritual intelligence among prospective teachers.

2. To find out the level of teaching aptitude among prospective teachers.

3. To find out the significant difference in spiritual intelligence of prospective teachers with respect to the background variables year of study, educational qualification and marital status.

4. To find out the significant difference in teaching aptitude of prospective teachers with respect to background variables year of study, educational qualification and marital status.

5. To determine the substantial correlation between spiritual intelligence and teaching aptitude among prospective teachers.

## Hypotheses of the Study

1. The level of spiritual intelligence among prospective teachers is high.

2. The level of teaching aptitude among prospective teachers is high.

3. There is no significant difference in the spiritual intelligence of prospective teachers with respect to their year of study.

4. There is no statistically significant difference in the spiritual intelligence of prospective teachers with respect to their educational qualification.

5. There is no statistically significant difference in the spiritual intelligence of prospective teachers with respect to their marital status.

6. There is no statistically significant difference in the teaching aptitude of prospective teachers with respect to their year of study.

7. There is no statistically significant difference in the teaching aptitude of prospective teachers with respect to their educational qualification.

8. There is no statistically significant difference in the teaching aptitude of prospective teachers with respect to their marital status.

9. There is no statistically significant relationship between spiritual intelligence and teaching aptitude of prospective teachers.

## Methodology

### Method Used

The investigator has chosen descriptive survey method for studying the spiritual intelligence and teaching aptitude of prospective teachers.

### Sample of the Study

The researcher employed a simple random sampling technique. A total of 246 prospective educators were selected as the sample for this study.

## Tool Used

Researcher found that Spiritual Intelligence Scale by Sumathi (2010) seemed to be appropriate for this study. The tool was slightly modified based on experts' suggestion. The tool was in the form of Likert type items. The Spiritual Intelligence scale contains 20 statements. The researcher established the content validity for the tool and the reliability of the tool has established by using test-retest method. It was found to be 0.72

The researcher found that a test for Teaching Aptitude which is constructed by Nithya (2011) was the best tool for the study. The tool was in the form of multiple choice types. The teaching aptitude test consists of 20 statements. The researcher established the content validity for the tool and the reliability of the tool has established by using KR-20 method. It was found to be 0.76.

## Statistical Techniques Used

The investigator employed descriptive statistics (Mean and SD), parametric statistics (students "t" test) and correlation analysis to process the data collected from the samples.

## Analysis of the Data

**Table 1**

*Spiritual Intelligence and Teaching Aptitude Level of Prospective Teachers*

| Variable | Low | | Moderate | | High | | Remarks |
|---|---|---|---|---|---|---|---|
| Spiritual Intelligence | Count | % | Count | % | Count | % | High |
| | 0 | 0 | 38 | 15 | 208 | 85 | |
| Teaching Aptitude | Count | % | Count | % | Count | % | Moderate |
| | 41 | 17 | 195 | 79 | 10 | 4 | |

From the Table 1, 85% of prospective teachers' spiritual intelligence scores fall in the High category. Hence, it may be concluded that the level of spiritual intelligence among prospective teachers is high. The hypothesis 1 is accepted.

On the other hand, 79% of prospective teachers' teaching aptitude scores fall in the moderate category. Hence, it may be concluded that the level of teaching aptitude among prospective teachers is not high. The hypothesis 2 is rejected.

**Table 2**

*The Mean Difference in Prospective Teachers' Spiritual Intelligence Scores by Year of Study, Education, And Marital Status*

| Variable | Sub variables | N | M | S.D. | 't' value | Remarks |
|---|---|---|---|---|---|---|
| Year of study | First | 127 | 77.96 | 9.28 | 0.81 | Not significant |
| | Second | 119 | 77.00 | 9.21 | | |
| Educational qualification | Graduate | 189 | 78.35 | 8.34 | 2.28 | Significant |
| | Post graduate | 57 | 74.64 | 11.35 | | |
| Marital status | Married | 52 | 72.75 | 9.99 | 3.96 | Significant |
| | Unmarried | 194 | 78.76 | 8.61 | | |

From the Table 2, the calculated 't' values between the spiritual intelligence scores of prospective teachers with respect to educational qualification and marital status are

2.28 and 3.96 respectively. These 't' values are higher than the table value 1.96 at 0.05 level of significance. Therefore, the hypotheses 4 and 5 are rejected.

On the other hand, calculated 't' value between the spiritual intelligence scores of prospective teachers with respect to year of study is 0.81. This 't' value is less than the table value 1.96 at 0.05 level of significance. Therefore, the hypothesis 3 is accepted.

**Table 3**

*Mean Difference between the Teaching Aptitude Scores of Prospective Teachers based on Year of Study, Educational Qualification and Marital Status*

| Variable | Sub variables | N | M | S.D. | 't' value | Remarks |
|---|---|---|---|---|---|---|
| Year of study | First | 127 | 9.00 | 2.53 | 0.45 | Not |
| | Second | 119 | 8.85 | 2.67 | | Significant |
| Educational qualifications | Graduate | 189 | 9.08 | 2.66 | 1.84 | Not |
| | Post graduate | 57 | 8.42 | 2.30 | | Significant |
| Marital status | Married | 52 | 8.65 | 2.80 | 0.82 | Not |
| | Unmarried | 194 | 9.01 | 2.54 | | Significant |

From the Table 3, the calculated 't' values between the teaching aptitude scores of prospective teachers with respect to year of study, educational qualification and marital status are 0.45, 1.84, and 0.82 respectively. These 't' values are less than the table value 1.96 at 0.05 level of significance. Therefore, the hypotheses 6, 7 and 8 are accepted.

**Table 4**

*'r'-value for Prospective Teachers' Teaching Aptitude Scores and their Spiritual Intelligence Scores*

| Variables | N | Df | Spiritual Intelligence | | Teaching aptitude | | 'r' value | Remarks |
|---|---|---|---|---|---|---|---|---|
| | | | Mean | S.D. | Mean | S.D. | | |
| Spiritual Intelligence and Teaching Aptitude | 246 | 248 | 77.49 | 9.24 | 8.93 | 2.59 | 0.07 | Not Significant |

The table 4 revealed that the calculated 'r' value 0.07 is less than the table value 0.113 at a 0.05 significant level. Hence, a lack of substantial correlation can be observed between spiritual intelligence and the teaching aptitude. Hence, the hypothesis 9 is accepted.

## Major Findings

1. The majority of prospective teachers (85%) exhibit a high degree of spiritual intelligence.

2. A significant proportion (79%) of prospective teachers demonstrates a moderate level of teaching aptitude.

3. There is no difference in the spiritual intelligence of prospective teachers based on their year of study.

4. Graduate prospective teachers' (M = 78.35) have better spiritual intelligence than the post-graduate prospective teachers (M = 74.64).

5. Unmarried prospective teachers' (M = 78.76) have better spiritual intelligence than the married prospective teachers (M = 72.75).

6. No significant difference is found between first and second year prospective teachers' teaching aptitude mean scores.

7. Prospective teachers do not differ in their teaching aptitude with respect to their educational qualification.

8. Married and unmarried Prospective teachers have similar level of teaching aptitude.

9. No significant relationship is found between spiritual intelligence and teaching aptitude of prospective teachers (r = 0.07 < 0.113).

## Discussion

This study revealed that prospective teachers who completed postgraduate education exhibited lower levels of spiritual intelligence compared to their counterparts who completed graduate education. One possible explanation for this phenomenon is that postgraduate student teachers may experience academic strain when tasked with instructing higher-level classes during their teaching practice. The potential consequence of this phenomenon is the potential reduction in an individual's level of spiritual intelligence.

Unmarried prospective teachers had better spiritual intelligence than married one. This may be due to that Unmarried prospective teachers may have less household tensions when compared with married prospective teachers. This result coincides with Aftab Anwar and AAhad (2015) study which found that there is a significant negative relationship between spiritual intelligence and job stress.

## Conclusion

The manifestation of an individual's whole personality development is assisted by education. The caliber of the teachers affects the caliber of the instruction. The instructor supports social customs and expectations. Teachers today more than ever need to be given the tools they need to improve their proficiency in order to keep up with a technologically

advanced culture. The teacher training program and the teacher education must be effective enough to generate teachers who can live up to the standards set by society, parents, and pupils. A teacher's responsibility is to produce excellent citizens who value humanity above all social, communal, religious, and geographic boundaries, not simply doctors, engineers, attorneys, and scientists. If the teachers truly care about what they are doing, they will respect morals and have confidence in themselves. The goal of this study is to motivate teacher educators and student teachers to be ready for the challenges ahead.

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# Status and Professional Development of Teachers in India

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## Abstract

In India a teacher is always considered as a dignified person, since the ages it has been seen those teachers a respected as gods in India. A qualified or ideal teacher, through his efforts, instills such creative energy in the children that they become advanced and progressive. Teacher plays an important role in any process or work related to education. Young generation is the future of a nation and the destiny of a nation is being shaped in the classroom and these destiny makers are teachers.

Professional development is an important part of any education system, and its impact on teacher quality and student outcomes cannot be ignored. India is a diverse and rapidly developing country and teacher development is crucial. This research paper aims to provide a comprehensive analysis of the current state of teacher development in India, identify key challenges and suggest strategies for improvement.

*Keywords: teacher, professional development*

## Introduction

The business world is constantly changing and competition is ever increasing, hence professional development is more important than career progression. Professionalism is about attitude towards work dedication, honesty etc. and professional development is about growth

and development in one's own profession. Usually, it refers to acquiring new skills, experiences, knowledge that can help to grow professionally.

Media development plays an important role in teacher development in India. Improve the quality of education in all countries. The importance of developing teachers' skills is even more evident in India, a country with a rich and complex educational heritage. This case study aims to understand the evolution of teacher development in India, taking into account existing strategies, challenges and prospects. Various pre-service and in-service teacher training programs are available in adequate form, such as, B.Ed., M.Ed., workshops, seminars and conferences etc.

**Present Status of Teachers in India**

The new education policy, there has been talk about the arrangement for training of teachers, but the real question is that, is a government of Hindi speaking state will include education in their priority? The success of the education policy of any state depends on the qualification, capacity and training of the teachers. In the new education policy, there has been talk about the provision of education but the real question is whether it will include all the education within itself and appoint trained teachers in proportion to the children and remove the lack of basic services in the school.

In most of the primary to secondary schools of Hindi state like U.P., Bihar, Jharkhand teachers will be available for the whole day's teaching, arrangement of mid-day meal for the children and distribution of grant schemes for children's books, question answers, etc. Apart from these other activities like voter list, election and animal census, there have been a total of

13 types of government activities, which were found with difficulty in every situation. The status of education in India in 2021 has presented a very worrying picture on the education front in India. According to the Education Class Teacher Report, there is a shortage of 10 lakhs teachers in the schools of the country. 30% of number of teachers present in India will not be there in 15 years. There are 11 lakh schools in which there is one teacher. It is even worse in rural areas where 69 posts are vacant. The report shows that there are the least educated children in the Hindu region of the country. These include states like Uttar Pradesh, Bihar and Madhya Pradesh. The highest numbers of vacancies for teachers are in Uttar Pradesh and Bihar, which is the highest in the country. The status of teachers in Hindi states is not so good in the country.

In the new education policy 2020, 4-year course of B.Ed. has been recommended to become a teacher. Till now it was a 2-year course, now after class 12, it will be a 4-year course. Other teachers give education in the school, from there they get social and one should be familiar with the cultural environment. In the new education policy, there has been talk of arranging training for teachers from time to time.

**Current status of Teacher Development in India**

Teacher Education

India offers various teacher education programs including Bachelor of Education (B.Ed), M.Ed and vocational courses. However, the quality of these programs varies. There is a clear need for consistent standards and a focus on classroom skills.

## In-service Training

In-service training is often inadequate not tailored to the specific needs of teachers. Teachers often encounter logistical problems accessing these programs, and the content may not keep up with current teaching and technology.

Teaching training programs in India are classified into two parts i.e. in-service and pre-service. Pre-service programs are those which are mandatory for any service or which fulfills the minimum criteria for getting a job. But in-service teacher programs are considered for professional development of teachers. These are programs that a serving teacher can participate in to upgrade their professional skills, knowledge and competencies, Therefore, it includes all types of education and training programs given to upgrade teachers such as seminars, workshops, conferences, faculty development programs etc,

## Professional Development Requirements

Today's era for skill development is the era of science and technology and new skills are being developed day by day in teaching and learning. There should be a need for various professional development programs for the development of various skills in teachers, these programs can help them plan their time better and stay organized, through professional development programs a teacher can enhance both hard skills and soft skills Hard skills means those which are related to the organization. It is related to teaching strategies, teaching

method, approach, pedagogy etc. Whereas soft skills are related to personal development like communication skills, dealing with other colleagues and students etc.

Improving Instruction: Through professional development programs, teachers can discover and learn new ideas of instruction and implement them in their classroom for better results. These programs help a teacher empower themselves to create relevant and meaningful instruction for students, which makes their teaching effective. Adapting to new knowledge Education is an ever-evolving field and to ensure that teachers must keep up with it, it evolves, Everyday there are new discoveries, new information is raising new methods and strategies for our knowledge and it is the duty of the teacher to understand the knowledge and present it to his students and this will be possible only when the teacher keeps himself updated.

## Competition in Teacher Professional Development

### Lack of Standardization

Lack of standardization in teacher training and development programs has caused a decrease in    quality throughout the country. Creating a national teacher development framework could help    solve this problem.

### Capacity Constraints

Many teachers, especially in rural areas, do not have the resources necessary for effective professional development. Restricting access to technology and education hinders their growth.

### Resistance to Change

The prevalence of teachers' resistance to change will affect their development. It is crucial to address this challenge through support and encouragement.

### Evaluation and Accountability

Teacher development programs often lack evaluation and accountability. It is important to      monitor the impact of these programs on teacher and student achievement.

### Ideas to Improve Teachers' Professional Development

### Standardized Framework

India should develop a standardized framework for teacher development. The framework c alls for introducing minimum standards, updating the system and incorporating digital platforms to  ensureall teachers have access to quality education.

### In-service Training Objectives

In-service training plans should be designed according to the teacher's specific needs, including the teacher's level, learning and professional goals.

### Training and Collaboration

Promoting training and collaboration among teachers can be very effective in promoting a culture of lifelong learning. Professionals can train new people, share best practices and new lessons

## Evaluation and Feedback

It is important to integrate strong evaluation and feedback strategies into development plans. This tool can help identify areas for improvement and measure the effectiveness of training programs.

## Choosing New Methods and Strategies (Digital learning Platform)

There is a need in current education for the implementation of new strategies and approaches to the teaching learning process, so it is the responsibility of the institution to provide opportunities to the teacher to learn about new techniques, methods, approaches and strategies.

## Use of New Technology

Use of new technology in the teaching learning process is the need of the hour. As we know during COVID-19 physical classroom teaching was firmly established with digital platforms. Various online applications like Zoom, Stream Yard, YouTube, Google Classroom etc. were used to connect with the students and provide them education. This was possible only with the knowledge of technology. This knowledge is provided by various training programs. Teachers often use various teaching learning materials to make the teaching

learning process effective and various researches have also proved that the use of new teaching learning materials has brought about development in the overall system of education. . Thus a teacher should have knowledge about new innovations in teaching learning content through various workshops, seminars and conferences. For career advancement, it can help a person to get more opportunities for his/her career advancement.

## Experiment and Action Research

Through various experiments and research teachers can solve the problems of the organization and try to understand and implement new innovations in teaching strategies, teaching methods and teaching materials in the classroom. Action research helps a teacher to understand the problems at the ground level.

## Conclusion

There is an urgent need for teacher development in India due to the diversity of educational institutions and the desire for equitable and quality education. He replied. India can improve teachers' professional development by addressing existing challenges and implementing suggested strategies. A well trained and supportive group of teachers helps improve student performance and ultimately contributes to the progress and development of the country.

In short, investing in the development of Indian teachers is an investment in the future of the country. Adherence to standards, educational goals, digital resources and a culture of continuous learning can pave the way for better and more effective education in India.

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# Ethical Education

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## Abstract

Now-a-days, the root cause of crime, violence, sufferings, unrest is lack of observance of ethical values among civic populations, groups, societies and nations. Human beings are blessed with the highest brain development but because of lack of global values like- human values, sympathy, empathy, universal brotherhood societies are no more peaceful these days. Selfishness, domination, superiority feeling is common among people and nations leading to erosion of values. Any system, organization cannot be run without certain minimum basic values, rules and regulations, ethical code and the like and same applies to human beings too. So, it is time the concept of ethics and values are introduced to students from Primary education either as a separate subject as "Ethical Education" or as part of subjects already existing. The suggested topics are: Ethical values, ethical code of conduct, family relations, human bondages, importance of family, being as a unit, core values – Truth, goodness and beauty, equality, humanity, human values, universal brotherhood, protection and support of weaker and sensitive sections of society- children, handicapped/ differently able etc. Unless ethical education is made mandatory, these values cannot be inculcated in children - the future citizens of the world. Ethical education is going to play a crucial role in the existence of humanity itself.

*Keywords*: ethical values, human values, ethical education

## Introduction

Ancient Indian philosophy exhorted three permanent and ever greatest values, Sathyam, Shivam & Sundaram. It means, in this ever-changing world, Truth- Goodness & Beauty are the permanent values for which all have to strive. Truth is speaking and sticking to truth and Dharma or righteousness, this concept itself is Goodness or Godliness and that is beauty of life, which gives happiness. These values need to be focussed in this modern world also, which is full of ego-centric nature and domination.

## Need and Significance of the Topic

M.K Gandhiji, the father of our nation opined, "An eye for eye makes the whole world blind." That means the mutual hatred; revengeful attitude will never yield in peaceful society. Now –a – days, the root cause of crime, violence, sufferings, unrest is lack of observance of ethical values among civic populations, groups, societies and nations. Human beings are blessed with the highest brain development but because of lack of global values like- human values, sympathy, empathy, universal brotherhood societies are no more peaceful these days. Selfishness, domination, superiority feeling is common among people and nations leading to erosion of values. The consequence of value degradation is: violence, disruption of peace, sufferings, exploitation and threat to humanity itself.

The aim of education is to realise the optimum potential of learners. The same is the purpose of values. Hence values and education are inseparable. Swami Vivekananda defined

education as "We want education by which character is formed, strength of mind is increased, the intellect is expanded and by which one can stand on one's feet." Hence it is essential to understand, realise the aim of education, aim of life and follow the track laid by great Indian philosophers so that our life is guided by ethical values and we all can live peace.

**Importance of Values**

Any system, organization cannot be run without certain minimum basic values, rules and regulations, ethical code and the like and same applies to human beings too. So it is time the concept of ethics and values are introduced to students from Primary education either as a separate subject as "Ethical Education" or as part of subjects already existing. We witness several unfortunate things today – unrest among youth, increase in crime, open defiance to authority, divisive forces, exploitation of weaker sections like women, children, disabled etc. With this backdrop, value-based education must be given top priority in the present educational scenario.

Values need not be thought as ideals; instead, they give strength to attain empowerment, developing decision making capacity and to face challenges of life. Essential values that can be inculcated, spread, practiced and implemented like: truth, character, honesty, love, peace, human relationship, patience, altruism, tolerance, concern for environment and social responsibility. It paves the way for sustainable development. The Constitution of India under the dynamic leadership of Dr. B. R. Ambedkar explicitly upholds the basic social values – Justice, Liberty, Equality and Fraternity to all citizens.

## Views of Various Committees & Commissions on Values & Value-based Education

Zakir Hussain's Committee on Basic National Education, University Education Commission (1948-49), Sri Prashanth's Committee on Religious and Moral Instruction (1960), say that the only cure to all problems is to deliberately inculcate moral and spiritual values at the earliest years of life.

Secondary Education Commission (1952-53) suggested cultivation of discipline, social sensitivity, tolerance, openness of mind, large heart, objectivity, secular values etc.

Kothari Commission(1964-66), A High Level Seminar on Value oriented Education organised by NCERT at Shimla (1991), NPE (1968,1986,1990) , Core Group on Value Orientation of Education, Government Of India 1992, all these stressed the need to inculcate moral, ethical, human and spiritual values to sustain the society. They suggested that at least one period a week is to be allotted to impart and inculcate values among children. Kareena Bhatia & Manoj Kumar Dash(2013). National Educational Policy NEP 2020 specifically mentioned five universal values "Truth, Peace, Non-violence, Love, Righteous conduct." The Supreme Court of India also stressed that value based education is likely to help the nation to fight against all kinds of prevailing fanaticism, ill-will, violence, dishonesty, corruption, exploitation and drug abuse. Value Education organized by UNESCO in 1998, encourages schools to review their curricula of value education. It stresses the need of teaching values in the school administration.

**Ethical Education**

Ethical education helps students to get awareness regarding core values, understand the different perspective of values, reflect on the upholding of values using their own critical thinking and the importance of equality, justice to all citizens of the nation as well as internationally. Unless ethical education is made mandatory, these values cannot be inculcated in children - the future citizens of the world. Ethical education is going to play a crucial role in the existence of humanity itself. World Health Organization introduced life skills education and gave list of ten life skills:

**Figure 1**

*List of Life Skills by World Health Organization (WHO)*

In India, in 2005, CBSE introduced life skills education as an integral part of curricula through Continuous Comprehensive Education for classes 6 to 10 through life skills manuals.

## Implementation of Ethical Education

Ethical education as a separate subject is to be introduced from Primary school level till University education. Truth, honesty, universal brotherhood, equality, constitutional values, justice etc values need to be inculcated among students, else the system is already on the brink of collapse. Ethical education is to be practiced among children and students through activities, live group discussions, sharing of oppression incidents and experiences faced by students in their life time, debates, brainstorming sessions, information gathering, seminars, hands on experience through simulated projects and the like. Peer evaluation in addition to that of teaching faculty is recommended in this regard.

## Conclusion

Unless ethical education is made mandatory, these values cannot be inculcated in children - the future citizens of the world. Ethical education is going to play a crucial role in the existence of humanity itself. India's uniqueness is unity in diversity. So this value also needs to be upheld to maintain unity and oneness among all Indians.

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# Equitable Inclusion of the Hard of Hearing: Aspirations and Apprehensions

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## Abstract

Inclusive Education has been a major area of concern in the ever-widening educational environment of 21st century. It has been found as the basic stride in our journey towards an inclusive society that embraces every individual as they are. Inclusive education advocates for bringing those diverse groups of children who were sidelined for their socio-economic and cultural background, disability, etc. to the mainstream education. In inclusion the diversity of the children is not understood as something to be ashamed of, blamed nor changed. It is the system that is being modified to accommodate the children hence when a classroom turns inclusive it must make several adaptations to meet the requirements of the diversity of the children. This paper is an attempt to analyse the scope, prospects, and barriers regarding the inclusion of children who are hard of hearing.

*Keywords*: inclusion, hard of hearing, equity, mainstream

## Introduction

It has not been a long while since we have started to find and acknowledge people with disabilities as significant members of society. From time immemorial disabled people were mere subjects of subjugation. For centuries, the disabled were doomed to live in the dungeon

of stigma, shame, and suffering. Later these people were sent to asylums, finding them as burden. It took several years more even for segregated education to begin. To recognize these people as  are again a long wait was required. Having reached the doorstep of an inclusive society where every individual is recognized alike regardless of their differences at last, we have made a great achievement in our social evolution.

## Agenda 2030 and the Provisions for Inclusive Education

Though many recommendations have been made upon the concept of inclusive education it was the UN 2030 Agenda that gave a new impetus to our journey towards an inclusive society through inclusive education. It is a remarkable vision for a more prosperous world. Among the 17 Sustainable Development Goals simply called SDGs, Goal 4 deals with aspects of education. In SDG target 4.5, equal access to education for vulnerable Groups, including persons with disabilities is demanded. Following the recommendations of this vision nations have made hopeful legislations and frameworks for inclusion. UNESCO's 2020 Global Education Monitoring Report has revealed the progress the nations have achieved in policy frameworks as well as legal frameworks. One of the major findings of the report was the inclination towards segregation still prevailing in Asian, Latin American, and Caribbean countries.

**Figure 1**

Comparison of Policy and Legislation Approaches in Education for Children with Disabilities
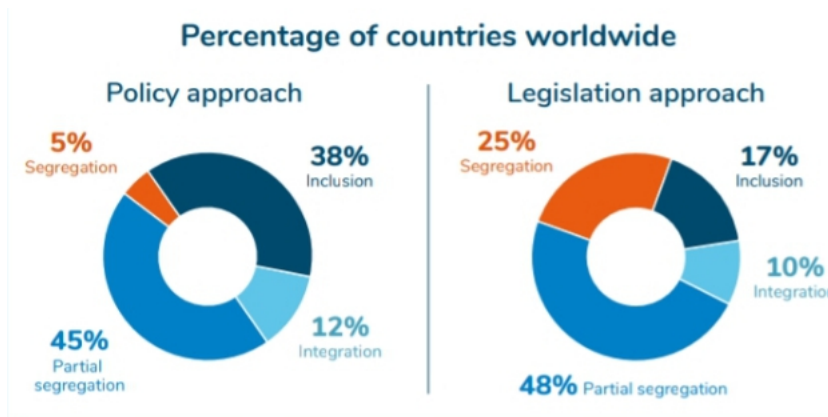
*Source.* UNESCO (2020). "Inclusion and Education: All means all- Global Education Monitoring Report"

**What is Inclusion?**

Based on the principle of equity, inclusion is the practice of making sure that everyone irrespective of their difference has access to the resources and opportunities in the society. In education it aims in bringing to the mainstream education children from diverse backgrounds who were marginalised such as girls, Scheduled Castes, Scheduled Tribes, minorities, economically weaker sections, children with disability, children affected by migration or war, children in areas affected by civil strife, victims of child labour, children working as domestic help, children in conflict with law, children in protective institutions, children of parents affected By HIV, AIDS and other chronic and severe ailments, children affected by natural disasters and any other group with social, cultural, economic, geographical, linguistic, gender or such other disadvantage.

**Inclusion and Equity**

Inclusion can only be practised on the idea of equity. It is the principle of equity that offers the provision for infrastructural and other support systems in the inclusive school. Following Jacob and Holsinger (2008, p. 4) we define equality as "the state of Being equal in terms of quantity, rank, status, value or degree", while equity "considers the social justice ramifications of education in relation to the fairness, justness and impartiality of its distribution at all levels or educational sub-sectors". We consider equity to assure that a distribution is fair or justified. Inclusion is possible only if an equity mindedness is being nurtured. Equity mindedness, in the words of Dr. Estela, is "a way of approaching educational reform that foregrounds the policies and practices contributing to disparities in educational achievement and abstains from blaming students for those accumulated disparities." In equity mindedness it is the school structure and hence the social system that is believed to make changes and not the students. Deficit-mindedness on the other hand is a mindset that blames the student, his family and community for his shortcomings. Equity equips us to treat people differently to meet their requirements. By properly addressing the requirements of each student they are brought to a realm where they can find a sort of equality. As part of this a "Culturally Responsive Pedagogy" that recognise students' identities, make them at ease to assert their identities and help them to be themselves needs to be adopted in the classroom. The children should be able to find themselves not as "the other" but as an integral part of functioning of this society. Equity covers a wide range of aspects such as racial, gender, economic, social, etc.

## Hearing Impairment

The human existence as social being is fundamentally depended on the interaction he has with his fellow beings.  A major part of our communication takes place by means of speech though the role of nonverbal communication is not less. It is because of the same, people with speech and hearing impairment find it very difficult to assert their identity in the social set up. Though cognitive theorists like Noam Chomsky argue about the innate capacity of a child to acquire language that can't diminish the influence of his exposure to speaking. For hearing impaired children, it is this exposure that is being curtailed.

Hearing loss is of two types- conductive hearing loss and perceptive or sensorineural hearing loss. In the first type the vibrations that represent sound waves do not reach the inner ear that is the conduction of sound waves doesn't take place properly. The second type of hearing loss-occurs when there is a fault in the cochlea or the nerve to the brain. If there is damage of the brain the hearing loss can be permanent.

Sign language and lip reading are the major conventional practices followed by hard of hearing people to communicate with others. Speech therapy can also help them a lot. Over the years several means of assistive technology have been developed to support people who are hard of hearing. For conductive hearing loss, bone conduction hearing aids are in use. These amplify sound via vibrations through the bones of the skull which then stimulate the cochlea directly. In the case of sensorineural hearing loss if the impairment is mild a hearing aid can be used. But for those who are deaf or severely hard of hearing a cochlear implant might be

useful. Surgically implanted Cochlear implants stimulate the auditory nerve to give the sensation of sound.

Though hearing aids and cochlear implants are in use none of them can guarantee a quality that is equal to normal hearing.

## Policies and Strategies for Inclusion of Hard of Hearing

When children who are hard of hearing are concerned, a lot of changes need to take place in our existing system. The changes should appear on various levels. The school infrastructure, the curriculum, assessment practices, classroom activities, learning aids, technology tools- all need to be restructured. While inclusion is to be practiced certain policies and strategies also need to be employed beforehand. This may include:

### Policies on Enrolment

When inclusion is to be practiced certainly there may be some resistance against it. Policies of enrolment plays a role here. Policies must be fashioned in such a manner that students and parents may get attracted to these policies.

### Accessibility

The greatest concern the parents of hard of hearing children have is regarding the accessibility of provisions in the general school set up. The general schools must be able to provide the necessary accessibility systems for the new students.

## Facilities for Transportation

Since public transportation facilities haven't evolved as inclusive and safe, children who are hard of hearing might require transportation facilities for the successful completion of their schooling.

## Adequacy of Funds

Government funding along with stakeholder funding can help our schools to be better inclusive havens. Availability of funds must be ensured so that no delay can happen once the system starts functioning. Since a huge number of assistive technologies is required public funding may be necessary.

## Readiness of Schools, Teachers, etc.

No matter society has advanced this much, there are still people who find disabled people as a curse or a burden. Such negative attitude is seen among teachers as well. Creating a readiness among the teaching community and the school managements is of great importance.

### Provision for Pedagogical Assistance

Since an inclusive classroom have children from diverse groups their needs also vary. So, the school must have pedagogical assistants who are resourceful in dealing children of different needs.

### Policies for Transition

When inclusion is promoted, legislations are required to encourage the shift from segregation to inclusion. Provisions for awareness programmes, training for in-service teachers, etc. need to be addressed in the transition policy framework.

### Teacher Education

To achieve all the aims of inclusive education, changes must be introduced from the teacher education phase itself. The prospective teachers must be provided with amble exposure to inclusive classrooms. They must be taught to prepare and practice inclusive lesson plans.

### Special school

When students are brought into inclusive classroom, the special schools can extend their service as resource centres for these children. Such centres can even act as a link between a group of schools.

### Curriculum and Textbooks

A thorough restructuring is required for the curriculum as well as the textbooks. Curriculum should contain inclusive choices for learning experiences from which the student can choose according to his interest. Governmental interventions should be made in producing deaf friendly e-contents that can transact the learning objectives.

## Class Size

As inclusive classrooms demand more individualistic attention for students from the teachers, it is a necessity to restructure the size of the class and the number of students in a class.

## Instruction

Since the teacher has to address the hard of hearing students mastery in the sign language is a basic requirement. Inclusion of a greater number of visual and tactile aids should be practised. While taking the class, the teacher should position herself at a distance that is comfortable for the students to view. The pace of speech should be adjusted so that those who follow the lip movements can read lips more easily.

## Individual Education Plan IEP

Every child who is hard of hearing is different in his/her own way. Assisted by an implant or not they all differ in comprehending. Besides this are their differences in the cognitive, affective, emotional, and social levels. So, while cater the needs of the children, the teacher must adopt an Individual Education Plan that better suits the child.

## Multiple Disabilities

If a child with hearing impairment has any other disabilities-physical, intellectual, etc.-provisions to address those differences must also be addressed.

## Benefits of Inclusion of Hard of Hearing

The most important benefit of inclusive education lies in the harmony being created in the classroom. Following a segregated education won't help children recognise themselves as inevitable part of the society and that is why inclusive classroom is found as the foundation of an inclusive society. The descriptions of classroom as a microcosm are attained only when the inclusive aim is achieved. In the segregated environment the hard of hearing children can but identify themselves only as the 'other'. The sad reality is that from the earlier days itself they identify themselves as the other. Their world view is even formed in a dichotomous manner – a world of the normal and a world of them.

When special schools are chosen for education, the children may have to stay away from their homes because of the lack of availability of such institutions near house. Since general schools are set up at comfortable distance inclusion can help these students continue their education without leaving their hometown or village. This will help them better understand their locality and its culture as well.

The benefit of inclusion is not limited to the hard of hearing students alone. Everyone in a class irrespective of their differences enjoys the benefits. Inclusion helps students understand and acknowledge differences. If disability was perceived as a challenge before, with inclusion they start to find it as opportunity.

## Barriers in Inclusion of Hard of Hearing

The first issue that inclusion addresses is the negative attitude among the teachers and parents. Several teachers are reluctant to have students with disabilities in their classrooms. Same kind of an attitude is seen in the parents as well. Lack of funds and stakeholder support for setting up inclusive environment is another important difficulty. If strategies for inclusion are not properly applied there is high chance for the students to feel alienated in the class. Another problem arises from the difficulty they have in expressing their ideas before class due to a lack of confidence. They may even feel shy expressing ideas through signs or the limited verbatim they have. If the peers and teachers can't use sign language that will be a hindrance for the included. The lack of suitable resources for teaching is yet another issue. If the teaching aids used fails, both the students and teachers might find it difficult. The expertise of the teacher also becomes a serious concern. Another major concern is whether the teacher could attend to the individualistic needs of the students. Since the students might require more time for information processing compared to other students it can make them feel inferior. If the assessment systems are not in accordance with the specific needs of the students that too will have a negative impact on them. Brought into a new environment where the hard of hearing children must meet and greet those who hear and speak there is a high chance for anxiety and

stress as well. Though classrooms are getting inclusive many a times the teacher education rules aren't in favour of accommodating the hard of hearing applicants. This in fact reduces the necessary representation of hard of hearing educators whose presence could have been a motivation for the hard of hearing students in assimilating to the new environment.

## Suggestions

At the basis, the classroom climate must be maintained with the cooperative effort of all in such a manner that no student feels estranged or alienated in the class. It must not be functioning upon sympathy but on the principle of equity. All students must be able to interact with each other so effortlessly that they forget the boundaries existed between them before. They must be taught to accept disabilities not as hurdles but as part of individuality.

The students may at first feel some sort of stigma or shame. To overcome this, they may need a good counselling. We must encourage them to participate in group activities with everyone. No matter whether hard of hearing children are in the general school or special school, adequate opportunities must be created for them to have enough interaction with the deaf community. This will help them have discussions on their own experiences.

Much emphasis should be given to the learning of sign language. Governments should take legislations as to recognise sign language as one of the official languages. This will certainly give an impetus to learning of sign language among the public. When everyone

learns to sign, the barriers the hard of hearing students face while trying to communicate with others and vice versa will dissolve gradually.

While teaching in an inclusive classroom, the teacher should resort to maximum utilisation of all the senses. Visual and tactile aids will help these children to better understand the concepts. The teacher must recognise the scope of experiential and activity learning in such a class. Inclusive friendly assessment practices are required to be employed. Since these children have limitations in expressing things verbally, alternate options must be provided. When a discussion or debate is conducted in the class, teacher should ensure the participation of every student. Having such a condition doesn't mean that they can't be part of all these. They must be encouraged to express their ideas by whichever way they prefer. Some may be comfortable writing while others may sign.  To help and support the hard of hearing children with their psychological needs, the service of an expert counsellor must be ensured in the school.

## Conclusion

Living in a technology driven society that has even challenged to control the very mechanism of the human brain, that which is obsessed with the idea of settling in some other planet, that is in constant search of a state of no death, the confidence these novel technologies

throw on inclusive education are no less. When cost effective technologies will be made available in the future, disability or disadvantage may not be a concern anymore. By offering AI powered assistive devices, the technology of the Fourth Industrial Revolution has become the greatest advocate of equity. When these technologies can be incorporated to our practices of inclusion in education stupendous changes are possible. Just as Jake Sully in Avatar movie finds a new life through advanced technology, those restricting disabled conditions like hearing impairment may be overcome with the help of advanced assistive technologies of the future. The AI supported Neuralink being introduced recently by Elon Musk and his team, eyeglasses with built-in hearing aids, etc. are enough to raise our hopes. Still, a collective effort is certainly necessary from the part of the stakeholders to maximise the effectiveness of inclusive practices in education.

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# Promoting Equity in Education: A Review of Inclusive Practices for Students with Disabilities

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## Abstract

This article provides a comprehensive review on inclusive practices for student with disabilities, aiming on their role in promoting equity in education. The major goal of equitable teaching for children with disabilities is to provide need-based support to ensure equal learning opportunities in inclusive schools. Children with disabilities definitely need the support of peers and teachers in an inclusive school. In recent research it examines the legal frameworks, such as the individual with disabilities education Act (IDEA) and the United Nations convention on the rights of persons with disabilities (CRPD), the rights to education Act, and Right of person with disabilities Act (2016), that serve as support environment for inclusive education. This article provides an overview of the practical aspects of teacher trainees, cooperation among educators and adoption of universal design for learning (UDL) principles. It highlights the transformative potential of inclusive practices in creating a more equitable educational system for all students in inclusive school.

*Keywords:* inclusive education, students with disabilities, equity in education

## Introduction

Inclusive education provides education for all students. It also provides accommodation modifications in the curriculum and teaching according to the ability and level of children.

Inclusive education means all children learn together in the same schools without any exclusion. This review indicates about inclusive education.

Inclusive education is not only for the children with disabilities it includes for below poverty line students also. Main target of inclusive education no child should left behind in education. There is more challenges in inclusive education. The teachers in inclusive schools they need training about the special needs and how to teach them in inclusive schools. Lack in awareness about the children with special needs in inclusive schools. Peer group support is the one of important thing in inclusive school. With peer group support the disabled child will get motivated in education. There is lot of draw backs in inclusive education and also one of the most important and use full approach for children with disabilities. The curriculum has to be modified and accommodated, adapted according to the level of children with disabilities this practice has to be included in inclusive school. The normal school teacher has to be considered the children with disabilities. This review indicates about the inclusive practices for children's disabilities.

## Background of the Study

Student with disabilities get education in government schools without any exclusion, they get peer group supports. In inclusive education there is a challenge of inclusive practices in education.

The main aim to analysis about the challenges and practices related to promote the inclusive education. There are several research papers related to the educational strategies and new initiatives have been produced to evaluate and implement the inclusive approach.

Educators, legislators, and scholars have emphasized inclusive practices as a means of achieving educational justice in recent years. These practices encompass a wide range of strategies, modifications, and support systems designed to meet the special requirements of students with disabilities in mainstream classrooms. Several research papers, educational policies, and initiatives have been produced to evaluate and implement these inclusive methods. The motivation for this study arises from the need to thoroughly understand the effectiveness and challenges of inclusive practices in realizing educational equity.

## Operational Definitions

Inclusive education means all children are included in the schools. It means real learning opportunities are given for groups who have traditionally been excluded and not only children with disabilities, but speakers of minority languages also. Inclusive education means that all students receive equal access to education without any discrimination.

Universal design for learning (UDL) is one of teaching approach that works to accommodate, modification and adaptation accordingly the needs and abilities of all learners and eliminates unnecessary hurdles in the learning process. It developing a flexible learning

environment in which information is presented in multiple ways, students engage in learning in a variety of ways, and students are provided options when demonstrating their learning.

UDL is similar to universal instructional design and universal design for instruction. All three promoter for accessible and inclusive instructional approaches that meet the needs and abilities of all learners including the children with disabilities.

## Objectives

1. To find out the benefits of inclusive education for students with disabilities, considering academic, social etc.
2. To find the challenges and barriers that hinder the effective implementation of inclusive approach.
3. To find out the importance of context strategies in development of inclusive education.

## Review of Literature

Woodgate (2018) and her team systematic review highlights the determined challenges in achieving social inclusion for children with disabilities. The findings underscore the need for expanded research efforts to explore inclusion in various contexts, not limited to education, to address issues like loneliness and discrimination.

Ainscow (2019) paper talk about on promoting equity in education by highlighting the importance of context-specific strategies and teamwork between schools. It offers valuable

suggestions for enhancing education systems, and its focus on diverse strategies adds to its novelty.

Hardy and Woodcock (2015) examines about inclusive education policies reveals the influence of neoliberalism on inclusion concepts. Their paper calls for more systematic and supportive policies and provides valuable insights into the complex policy landscape.

## Benefits of Inclusive Education

Inclusive education has given numerous advantages for students with disabilities. Research consistently shows that students with disabilities educated in inclusive settings tend to achieve superior academic outcomes, experience increased social interaction and acceptance among peers, develop enhanced self-esteem, and attain better long-term life outcomes (UNESCO, 2017; Avramidis et al., 2000).

## Challenges and Barriers

Even though the advantages of inclusive education, several challenges and barriers continue. These include insufficient teacher training in inclusive practices for teachers, inadequate support services from peer groups and resources, resistance to change, and attitudinal barriers from both educators and students (Forlin & Chambers, 2011; Florian & Black-Hawkins, 2011).

## Context-Specific Strategies

A key finding underscores the inadequacy of one-size-fits-all solutions for promoting equity through inclusive education. Context-specific strategies are essential is help to achieve their goals. Successful inclusive practices depend on the local context, including available resources, support systems, and cultural norms. Thus, it is imperative that educators and policymakers consider the unique needs and circumstances of each educational setting (Slee, 2011; Artiles & Kozleski, 2007).

## Conclusion

In conclusion, inclusive practices play a pivotal role in promoting educational equity for students with disabilities. This review has emphasized the multiple advantages of inclusive education, focusing on academic excellence and enhanced social integration, challenges and barriers for children with disabilities. However, it is equally important to spot and report the challenges and barriers that obstruct the effective implementation of inclusive practices.

The study has emphasized the need for context-specific strategies to adapt inclusive education to the distinguishing circumstances of each educational setting. Additionally, report these challenges requires collaborative efforts among teachers, stakeholders, and society as a whole. As we move onward, the mission to promote equity in education through inclusive practices remains essential.

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# Developing Well-Rounded Individuals: The Impact of Socio-Emotional Learning

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## Abstract

This article is all about looking into socio-emotional learning and how to make it more effective in the classroom. SEL has become increasingly important because it helps students with their emotional health, social skills, and even with their academic success. To get the most out of SEL, we need to have a good understanding of how it works, what the outcomes are, and how to use it in the classroom. This paper will give an overview of SEL, why it's important, and how to develop those skills.

*Keywords:* socio-emotional learning, well-being

## Introduction

SEL is all about helping people develop their social and emotional skills. It's not just about academics – it's also about teaching people how to understand and manage their emotions, build relationships, and make good decisions. It's often used in schools, but these principles can be applied in different settings like at home and work.

Figuring out how to be socially and emotionally smart can help kids work out their feelings, get along with other people, and make sensible decisions. It can show them how to handle various types of interactions, manage tricky circumstances, and come up with the right

choices. This kind of stuff is usually taught in school, but it applies to so many different areas of life.

## Background

SEL has become an important area of research and practice in education and psychology, aiming to help people - especially students in schools - develop holistically. It's all about helping people grow mentally, emotionally, socially, and in terms of their overall well-being. This comprehensive approach is all about making sure students excel academically, but also grow emotionally and socially in order to become well-rounded individuals.

Lately, the corona virus outbreak has really shown us how crucial it is to learn about our emotions. With all the lock downs, loneliness, and fear, it's had a huge impact on kids' mental health. So now, it's even more important to figure out how to help students with SEL. Researchers are now trying to figure out how these programs can help students stay strong and be able to deal with hard times.

To sum up, studying socio-emotional learning is a must in today's schooling, because it prepares people to be successful not only intellectually, but also emotionally, socially, and mentally. As the world keeps changing, it's more and more important to be able to control your emotions, get along with others, and make the right choices - and understanding socio-

emotional learning is key to making sure future generations are well-rounded citizens and leaders.

## Research Questions

1. What are the main aspects of social and emotional learning, and which SEL programs are usually used and work best in schools?

2. How can SEL address emerging challenges in the present scenario?

3. What are the most effective methods to acquire socio-emotional learning skills independently?

4. What are the effects of using SEL in the classroom in the long run?

## Key Components of SEL

Self-Awareness: Being conscious of your own feelings, abilities, shortcomings, and beliefs.

Self-Management: Gaining control of how you feel, setting objectives and making sensible decisions.

Social Awareness: Showing compassion and trying to understand how others are feeling and seeing things.

Relationship Skills: Creating and sustaining strong connections, using clear communication, dealing with disagreements, and working together as a team.

Responsible Decision-Making: Being mindful of what's right and wrong, and taking care of oneself and those around you.

## SEL Programs

It takes time and practice to cultivate SEL abilities, and it's super important to create an atmosphere where people feel comfortable to learn and grow. Evidence-backed SEL programs in schools, jobs, and community settings are a great way to do this. These programs usually involve lessons and activities to hone SEL skills.

*Modelling:* Be a role model and show your SEL skills in how you talk and act. Encourage people around you to be positive role models too.

*Praise and recognition:* Give recognition to people when they show SEL abilities and give them helpful feedback so they can get even better.

*Constant Learning:* The process of SEL is never-ending. Promote one's further education and development in these fields. Stay up to date on the most recent findings and applications in SEL by keeping a watch out for fresh information.

## Importance of SEL in the Present Scenario

In the current context, social and emotional learning (SEL) is essential for a number of reasons:

SEL assists people in comprehending and controlling their emotions, which lowers stress and enhances general mental health—a crucial skill considering the difficulties and unpredictability of today's society. People with SEL abilities, such as resilience and adaptation, are better equipped to deal with change and adversity, which is essential for dealing with social and global issues that persist. Through the development of healthy connections, empathy, and communication, SEL improves interpersonal skills—all of which are critical for working together and tackling difficult social challenges.

SEL gives people the tools they need to resolve conflicts amicably and lessen the likelihood that a disagreement will escalate. In an increasingly linked society, these are essential abilities. It helps people become more self-aware and well-aware, which empowers them to establish and achieve goals. It fosters responsible and ethical decision-making, nurturing engaged and informed citizens who can contribute positively to society. SEL promotes inclusivity and respect for diverse perspectives and backgrounds, enabling a more equitable and harmonious society. Many skills developed through SEL, such as emotional intelligence, are increasingly considered valuable in the workforce, making SEL relevant for career success. Global issues like climate change and public health crises require cooperation and empathy, qualities nurtured through SEL.

## How Can One Learn Socio-Emotional Learning?

Learning socio-emotional skills involves developing self-awareness, self-regulation, empathy, and interpersonal skills. Here are steps to learn socio-emotional learning (SEL):

**Understand the Basics:** Understand what SEL is and why it's important. Educate oneself on terms such as social awareness, self-awareness, emotional intelligence.

**Self-Evaluation:** To begin, evaluate one's socio-emotional abilities. SEL is built on the basis of self-awareness.

**Emotion Recognition:** Acquire the ability to identify and categorise both one's own and other people's feelings. For self-control and empathy, this is essential.

**Self-Regulation:** Develop strategies for skilfully controlling one's feelings. This might involve

practising mindfulness, deep breathing, or relaxing techniques.

**Empathy:** Gain the capacity to comprehend and experience other people's emotions. Practise active listening and make an effort to consider all sides of an issue.

**Interpersonal Skills:** Improve one's ability to communicate and form connections. Acquire the skills necessary to cooperate well and handle disagreements amicably.

**Social Awareness:** Become aware of social and cultural concerns by keeping oneself informed. Recognise how social circumstances affect feelings and actions.

**Practise Compassion and Empathy:** Continually show compassion and empathy via your actions. Make relationships with individuals from different backgrounds, volunteer, and assist others.

**Educational Resources:** A plethora of books, webinars, and workshops are available on SEL. Look for resources that align with your learning style and goals.

**Seek Feedback:** See if any of your pals, family members, or coworkers can give you their opinion on how you handle yourself in social and emotional situations. Constructive criticism can help you improve.

**Peer Support:** Join or create a support group or community of learners interested in SEL. Sharing experiences and insights can be valuable.

**Model Positive Behavior:** Observe individuals with strong socio-emotional skills and learn from their behaviour. Role models can be influential teachers.

**Continuous Improvement:** SEL is an ongoing journey. Continuously work on developing and refining these skills throughout your life.

## Importance Of SEL in the Classroom

SEL is not just an individual endeavour; it's also about creating environments that promote these skills in schools, workplaces, and communities. Practising SEL can lead to better

relationships, improved well-being, and tremendous success in various aspects of life. Social and Emotional Learning (SEL) is paramount in the classroom because it is essential to pupils' overall growth. SEL encompasses a range of skills and competencies that help individuals manage their emotions, build positive relationships, make responsible decisions, and navigate social situations effectively. It has been demonstrated that SEL abilities improve academic achievement. Students who are able to control their emotions, maintain concentrate, and collaborate well with others are more likely to excel academically. Programmes for SEL can aid in lowering disruptive conduct in the classroom. There is less conflict and disturbance in the classroom when kids are able to control their emotions and speak clearly. For students' mental and emotional health, SEL helps them to recognise and control their emotions. It is highly beneficial to provide a supportive classroom environment where students feel comfortable discussing their feelings. Strong interpersonal abilities, such as empathy, active listening, and dispute resolution, are encouraged by SEL.

SEL gives pupils the skills they need to settle disputes amicably and constructively. As a result, bullying and aggressive behaviour in the classroom are less common. Students that participate in SEL are better able to think critically and make ethical judgements. It inspires students to think through the ramifications of their decisions and make morally sound decisions. SEL programme assist pupils become more self-aware and recognize their advantages and disadvantages. This can increase confidence and self-worth, resulting in a more favourable self-image. By assisting pupils in overcoming obstacles and disappointments, SEL fosters resilience in them. By encouraging students to view setbacks as chances for advancement, it

promotes a growth mentality. A classroom that places a high priority on SEL fosters a more friendly and inclusive environment. Pupils who feel appreciated and valued are more likely to participate and interact in class. SEL abilities are helpful not just in the classroom but also outside of it. They help kids become successful in many facets of life, such as their future relationships and jobs. SEL promotes an awareness of various viewpoints and cultural traditions. It promotes empathy and tolerance, assisting kids in developing into responsible and kind citizens of the world. SEL abilities are linked to well-being and long-term success. They support favourable life outcomes like increased school achievement, enhanced employment opportunities, and better mental health.

## Suggestions to Improve Social and Emotional Learning (SEL) Skills

Regular introspection on one's feelings and ideas is advised. To increase one's emotional awareness, try mindfulness or meditation. To keep track of one's feelings and triggers, keep a notebook. Create coping mechanisms for stress and restrain impulsive conduct. Apply progressive muscle relaxation or strategies for deep breathing. Set realistic goals and work on time management.

Actively listen to others and try to understand their perspectives. Practice empathy by putting oneself in others' shoes. Engage in diverse social experiences to broaden your understanding of different cultures and backgrounds—work on communication skills, including active listening and practical expression, practice conflict resolution and negotiation techniques. Build and maintain positive relationships with friends, family, and colleagues.

Consider the consequences of one's actions before making decisions. Use problem-solving techniques to address challenges. Seek guidance and advice from trusted individuals when facing difficult choices. Join SEL programs or workshops in one's community or workplace. Consider consulting with a therapist or counsellor to get tailored advice. Connect with friends or mentors who can provide emotional support and guidance. SEL skills improve with consistent practice and self-reflection. Challenge oneself by putting these skills into action in real-life situations. Please take in what one has gone through and adapt your strategy accordingly.

## Conclusion

In summary, SEL is vital today as it equips individuals with the emotional and interpersonal skills to thrive, adapt, and contribute positively to an ever-changing and interconnected society. Remember that improving SEL skills is an ongoing process; you must be patient with yourself as you work on them. These skills can significantly enhance your personal and professional relationships, as well as your overall well-being. SEL programs and initiatives aim to foster these skills in individuals to promote their emotional well-being, enhance their interpersonal relationships, and improve their overall academic and life success. These skills are valuable for personal growth and are increasingly recognized as essential for success in school, work, and life in general.

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# Exploring the Role of Art-Integrated Learning in Fostering 21st Century Skills

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## Abstract

As the world changes every day, as we have seen in the post-Covid Era. A natural calamity just stumped us out of all our wits. Hence its becomes very important for students to equip themselves with the much needed skills and knowledge to navigate, innovate and adjust in this ever-changing world. 21st century skills prepare students for a tomorrow that they have not yet seen. It brings them out of the bookish into the real world. This research paper explores the role of art integration in developing and learning the 21st-century skills needed for personal and professional success. As we know that Art helps one express themselves, Art Integrated learning helps students becomes more creative, imaginative, expressive and better at content learning too.  By using art integration strategies in their classes teachers can nurture a wide range of abilities such as creativity, critical thinking, and communication. This paper investigates how art-integrated learning contributes to developing collaboration, adaptability and information literacy skills.  The paper collates findings from the literature review and firsthand observations and experiences gathered from the field. In conclusion, this study highlights the significance of art-integrated learning as it equips students with essential skills required for success in the contemporary world. This paper provides valuable insights not just for teachers and policymakers, but also for art teachers those interested in preparing students for the challenges of the modern world.

*Keywords:* art integrated learning, 21st-century skills, school education

## Introduction

### Art Integrated Learning

When we incorporate Arts like Visual Arts, Music, dance, drama, theatre or puppetry into the regular traditional classroom teaching of English, mathematics, science, social science etc., we are using an approach called Art-integrated learning. According to Silverstein and Layne (2010) "in art integration, students construct and express their understanding of the content through an art form. Students are learning both the content as well as the art. This approach seeks to enhance the learning experience by tapping into the expressive and creative elements of the arts, enriching traditional academic content with artistic methods and perspectives."

The advantages of Art Integrated Learning are as follows:

1.  Creativity and Expression: Through Art-integrated learning students are encouraged students to think outside the box, hence developing their creativity and self-expression. It opens up ways for them to express as they wish.

2.  Critical Thinking and Problem Solving: Art Integrated learning helps students to develop skills like analyzing, and evaluating. They also learn how to make a decision and ways to solve a problem.

3. Improved Understanding: students can understand complex concepts through arts, be it scientific processes or historical events. Art helps students make a meaning of it and link its various aspects.

4. Enhanced Communication: Art helps students convey their thoughts and ideas effectively as the arts encourage communication in different forms. Some students might want to share their learning and discuss through visual art, some may like to participate in storytelling, and some might want to share their understanding through theatre also.

5. Collaboration: As being connected to each other is so important in this interconnected world, art gives a platform for social bonding, collaboration and teamwork, and hence students create something meaningful.

6. Multi-Sensory Learning: It is not one, but multiple senses that are engaged in the arts, thereby learning through arts makes learning more memorable and immersive. A dance performance on Culture of India might appeal to our eyes and to our ears too and can make us tap our feet too.

7. Cultural Appreciation: Art brings us closer to experiencing various cultures and traditions. It is through Art integrated learning, that students can learn about geometrical shapes through Warli or symmetry through Kolam. Art Integrated Learning helps students appreciate the diverse culture of India.

8. Engagement and Motivation: By integrating art into the curriculum, students get more opportunities to engage with the content and their classmates. Art also motivates them to participate actively in the learning process as students consider it more enjoyable and fun.

Art Integrated Learning can help students with so many advantages as listed above, but it needs both an interested class and an interested teacher who is ready to go beyond her usual

chalk and talk. Teachers may use techniques like creating art-integrated lesson plans, incorporating art projects, or even organizing field trips to museums and art galleries. By embracing the arts, students can develop not only academic knowledge but also the skills and creativity needed to thrive in the complex, dynamic world of the 21st century. A teacher can use dance as an Art-integrated learning activity to explore mathematical concepts like symmetry, create visual art to represent historical events, compose music to reflect scientific principles or use drama to enhance language and communication skills.

## 21st Century skills

Success in the 21st century goes beyond technical and traditional knowledge. Because our world is so interconnected, we need more talents, called as '21st-century skills.' These cognitive, social, and emotional skills help people navigate a changing world.

Critical thinking and creativity are essential for analysing data, making decisions, and developing new ideas. A globalised society requires communication and collaboration abilities to share ideas and build relationships. Information literacy and technological proficiency are also needed to navigate a wide digital world in an information-driven age. Media literacy and digital media implications are thus essential for identifying trustworthy information sources.

Also, Cultural knowledge helps students communicate politely in multicultural settings, whereas emotional intelligence improves relationships. Global competency helps us address global concerns, and adaptability and resilience help us survive change.

Financial literacy also supports personal financial well-being, and leadership and problem-solving abilities enable initiative and group effort. Hence these 21st-century talents include personal growth, active citizenship, and lifelong learning. Their development and traditional knowledge must be prioritised to prepare students for our fast-paced, interconnected environment.

## Art Integration Learning for Fostering 21st Century Skills

Art integration helps education become more holistic and engaging as it accommodates different learning styles and develops creativity, critical thinking, and other 21st-century skills in the students. Through this approach, students can understand their content deeper and it can create a love for learning too. There is no better way to learn 21st Century Skills than Art-integrated learning. Art Integrated learning combines art and creativity to learn school subjects and provides students with a holistic learning experience. Below are some ways in which Art Integrated Learning can help promote the 21st Century Skills.

1. Creativity: Students in a science class, students can be asked to create water cycle in the various artistic ways they know of. The activity not only tests their retention of the class content but also allows them a creative outlet as per their liking. Some may want to share their understanding through a poem, others may want to make an elaborate diagram. While one may depict a dance on it too.

2. Critical Thinking and Problem Solving: It is often in a history class, that we want students to approach and understand the same event from different perspectives. Hence they can be

given a historical time period or event to recreate. Writing about the various characters and the timeline will make the students critically think and research on it.

3. Communication: In the Hindi,English or Regional language class students can be asked to create slogans, dialogues or mini-stories to convey their understanding of the subject content. These dialogues or stories need to make sense to them and their classmates also, hence the students will make sure that their point is understood well.

4. Collaboration: While creating an assembly presentation on 'Azadi ka Amrit Mahotsav', students might want to do a song, dance and visual art presentation-like PPT. And this elaborate visual, musical and dance presentation is a team effort. It needs accountability and participation of all as a cohesive unit.

5. Adaptability: The post-COVID Era is a testimony to our Adaptability Skills, keeping this in mind, it becomes more important for students to learn this skill too. Teachers from geography can ask students to write about a world with low temperatures, and how it changes the global landscape. How will man adapt to such a world? This task can help them become imaginative by thinking of many specific and unexpected possibilities.

6. Information Literacy: Students in mathematics can be given a research project to create a visual infographic on the various geometrical shapes found in European Architectural marvels. This task uses their digital literacy, data analysis, and information presentation skills and in turn helps them learn about History and Mathematics.

7. Emotional Intelligence: In English or Hindi or regional language class students can read a story and then rewrite certain important events with emotions that the students can identify and relate. In this activity, they can write post-cards from one character to another sharing their actions and emotions. This activity helps students develop empathy with the characters and also makes a connection with their own feelings and emotions.

8. Global Awareness: In the History class, the students can work and make scrapbook of the various architectural styles of the various countries of Asia or the world and find out the similarities and differences. This activity can help students know that they are not alone, yet offer something unique to the world.

9. Digital Literacy: In a science class, students can use digital tools to create multimedia presentations on water conservation. This activity not only promotes their digital literacy skills but also encourages creative expression.

## Conclusion

The researcher, who is also a Teacher-Educator and a Teacher, has witnessed firsthand how incorporating art into the learning experience can be a game-changer for the students. Art Integrated Learning seamlessly blends the creative aspects of art with the traditional academic subjects taught in schools. This develops students with well-rounded personalities who not only have the knowledge of academic subjects but also know how to manoeuvre in the rapidly evolving 21st-century world.

Throughout the Art Integrated Learning Project with students of Class VI to Class VII, the researcher observed the incredible transformation that occurred when art became an integral part of the learning process. It sparked creativity, nurtured critical thinking, enhanced communication, promoted collaboration, prompted adaptability, and boosted information literacy, among many other vital skills. The classroom examples shared in this paper vividly demonstrate how art-infused teaching can be customised for various subjects, ranging from science to social science, languages and mathematics, etc.

This pedagogical approach doesn't only stop at skill development; it also nurtures emotional intelligence, cultural awareness, digital literacy, and global perspectives. As we strive to prepare our students for a world characterized by rapid change, interconnectedness, and the need for innovative problem solvers, it is evident that art integration serves as a bridge between the traditional and the contemporary.

Reeder et al. (2021) found in their study titled "The Creative Classroom Collaboratives: Creativity, Confidence, & Competence-C3" that the implementation of arts integration strategies helps in improvement of students' academic performance and the development of 21st-century skills.

In the ever-evolving world, teachers and policymakers alike should embrace art-integrated learning as a means to empower students with the skills, knowledge, and creativity they need to thrive in the complexities of the 21st century. By doing so, we not only enrich the educational experience but also lay a strong foundation for the continued growth and success of our future generations.

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# Twenty First Century Skills in Education

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## Abstract

It is difficult to prepare pupils for job, social responsibility and life in the twenty-first century. Globalization, skill, immigration, world-wide shifting markets, competitiveness and global environmentally friendly and administrative concerns create a novel sense of insistence for students to obtain the abilities and information required for achievement in the twenty-first era situation. These talents are denoted to by educators, education ministries and governments, foundations, companies, and researchers using phrases such as "21st century skills," "higher-order thinking skills," "deeper learning outcomes," and "complex thinking and communication skills." It is becoming evident that information alone will not educate kids to prosper in the flora and fauna. Establishments are talking out about their newly rented graduates' deficiency place of work abilities. Pupils must acquire what to do with the facts they study in order to genuinely be experts. Can they make anything fresh with it? In what manner do they know it's a convincing spat? Know how to they effectively express their facts? Be able to they collaborate to build approximately bigger than any one learner? This article determination justify and investigate the skills required for Twenty first century education:  critical thinking, creativity, collaboration and communication. Metacognition, creativity/creative thinking critical thinking/reasoning, communication, cooperation, problem-solving, and many other

abilities remain included. The CBSE Handbook covers these skills, which are separated into three Ls: learning skills, life skills, and literacy skills.

*Keywords:* globalization, skills, creativity, critical thinking, communication, and collaboration

## Introduction

The twenty-first century has brought a slew of new challenges and opportunities. Students must develop a set of 21st-century abilities in order to flourish in this rapidly changing society. Problem solving, communication, critical thinking, cooperation, and creativity are examples of these abilities.

According to the CBSE circular, "the Outline of Studies for students pursuing talent focusses in grades IX-X has been revised as follows: If a student studies three essential subjects (Mathematics, Social Science and Science) and moreover chooses to learning a talent subject (offered as a sixth optional subject), the aggregate of the best five (with two languages) and the best three (from subjects 3, 4, 5, and 6, including skill subject) can be well thought-out for calculation.

21st-century education abilities are required for pupils' entire growth. Following the pandemic, everyone witnessed a massive technological shift in various areas, particularly education, e-commerce, and entertainment. When the epidemic impacted everyone so hard, it was critical for an individual to be able to deal with any situation that arose.
To handle their life in that difficult situation, a person requires a diverse set of talents.

However, the most important talents required are emotional intelligence, critical thinking, and adaptation to new conditions. All of these abilities are necessary for a human being. As a result, schools should teach these abilities to all kids.

**What are Twenty first Century Skills?**

Specifically, twenty first century abilities are serious for a student's overall growth. These abilities enable students to face real-world situations and develop their own problem-solving strategies.

Instilling 21st-century abilities in student aids in their overall development, allowing them to contribute to the advancement of our community and nation. Let's look at which specific skills are considered 21st-century skills.

**Types of Twenty First Century Skills**

The skills of the twenty-first era can be used as a universal tool to improve ways of thinking, learning, and functioning. Metacognition, creativity/creative thinking critical thinking/reasoning, communication, cooperation, problem-solving,, and many other abilities are included.

The CBSE Handbook covers these skills, which are separated into three Ls: learning skills, life skills, and literacy skills. These 21st-century skill frameworks are further classified as follows:

**Learning Skills:**

1. Critical thinking- The interconnectedness of today's world has resulted in unprecedented complexity. Globalisation and the Internet are extremely complicated, hastening global change. Individuals are required to independently detect and react to change in such an environment; self-actualized students will learn how to examine and identify new situations, as well as the abilities required for handling them. They must be able to explore alternate strategies, foresee change, and comprehend how system pieces are linked.

2. Creativity & Innovation- Creativity is a cognitive process that involves the generation of new ideas, conceptions, or associations from previously generated ideas and concepts.

3. Communication - Through the process of communication, organisms can communicate information in a variety of ways. It is a process in which communication occurs orally, in writing, or through gestures.

4. Collaboration - Collaboration is a planned and sustainable process in which two or more individuals cooperate to attain a similar objective, which is typically intellectual in nature. They study from one an additional and come to a considerate. Headship is not compulsory for partnership. Certainty, when it is decentralised each person is treated similarly, it produces greater results. Approaches of partnership within a structure encourage behavioural replication and discussion.

**Literacy Skills:**

1. Information literacy

2. Media literacy

3. Technology literacy

**Life Skills:**

1. Adaptability and Flexibility

2. Responsibility and Leadership

3. Self-direction and Initiative

4. Cross-cultural and Social Interaction

## Need for 21st-Century Skills

The progress of learners in twenty first century capabilities in scholastic systems is essential for both civic reasons and economic. The economic theory, computers and machineries can resourcefully carry out the kinds of everyday jobs that persons with only elementary knowledge and skills can perform. As an outcome, the employees will require smaller number workers with only elementary skill sets and more workers with higher-order intellectual abilities. As well, the competition for experts who can add value by using complex, non-routine intellectualities and communication skills to novel challenges and backgrounds is heightened by demand and supply in a world-wide market as faced to a national and local area.

When students understand how to meet their obligations to themselves, their school, their families, or the country, they grow holistically.

o   They mature into responsible individuals who are aware of their potential.

o   They will find it simpler to learn how to analyse data using technology in the internet age.

o   The key to preparing students for their real-life experiences is to teach them 21st-century skills because teaching subject-related information for exam reasons does not enable them to confront real-life issues.

Let's now examine how we may incorporate 21st-century abilities into teaching in the tutorial room.

### How to Implement Twenty First Century Skills?

Different approaches can be taken to implement 21st-century skills. Let's look at some 21st-century abilities and how teachers might use them in the classroom.

### Learning Skills

It teaches pupils how to improve their cognitive thinking skills. It encompasses all of the tasks required in the learning process, such as time management, note-keeping, effective reading, and writing skills. As previously said, learning abilities are classified into four C's. Now consider how teachers can teach these four abilities in a single exercise.

In this assignment, students will first conduct research on the issue in order to strengthen their critical thinking and creativity skills by attempting to incorporate various ideas into their debate. Finally, for argument, they employ their communication and collaboration abilities. Students can thus master four separate talents in a single session.

Other examples of learning skills include acting in skits, creating scripts, and much more. Teachers can also construct an exercise based on one skill if that is more convenient for them.

**Literacy Skills**

It teaches pupils how to learn through technology and media. The primary goal is to provide literacy knowledge or awareness of how to distinguish reliable sources from the disinformation that overflows the internet. Let's look at a real-world example of how teachers might provide students with exercises to help them develop this skill.

Students will construct a PowerPoint presentation on a lesson topic. Students must conduct content research during this procedure. They look for materials such as the internet, books, newspapers, and others to do this. Throughout the process, kids learn how to search for high-quality data from various sources, as well as how to use the internet and AI. This will help them improve their media, information, and technology skills.

1. Media, Knowledge of Information, Technology Accessing and assessing information critically and proficiently and managing the flow of information from extensive variability of resources are examples of information literacy. Learning how and why media messages are constructed and creating media products by learning and utilising the most relevant characteristics, media creation apparatuses, and norms are examples of media literacy. ICT (Information, Communications, and Technology) learning, for example, using technology as educational, organisation, communication and evaluation, tool. Lifecycle and work skills Today's living & work circumstances have need of far more than just critical thoughts and

content knowledge. Enlightening the capability to manage difficult life and work contexts necessitates learners paying close attention to the development of appropriate life and professional skills.

o   Adaptability and Flexibility

o   Responsibility and Leadership

o   Self-direction and Initiative

o   Cross-cultural and Social Interaction

### Responsibility and Leadership of These Skills

It refers to the abilities that allow humanity to deal well with life's demands and problems. These abilities are sometimes known as psychological abilities because they comprise behavioural and cognitive processes. This will assist the students in their professional lives and guarantee that they are prepared to confront any obstacles that may arise on their path to success.

Teachers may identify the diverse life skills of students in a variety of ways when working on a current project or in the classroom. Teachers can observe students' behaviour and management skills in a variety of ways, including how they handle tasks, interact with other teammates, and respond to challenging situations, and so on.

The twenty-first century has heralded a golden period of limitless prospects, new openings, and dimensions that have radically transformed the educational system. That being said, it has also made us aware of how, in today's society, survival strategies alone will not

suffice.

Children must be fostered and taught particular talents from a young age. This is why traditional learning methods are no longer adequate, and special skills are required in this century to prepare youngsters to face and conquer the problems that life throws at them.

On that subject, do you want to learn more about these 21st-century skills? Then you've come to the right place. In this post, we will discuss how children can achieve in employment and school by developing 21st-century abilities, which typically comprise both life and academic skills and talents.

**Why are 21st-century Skills Vital for Today's Learners?**

1. Be prepared for change rather than anticipating it.

The pandemic was the perfect illustration of how to not just predict change but also be prepared to act on it. The world is changing quickly, and children must be ready for any unexpected developments.

2. Recognise the viewpoints of others

Understanding another person's point of view and viewing the world through their eyes is beneficial in any relationship or social engagement. Students can obtain a better perspective and broaden their worldview by asking the correct questions and experiencing the world through the eyes of another person. As a result, children are better able to view and solve difficult situations.

3. Having access to information

Today's children must be able to access the vast amount of information that is easily available to them. It is no longer necessary to attend a library or hunt for an encyclopaedia to obtain information. Today's children can get any type of knowledge they want, whenever they want. This is why it is critical to be able to retrieve and organise this information.

4. Communicate and listen with dignity.

Communication is essential in any good connection, which is why children must learn to not just actively listen but also to communicate respectfully, even when they disagree. Learning to communicate effectively enables students to form strong relationships while also deepening good debates. Learning to communicate effectively is thus a vital ability that is required to function in multicultural and multilingual situations, whether in the classroom or in everyday life.

5. Recognise the significance of collaboration.

Working well with others is a talent that children must master in order to better manage personal and professional interactions. When youngsters learn to collaborate with their peers, they begin to understand and consider others' opinions and viewpoints in order to take on distinct roles and attain those common goals.

6. The ability to tackle real-world challenges

Learning to tackle real-world problems is a vital ability for success in the twenty-first century. It becomes more crucial when youngsters grow older and venture out into the real world to pursue their dreams, marry, and raise children. They must be able to recognise and resolve issues without relying on others to guide them through life's difficulties and tribulations. This is why the problem-solving abilities that pupils learn in school must be applicable in the real world.

7. Develop compassion and good character.

Twenty first century era talents support pupils in going up character and empathy compassion cultivating and, both of which are necessary as socially collective beings. Capabilities also ensure that when teenagers grow, they will be moral and have truthfulness, agree to them to work together and work successfully with others and, as a consequence, create a better upcoming.

8. Encourage and promote innovation.

It is apparent that twenty first -century abilities remain serious for children's optimistic and more fruitful futures. These capabilities will empower students to embellishment in their professions and fluently navigate life's difficulties. That's not all; one of the furthermost important causes for conveying these abilities is for the greater respectable of the social order. Capabilities will aid in collective enhancement by supporting and inspiring invention. Problematical social challenges are resourcefully resolved, these creations will lead to ecological, social, cultural, and economic advantages.

We can all agree that the world is changing at a rapid rate, and kids must be able to keep up. As a result, as the world changes, students must adapt. In fact, pupils will be at a disadvantage if they do not have the necessary 21st-century abilities.

## Conclusion

In summary, 21st-century talents aid an individual's overall growth. Students will require all of these talents after high school, such as in college, professional careers, and society. As a result, teachers must devote sufficient time to developing all of these talents in

their students. Educart, for example. Ion aids in its expression as the perfection that already exists within an individual.

In the twenty-first century, all educators play an important role in moulding their students' lives and professions. As soon as learning and teaching are at their finest, learners, societies, and country embellishment. Leaders of educator ground work are accurate to ask themselves, "What is our role in the changing landscape of 21st century knowledge and skills?"

Globalisation of the economy, increasing diversity and interconnectedness of communities, and speedy technological progress are providing new and difficult problems to persons and nations. College organisations are reconsidering the knowledge and skills that kids will need for success, as well as the educational practices and procedures that will enable all youngsters to attain them. In both North America, and Asia metropolitan College organisations are at the epicentre of policy and practice modification, serving as both the sites of the most pressing educational difficulties and the engines of innovation required to meet them.

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# Exploring Universal Design for Learning as a Need-Based Learning Approach: A Review of the Current Literature

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## Abstract

The present study addresses the need for UDL applications in developing an inclusive classroom and the degree to which such applications assist the diverse learning needs of differently-abled learners. The methodology follows a rapid review of the available literature, a review of twenty-five papers published from 2001 to 2023 was undertaken. The findings suggest that UDL applications are based on three concepts of brain networks as developed by CAST, UDL grants equal access to students with varying needs, technology applications enhance the utility of UDL and teacher pre-service training should have exposure to UDL concepts.

*Keywords: universal design for learning, need-based learning approach, inclusive education*

## Introduction

Diversity among students is one of the greatest challenges that teachers encounter in the modern classrooms of the new century. A major question for teachers is how to cater to

each child's individual needs, talents and aspirations and mould them into contributing members of the society. Inclusive education goes beyond addressing the learning needs of each child; it also tackles the barriers that hinder the meaningful and effective participation of pupils. Therefore, it is crucial to establish a framework that can meet the learning needs and encourage the active involvement of all types of learners. Universal Design for Learning (UDL) serves as a blueprint which both enables and empowers learners with different abilities. According to CAST, "UDL is a framework for optimizing teaching and learning for all pupils based on scientific insights into how humans learn" (http://www.cast.org). Universal Design for Learning provides the opportunity to adjust the curriculum, customise teaching and learning strategies, and utilise various assessment methods based on students' abilities. Initially, Universal Design concepts were originally developed for architects and product designers, but its principles have since been adopted in education. "UDL is an educational concept or approach to designing instructional methods, materials, activities, and evaluation procedures to assist people with differences in their abilities to see, hear, speak, read, write, understand, move, attend, engage and remember" (Orkwis, 2003, n.p.). UDL is based on the concept that there is no single method of presentation or expression that grants equal access for every learner and learning experiences  are designed flexibly  and extend multiple ways to learn (Richard M. Garguilo, Debbie Metcalf, 2022, p.11). UDL has the scope for flexible, equitable, and accessible teaching methods which enable every student to learn at his or her own pace thus generating the greatest results in the learning process.

Centre for Applied Special Technology (CAST) is a non-profit organisation focused on education research and development. It was established in 1984 and is headquartered in the United States. CAST developed UDL to meet the requirements of all types of learners including the disabled. This organisation is trying to provide learning opportunities for every learner especially those with disabilities by applying the principles and technology of UDL which is necessary when considering the modern inclusive classroom environment. Developers at CAST enumerated three principles of UDL for learning while planning a curriculum to meet the requirements of all learners (Richard M. Garguilo, Debbie Metcalf, 2022, p.45)

Based on research into the nature of learning differences and the design of supportive learning environments, the UDL principles are built on three groups of brain networks - recognition, strategic and affective networks that play a major role in learning (Rose & Meyer, 2000) The main principles of Universal Design for Learning are as follows.

o   Furnish different ways of representation, to support recognition learning - extend flexible ways to present what we learn and teach.

o   Furnish different ways of action and expression, to support strategic learning, - extend flexible options for how we learn and express what is known to us.

o   Furnish different ways of engagement, to support affective learning, - extend flexible options for generating and sustaining motivation, the why of learning.
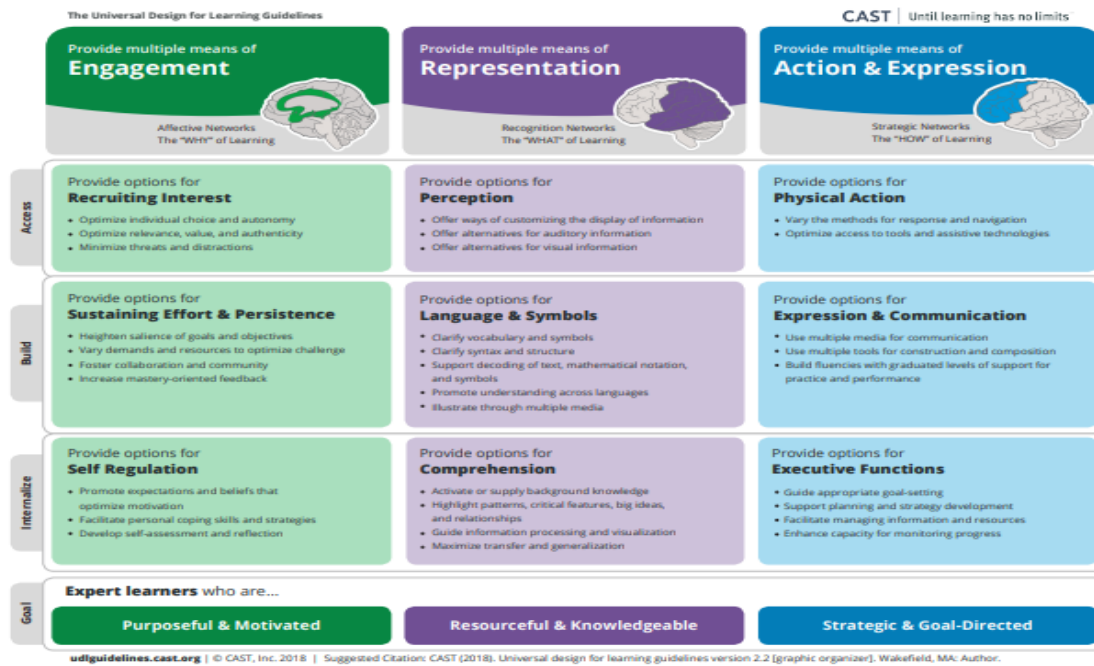
This paper attempts to review the present literature on Universal Design for Learning and present the findings to draw an objective inference on its applications, in supporting learning.

## Objectives of the Study

1. To analyse the need for Universal Design for Learning applications in present day classroom setting.

2. To examine the extent to which Universal Design for Learning caters to the learning requirements of differently abled children.

## Methodology

The methodology selected for the study is based on the objectives of the study and best practices followed by the research community. A rapid review approach was found to be most

suitable for the study. Rapid reviews are a form of knowledge synthesis in which the systematic review process is simplified to produce information more quickly (Khangura et al., 2012). Keyword search was done with ProQuest, Springer and EBSCO, JSTOR, ERIC databases, ResearchGate and other websites. The search was circumscribed to articles published for the last twenty-two years. The review of literature was done comprehensively with maximum emphasis on relevant studies to obtain accurate outcomes. This includes articles with a theoretical basis and empirical based articles and reports. The studies selected are from the year 2000 onwards.

## Analysis and Interpretation

The following table presents the data related to the review done on the relevant current literature objectively:

| Name of the Author | Focus Area | Source/Database | Findings | Year |
|---|---|---|---|---|
| David Rose | Value of Universal Design for Learning. | Researchgate | UDL can be effectively implemented in the classroom with the support of Assistive Technology. By accommodation and modification, UDL can be fully accessible. | 2001 |
| Terese C. Jiménez, Victoria L. Graf, & Ernest Rose | Universal Design for Learning and its Access in General Education | ERIC | Proposed methods of instruction that support UDL and described the Concord Model to support UDL. Suggested that education professionals should make | 2007 |

| | | | additional efforts for the implementation of UDL | |
|---|---|---|---|---|
| Margaret King-Sear | Universal Design For Learning: Technology and Pedagogy. | JSTOR | Through equitable use of instructional material through technology, practice and presentation of curriculum content in different ways, tolerance for error, and presentation of content easily and comfortably and also based on the background knowledge of the students, UDL can be effectively used in the curriculum. | 2009 |
| Dave L. Edyburn | Ten Suggestions and for the Implementation of UDL. | Sage Publication | Studied the process of UDL and suggested ten ways for the future implementation of UDL and the need for implementing UDL in the educational system. | 2010 |
| Meia Chita-Tegmark, Jenna W. Gravel, Maria De Lourdes, B. Sepra, Yvonne Domings and David H. Rose | Application of Universal Design for Learning Framework for Culturally Diverse Learners. | JSTOR | Illustrated how UDL principles will be useful to carry out a culturally informed curriculum so that it is useful for improving the education of learners globally. | 2011 |
| Solange Lopes-Murphy | Universal Design for Learning and Academic Accessibility of High School English Learners. | EBSCOhost | UDL considers the requirements of learners in preparing the curriculum and provides equal opportunity for all. UDL has the scope to overcome the barriers that prevent the learning of English. | 2012 |

| Jennifer Katz | 'The Three-Block Model' of Universal Design for Learning (UDL) | JSTOR | Demonstrated a positive outcome of the 'Three-Block model' of UDL. Students in the UDL classroom were more engaged than in the inclusive classroom. Academic and social engagement improved while using this model. | 2013 |
| Sabeena P S, Priya Gopinath and Dr N. Muthaiah | Importance of Universal Design For Learning in the Inclusive Setting | DOI.org | UDL framework is a better platform for educating different types of learners because it is based on brain networks specially designed for all with specific needs. | 2014 |
| Kimberly M. Johnson-Harris and Nancy A. Mundschenk | Universal Design for Learning and Students with Behavioural Disorders | EBSCOhost | With the assistance of UDL principles, children with behaviour disorders can be engaged smoothly and educators can save time, energy and enhance classroom dynamics. | 2014 |
| Janet Mannheimer Zydney and Ted S. Hasselbring | Universal Design for Learning Approach- 'Mini Anchors' | EBSCO host | They have proposed a Mini Anchor Model for mathematics learning. Mini Anchor Model would apply to various fields and learning becomes effective based on the needs of children. | 2014 |
| Spencer J. Salend and Catharine R. Whittaker | UDL: A Blueprint for Learning Success. | EBSCOhost | UDL framework puts teachers in the role of educational architects who design student success and suggested a new 'Seven-Step Pedagogical Model' to assist teachers in developing UDL instructional blueprints. | 2017 |

| Tanmoy Bhattacharya | Universal Design for Learning for Meaningful Inclusion. | Online Library | Suggested integrating UDL as a practice in the legislation and teacher education programmes which can make positive changes in the education system. | 2017 |
|---|---|---|---|---|
| Elizabeth M. Dalton, Marcia Lyner-Cleophas, Britt T. Ferguson and Judith McKenzie | Universal Design for Learning in Higher Education of South Africa and United States | EBSCOhost | There are challenges in the process of inclusion in higher education, but there are potential solutions. All future teachers should know the inclusive education practices and models. | 2019 |
| Lisa A. Finnegana and Lisa A. Diekerb | Universal Design for Learning in the Science content expansion | EBSCOhost | 'UDL-Representation concepts were implemented in the class, and the amount of knowledge obtained and depth of discussion were richer when this concepts were used. | 2019 |
| Harit Bagga and Adit Kaur | National Education Policy 2020 and Universal Design of Learning. | Online Library | Suggested effective ways to implement UDL and the factors that assist UDL in India. | 2020 |
| Christopher D. Hromalik, William N. Myhill & Nancy R. Carr | Universal Design for Learning Training for Community College Faculty. | EBSCOhost | A two-phase faculty training programme in UDL was conducted and all the faculty responded positively. | 2020 |

| Radhika Misquitta and Rudri Joshi | Universal Design for Learning to Supporting the Struggling Learners. | Online Library | Describes learning tools that can be effectively used based on the principles of UDL with the help of technology. | 2020 |
|---|---|---|---|---|
| Alicia Mrachka | Universal Design for Learning to Plan for All Students in the Classroom | EBSCOhost | Suggested ways to improve learning by adding written text with vocal instructions, visual support like pictorial or graphic explanations and large print to help struggling learners. | 2020 |
| Anupam Ahuja | Universal Design of Learning for Effective Classroom. | www.education. gov.in | Developed Barkhaa Series for all based on the principle of UDL. | 2020 |
| Lee Ann Jung | Lesson plan based on the Universal Design for Learning | EBSCOhost | Suggested different strategies for the execution of UDL principles in the classroom. | 2021 |
| Susie L. Gronseth, Jill E. Stefaniak, & Elizabeth M. Dalton | Universal Design for Learning and its Development | Online Library | Universal Design for Learning can be designed for individuals, addresses different methods, provides guidelines and checkpoints and creates learning environments for the varying needs of learners. Imparts better instruction by | 2022 |

| | | | taking into account equity and accessibility considerations. | |
|---|---|---|---|---|
| Alexandra Sewell, Anastasia Kennett and Victoria Pugh | Universal Design for Learning as an Inclusive Practice Theory | Taylor and Francis + NEJM | UDL has potential as a theory of inclusion. It creates a learning environment and opportunities for all learners. | 2022 |
| Som Krishan and Navneet Sharma | Universal Design for Learning (UDL) and its Awareness among Teachers in India. | DOI.org, | The viewpoints of in-service teachers regarding UDL must be included in the curriculum. NCTE and RCI in its curriculum can include the theory and practice of UDL. | 2023 |
| M. Mackey, S V Drew, j Nicoll-Senft and L. Jacobson | A Change in Theory with the help of Universal Design for Learning | ScienceDirect | Analysed how to use UDL to hold up disabled students and suggested better model integration of technology and the need for improvement of UDL checkpoints. | 2023 |
| Shano Ji | Universal Design for Learning and its Barriers for Implementation | ddeku.edu.in | There is an immediate need to understand and cater to the needs of different students. Teachers need new training, skills and support from education systems. | 2023 |

## Significant Findings

o   With the help of accessibility technology, obstacles for pupils with disabilities can be

    reduced

o   To gain accessibility, efficiency and sustainability of UDL, collaborative and multiagency approaches may be implemented in the schools

o   UDL can be effectively implemented in the classroom with the help of Technology

o   UDL principles are effective to build a culturally informed curriculum

o   Academic accessibility of English subject can be improved with the help of UDL

o   Students' academic and social engagement may be improved with the help of UDL

o   Since UDL is based on the principle of brain networks it is highly beneficial for both teachers and students

o   Children with Behavioural Disorders can be handled smoothly with the assistance of UDL

o   To make revolutionary changes in the education system, UDL should integrate into the legislation and a part of teacher education programme

o   There are scope for the implementation of UDL as envisioned in NEP 2020

o   Even with the existing technology, if planned properly UDL can be effectively implemented in the classroom

o   NCERT developed 'Barkhaa Series for ALL' based on the principle of UDL

o   With the help of UDL effective and efficient instruction can be exhibited by considering equity and acccessiblity of all learners.

o   Over thirty years UDL has matured from a curriculum design framework to instructional design theories.

o   UDL as a theory of inclusion has the potential to create a conducive learning environment and opportunities for all

o   NCTE and RCI in its curriculum should include the theory and practice of UDL.


## Conclusion

On review of the literature, it is found that UDL is a very effective method for inclusion as it is rooted in the principles of brain networks which has been reaffirmed by several studies. The need for the same has been stressed as the most important factor in successful transfer of knowledge in an inclusive classroom. It assures that the diverse needs of the learners are met and they have equitable access to the instruction provided. Models like the Concord Model can also be developed by teachers and educators. In addition, teachers should be conversant with modern technology applications as UDL depends heavily on technology. Awareness of UDL should also be given to teachers during their pre-service training period itself. UDL caters to the requirements of students with different abilities to a large extent and thus enables the development of a culture of inclusiveness in the classroom.

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# Environmental Ethics in Relation to Pro-Environmental Behaviour among Higher Secondary School Students

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## Abstract

Social policies attempting to preserve the environment and combat environmental degradation have a moral basis for Environmental Ethics. Pro-environmental Behaviour is a person's protective way of environmental behaviour or a tribute to a healthy environment Environmental Ethics and Pro-environmental Behaviour are basic for a human being to live in harmony with the environment and are indispensable for safe future life. Studies on Environmental Ethics and Pro-environmental Behaviour deliver information that can help reduce the harmful environmental impact of human activities. The present study set out to determine whether there were any notable differences in the levels of Environmental Ethics and Pro-environmental Behaviour among Higher Secondary School Student's, as well as how these two categories related to one another. The current study used the Normative Survey method, and 80 Higher Secondary School Students from Kerala, districts of Palakkad served as the sample. The tools used for the study were the Environmental Ethics Scale and the Pro-environmental Behaviour Scale. The investigators came to the conclusion that there is a notable variation in the level of the mean scores of Environmental Ethics and Pro-environmental Behaviour among the students of Higher Secondary School based on their data. As a result, it can be understood that there is a vast scope for providing orientation and training programs to Higher Secondary School Students for the development of the concept of Environmental Ethics and Pro-environmental Behaviour to a greater extent.

*Keywords:* environmental ethics, pro-environmental behaviour

Since environmental protection and sustainability are essential to human life, it will benefit both the environment and students to understand the significance of Environmental Ethics. Environmental Ethics is the philosophical study of the moral relationships that exist between people and their surroundings. Environmental Ethics is one of the moral frameworks that guides us in making choices that benefit the environment. According to Taj (2001), Environmental Ethics is the ability to understand the consequences of our consumption and actions on the environment and to realize our responsibility to preserve and conserve the environment for future generations. Environmental Ethics is a critical concept to comprehend and eventually incorporate into our daily lives and also clarifies our responsibility to preserve the ecosystem and helps us comprehend its extent. Libertarian extension, Ecological extension, and Conservation ethics are the main subcategories of Environmental Ethics. Ecological extension maintains that nature has value apart from human use or usefulness, while conservation ethics stresses striking a balance between human use and the preservation of nature. Libertarian extension is predicated on the notion that people have the freedom to use nature for their purposes.

All the environmental problems that are happening in the world right now are due to human selfishness. Future generations should grow up with the understanding that every living thing in nature should live with freedom and equality in their living environment. Pro-environmental Behaviour refers to the conscious application of an environmentally friendly and socially responsible ethic, as each individual grows up. Pro-environmental Behaviour is a special type of Pro-social behaviour (Ramus, 2007), The primary determinants of an

individual's Pro-environmental Behaviour include environmental knowledge, environmental values, institutional factors, and strategies to escalate Pro-environmental Behaviour such as educational strategies and community-based social marketing (Akpan. 2003). Understanding the value of teaching Environmental Ethics in educational settings and how to foster Pro-environmental Behaviour in Higher Secondary School Students is the primary objective of the current study. The present study aims to create an understanding of the problems posed to the environment by massive pollution and climate change as side effects of urbanization and industrialization. And also aids in our realization of our obligation to protect the environment and the scope of our responsibility for it. Environmental Ethics enable us to bring about a change in our environment and inculcate Pro-environmental Behaviour in students.

## Need and significance of the study

A fundamental method for raising environmental awareness in individuals is education. For their basic needs of clean water, fresh air, and food, all humans are dependent on their surroundings. The environment will be observed to transform into defective components if it is not adequately managed. In a similar vein, the climate is shifting from its average state. As a result, there is an increase in new diseases, unpredictable rainfall, and low agricultural output. Future generations should be aware to maintain a healthy environment. Upcoming generations need basic ecological functions to ensure food availability, find water, and protect themselves from the weather. Knowledge of science and technology is still needed to shape and perpetuate the modern world.

Marie (2017) conducted a study titled "A Study on Environmental Ethics among Higher Secondary Students". A random sample of 300 Higher Secondary School Students from Chennai was gathered for the study. The investigator prepared the Personal Data Sheet, and a survey method was used in the investigation. The Environmental Ethics Scale, created and validated by Haseen Taj (2001), is used as the tool. The conclusions showed that Higher Secondary Student's Environmental Ethics were on the average side. Regarding gender, there is no discernible variation in the Environmental Ethics of Higher Secondary Students. There was a notable variation in the Environmental Ethics of Higher Secondary Students based on the subject group, with government school students achieving higher mean scores than aided and unaided school students. These findings are related to the type of management of the school. In this instance, it was discovered that the students in the vocational subject group had higher mean scores than the students in the scientific and arts groups.

Behra and Samal (2015) conducted a study on 'Pro-environmental Behaviour of Secondary School Students: A Topographical Analysis'. The goal is to assess Secondary School Students' Pro-environmental Behaviour among gender and location, identify patterns in the Pro-environmental behaviour of students from various geographic regions, and make recommendations for improving the Pro-environmental Behaviour of students. The primary conclusions showed that there was no discernible difference in Pro-environmental Behaviour between boys and girls. Students in rural and urban secondary schools differ significantly in their Pro-environmental Behaviour. According to the survey, secondary school students in rural areas are more environmentally conscious than those in urban areas

In the current educational system, Higher Secondary School is a crucial educational level. It is the final year of education before going on to a university. It represents the total of all the knowledge acquired over a student's twelve years of education. It is also a platform for students to enter the adult world, contribute to society, and perhaps protect the environment. Therefore, this is a range that provides a unique opportunity to find out and analyse effective environmental education as part of the school curriculum in changing the attitude of those who are more aware of environmental issues and the importance of environmental law and ethics. Students need to be able to live in harmony with the environment and not use it for selfish interests only. Students need to develop a view that all living things in the environment are important. As a solution to all this, this kind of study is necessary for the well-being of our future generation. The current study is trying to measure the relationship between Environmental Ethics and Pro-environmental Behaviour of Higher Secondary School Students.

## Objectives

1. To study the Environmental Ethics of Higher Secondary School Students.

2. To study the Pro-environmental Behaviour of Higher Secondary School Students

3. To find out the relationship between Environmental Ethics and Pro-environmental Behaviour of Higher Secondary School Students.

## Hypothesis

1. There is no significant difference in the level of Environmental Ethics of the Higher Secondary School Students.

2. There is no significant difference in the level of Pro-environmental Behaviour of the Higher Secondary School Students

3. There exists a significant relationship between Environmental Ethics and the Pro-environmental Behaviour of Higher Secondary School Students.

## Procedure

The purpose of this study is to investigate the relationship between Pro-environmental Behaviour and Environmental Ethics in Higher Secondary School Students. As a result, the descriptive quantitative approach's normative survey method was used for the study allowing the researcher to draw generalizations. Students from the Higher Secondary Schools in the district of Palakkad in Kerala, constitute the population of the study. A sample of eighty students from GVHSS Vattenad and HSS Peringode in Palakkad, Kerala, were chosen for the study.

## Tools Used

1. Environmental Ethics Scale (EES) constructed by Dr. Haseen Taj (2001).

2. Pro-environmental Behaviour Scale (PERS-SA) constructed by Dr Prof Mercy Abraham & Arjunan N K

## Statistical Techniques Used for the Study

The data collected from the students was examined to meet the objectives of the study. A quantitative analysis of the data was performed. Detailed information on each objective is given below.

**1. To study the Environmental Ethics level of Higher Secondary School Students.**

The data and the results of the first objective are given below.

**Table 1**

*Details of Level of Environmental Ethics*

| EE Group | Range Score | Frequency | Percentage (%) |
|----------|-------------|-----------|----------------|
| High | (98-124) | 72 | 90.0 |
| Average | (74-98) | 6 | 7.5 |
| Low | (50-740) | 2 | 2.5 |

Note: 90% of a sample of 80 Higher Secondary School Students exhibit high Environmental Ethics, 75% exhibit average Environmental Ethics, and 25% exhibit low Environmental Ethics. As a result, the first null hypothesis is rejected, and students at Higher Secondary Schools have varying levels of Environmental Ethics

2.  **To study the Pro-environmental Behaviour level of  Higher Secondary School Students**

The data and the results of the second objective are given below.

**Table 2**

*Details of Level of Pro-environmental Behaviour*

| PEB Group | Range | Frequency | Percent (%) |
|---|---|---|---|
| High | (72-83) | 21 | 26.3 |
| Average | (60-72) | 34 | 42.5 |
| Low | (49-60) | 25 | 31.3 |

Note: Among a sample of 80 Higher Secondary School Students, 21% exhibit high levels of Pro-environmental Behaviour, 42% exhibit average levels, and 31% exhibit low levels. As a result, the second null hypothesis is rejected, and students at Higher Secondary Schools have varying levels of Pro-environmental Behaviour.

**3. To find out the relationship between Environmental Ethics and Pro-environmental Behaviour of Higher Secondary School Students.**

The third objective of the study was to find out the relationship between Environmental Ethics and Pro-environmental Behaviour. The data was analyzed and interpreted using Pearson's Correlation Coefficient (r) to test the hypothesis: there exists a significant relationship between Environmental Ethics and the Pro-environmental Behaviour of Higher Secondary School Students.

**Table 3**

*Correlational Analysis between Environmental Ethics and Pro- Pro-environmental Behaviour of Higher Secondary School Students*

*Pearson Correlations*

|  |  | EE | PEB |
|---|---|---|---|
| EE | Pearson Correlation | 1 | 0.298** |
|  | Sig. (2-tailed) |  | 0.007 |
|  | N | 80 | 80 |
| PEB | Pearson Correlation | 0.298** | 1 |
|  | Sig. (2-tailed) | 0.007 |  |
|  | N | 80 | 80 |

**. Correlation is significant at the 0.01 level (2-tailed).

Note: Pearson's correlation coefficient 'r' for the correlation between Environmental Ethics and Pro-environmental Behaviour is 0.298. This indicates that there exists a relationship between Environmental Ethics and the Pro-environmental Behaviour of Higher Secondary School Students. Hence the third hypothesis is accepted and there exists a significant relationship between Environmental Ethics and Pro-environmental Behaviour among Higher Secondary School Students

## Discussion

In the present study, the high level of Environmental Ethics among Higher Secondary School Students indicates that students have a better conscience about the welfare of the environment. This background information will help provide necessary feedback to Higher Secondary Teachers, Students, and their parents to further develop a positive level of Environmental Ethics among the student body.

The findings of the study revealed that while the majority of Higher Secondary School Students had average Pro-environmental Behaviour, the least number of students scored extremely negative in their Pro-environmental Behaviour. This indicates the need to encourage and motivate students to change their proactive Behaviour in a manner consistent with their ethics towards the environment. Policymakers, teachers, school administrators, and parents need to examine ways in which students' positive Environmental Ethics can lead to equally positive and highly Pro-environmental Behaviour.

The findings of the present study related to Higher Secondary School Students Environmental Ethics and Pro-environmental Behaviour are positively correlated. It is hoped that it will be useful to policymakers and school administrators who are forced to make important considerations, decisions, and changes related to general education and environmental education-related curricula and exercises to make them more effective, relevant, and applicable in our day, into everyday life

## Conclusion

This research has attempted to study the relationship between Environmental Ethics and Pro- environmental Behaviour of Higher Secondary School Students. The present study found that the majority of Higher Secondary School Students exhibited high Environmental Ethics and average Pro-environmental Behaviour. The findings suggest that educational administrators and curriculum reformers should revise the environmental education syllabus so that the current curriculum can successfully incorporate higher levels of Environmental

Ethics and Pro-environmental Behaviour suitable for future generations. The study also reveals that there is a positive relationship between Environmental Ethics and Pro-environmental Behaviour. These results highlight the fact that they are all interrelated. These results emphasize the need to adopt innovative methods for teaching environmental education. Perhaps the traditional lecture method should be supplemented or replaced by new and improved teaching methods. Teachers should use appropriate teaching aids to capture students' attention and impress the necessary knowledge and values on their minds. Every member of society must join hands to restore what we have lost, to nourish and care for the earth. Students who are the future leaders of the world should be encouraged and motivated to become active stewards of the environment. The environment needs immediate solutions only through environmental awareness, Environmental Ethics, and environmental protection Behaviour of its citizens.

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# NEP 2020 – A Road to Inclusive Education

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## Abstract

Inclusive Education is a learning environment that involves teaching students with disabilities, special needs, or learning disabilities alongside their peers to foster success for all. Inclusive education, as defined by UNESCO, involves reducing learning obstacles and ensuring participation of all pupils, specifically those at risk of exclusion. This concept has been reinforced by India's Rights of Persons with Disabilities Act (RPWD Act) of 2016 and is in line with the National Educational policy (NEP 2020). various education commissions and policies in India have laid the foundation for inclusive education. The NEP 2020 places a significant emphasis on inclusive education and addresses various aspects of the education system. The policy highlights the importance of ICT infrastructure, gender-inclusion funds, free accommodations, and equitable, high-quality education for all. It acknowledges the diversity of students and promotes flexible learning pathways. the NEP 2020 represents a promising blueprint for inclusive education in India. In short, National Educational Policy (NEP) 2020 seeks to fix today's education system as a result of the increasing inclusivity and equity.

*Keywords:* NEP 2020, national education policy, inclusive education, inclusion

## Introduction

"Inclusivity and equity in education and promoting lifelong learning opportunities for all" (NEP, 2020, p.2), is the aim of Goal 4 of the 2030 global Agenda for Sustainable Development, which India embraced in 2015.

UNESCO Section for Special Needs Education (2000) states Inclusive education deals with removing all barriers and let everyone to come and learn.  It is a planned idea made to make possible learning outcomes for all children. It basically deals with removing all exclusion from the education at least at the elementary level, and promoting participation and learning success in basic education for all (Panigrahi, & Malik, 2020). Teaching students that are disable and are of special needs, or learning disabilities in the same classroom as their peers is known as inclusive education. It's a calculated tactic meant to help every kid succeed in their education. It suggests  to eliminate all kind of exclusion related human rights to education ,starting at the elementary school level, and enhancing everyone's ability to get, participate in, and complete a basic education of the highest caliber. As to the RPWD Act of 2016, an inclusive education system comprises of both disabled and non-disabled students attending the same courses, and the teaching and learning methodology is appropriately modified to cater to the individual learning requirements of the disabled students. It specifically deals with the inclusion of disabled pupils in regular classrooms. NEP 2020 has endorsed every suggestion made by the RPWD ACT 2016 regarding school instruction. It suggests that action should be taken to provide this targeted group's members with the opportunity to enrol in and thrive in the educational system. All members of marginalised or lower-class groups are to receive high-

quality education, according to the recently enacted education policy (Ministry of Human Resource Development, Government of India, 2020).

## Historical Background

There have been various recommendations given by different education commission. The Kothari Education Commission (1964-66) addressed the importance of developing an effective education program for people with disabilities in order to offer equal educational opportunities (Alur, 2002).

Children with exceptional needs were given access to education through the 1974 launch of the Integrated Education for Disabled Children project. The National Policy on Education (1968) and NPE (1986) emphasised compulsory education for all the children upto age of 14 years. National policy on education (1968) and national policy on education (1986) states "to integrate the physically and mentally handicapped with general community as equal partners, to prepare them for normal growth and to enable them to face life with courage and confidence" *(National Policy on Education, 1968).*

In September 1992, the Rehabilitation Council of India Act was passed. This act was enacted to govern rehabilitation professional training and the preservation of a Central Rehabilitation Register (RCI ,1992).

The Person with Disabilities Act, 1995 guaranteed the basic rights of disabled people to full participation, protection of their liberty, and equal chances for success.

The Sarva Shiksha Abhiyan (2000) is Government of India flagship programme for achievement of Universalization of Elementary Education (Ministry of Human Resource Development, Department of Elementary Education & Literacy, April 2004).

Most recent advancement is the Right of Children for Free and Compulsory Education (2009) which guarantees right to free and compulsory education to all children between ages six to fourteen years (Article 21A).

According to Act No. 49 of Rights of Persons with Disabilities Act (2016), The United Nations has established the Convention on the Rights of Persons with Disabilities (2006) as a global agreement on human rights with the aim of safeguarding the rights and dignity of individuals with disabilities.

The Rights of Person with Disability Act 2016, replaced the PwD Act of 1995. The action was in alignment with the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD). It includes 21 conditions as disable (Kumar, 2016).

Considering the work done in past on inclusive education, the National Education Policy (NEP), 2020 emphasized, "The most effective means of attaining social justice and equality is education," a statement that has significance for the growth of inclusive communities and society at large. Educational challenges, facilities, and services for Children with Special Needs (CwSN) must be addressed if policy is to be enforced.

**NEP 2020 and Inclusive Education**

According to the National Education Policy (2020) Education is the single device for achieving social justice and equality. The development of inclusive communities and society at large will be impacted by this. If policy is to be implemented, educational barriers, resources, and services for children with special needs must be addressed. According to the policy, total school enrolment declines gradually from Grade 1 to Grade 12, it is noticeably more severe for several socioeconomically disadvantaged groups (women and transgender people, minorities, OBCs, SC, and ST, place-based identities, learning disabilities, immigrant populations, low-income families, vulnerable youngsters, victims or the offspring of human trafficking, orphans, urban child beggars, etc.). The policy also acknowledges the significance of setting up supportive systems to give children with special needs also known as "Divyangjan", the same chances to receive high-quality education as any other child. It will also be crucial to consider research that identifies which actions are most successful for achieving particular Sustainable Development Goals.

NEP 2020 is a holistic document which has emphasised on various aspects of education system and has given emphasis on inclusive education likewise. Some recommendations for inclusive education as per NEP 2020 are:

*Access to all:* All educational levels, from Early Childhood Care and Education to higher education, should have universal access to high-quality instruction, according to the NEP. The NEP recognises the importance of ECCE as an element of learning. It works to eliminate shortages in educational access with special focus on marginalised and

underrepresented populations (Ministry of Human Resource Development, Government of India, 2020).

*ICT Infrastructure:* In order to guarantee that teachers and students have access of all resources they need for successful technology based learning. The policy stresses the implementation of information and technology infrastructures in schools. NEP focuses the utilization of digital resources, videos and interactive learning materials. These all resources are designed according to diverse learning needs of child (National Education Policy 2020, Part 3).

*Gender-Inclusion Fund:* The Indian government plans to set "Gender-Inclusion Fund" in order to enhance the country's ability to offer outstanding fair education to all girls, including transgender students. Funds will also allow States to support and scale up successful community-based interventions that address local context-specific barriers to female and transgender children's participation in and access to education. The grant will be distributed to States with the aim of executing Central government initiatives, which are essential in enabling female and transgender children's access to education. Initiatives like providing bicycles, toilets, sanitary facilities, and conditional cash transfers are among these goals. For additional socioeconomically disadvantaged groups comparable "Inclusion Fund" programmes will also be created to address related access concerns. This policy seeks to remove any lingering discrepancy in access (Ministry of Human Resource Development, Government of India, 2020).

*Free accommodations:* Free boarding facilities will be set up at schools in locations that need students to travel considerable distances, with an emphasis on serving students from low-income families. Sufficient protocols will be implemented to guarantee the security of every pupil, with a particular focus on the welfare of females. Kasturba Gandhi Balika Vidyalayas are set to undergo renovations and extensions in order to increase the number of girls from economically disadvantaged families enrolled in top-notch schools through Grade 12. In addition, more Jawahar Navodaya Vidyalayas and Kendriya Vidyalayas will built in country in order to improve the availability of exclusive educational opportunities, with an emphasis on aspirational districts, special education zones, and underprivileged areas. Kendriya Vidyalayas and other elementary schools around the country will introduce pre-school sections that will provide minimum one year of early childhood care and education.

*Education that is Equitable and of High Quality:* NEP 2020 emphasises the importance of equal education. It means that every child in India, regardless of socioeconomic situation, caste, gender, or skills, should have access to a quality education. The policy seeks to remove past inequities and impacts in the educational system. This involves ensuring that children from marginalised and disadvantaged backgrounds have equal access to school as others.

The policy seeks to upgrade the curriculum, methods of teaching, and evaluation structures in order to provide students with a valuable and timely education. It encourages critical thinking, problem solving, and the development of practical skills, providing students for the challenges of the modern world.

*Diverse Routes:* The NEP recognises student variety and promotes a flexible, multi-disciplinary approach to education. It promotes a variety of learning pathways including formal as well as non-formal education, e-learning, vocational and skill based education, open and distance learning and multilingual and multidisciplinary approach.

***Special Education:* The NEP recognizes the need for additional special educators, especially at middle and secondary school levels, to support children and disabilities (Divyang children). It emphasizes a**ll- inclusive education, special teachers and support personnel, subject instruction for students with disability, unrestricted learning space or barrier free environment and adaptable courses and evaluations.

*Indian Sign Language (ISL):* To meet the standards of students with hearing impairments, the NEP emphasises how crucial it is to establish Indian Sign Language (ISL) across the nation. Standardisation involves creating a set of standard signs and gestures that can be understood and utilised across the country. Additionally, accepted and encouraged are regional sign languages.

*Language Inclusion:* The policy emphasises the need of breaking down language barriers   between students and educational media. When possible, it encourages the use of students' mother tongues and home languages in the educational process.  It recognizes that India is a linguistically diverse country with numerous languages. It also supports for language learning, and also encourage respect for local languages.

*Curriculum pedagogy:*  According to the policy, the curriculum and teaching strategies must be updated to be more inclusive, culturally sensitive and flexible to the different requirements of pupils. This entails incorporating historical and significant contributions from marginalised communities into curriculum to provide students with a more representative and equitable education(National Council of Educational Research & Training, Delhi. Equitable and Inclusion: Learning for all).

*Social justice and equality:* The best single instrument for improving equality and social justice is education. In addition to being a worthwhile goal in and of itself, inclusive and equitable education is essential to establishing a society in which everyone is given the opportunity to pursue their goals, grow, and positively benefit the nation.

*Establishments of Special Education Zones:* Among the significant recommendations made by NEP is the proposal to create Special Educational Zones in areas where a sizable portion of the population is from socio economically disadvantaged groups and in districts with high aspirations. The primary objective is to provide education to India's most isolated and rural areas. To transform these underdeveloped areas, more resources would be allocated, and various centre and state plans and programs would be harmonized (National Council of Educational Research & Training, Delhi*. Equitable and Inclusion: Learning for all).*

NEP 2020 offers an amazing and innovative strategy for inclusive education. Through the implementation of modifications to educational programmes and facilities, our new education policy places a great deal of weight on fostering an inclusive education culture and

structure within our educational system. The purpose of these adjustments is to facilitate the inclusion of resources that advance fundamental human values including empathy, compassion, tolerance, respect for all people, nonviolent protest, global inclusion, equity, and equal opportunity. In light of India's abundant diversity, inclusive education emphasises valuing and celebrating its difference. It strives to guarantee equal access to high-quality education for all pupils, irrespective of their language background, gender, social situation, physical or cognitive abilities, or any other personal attributes. The NEP 2020 has the ability to propel a paradigm change in inclusive education if it is carried out with meticulous preparation and execution. However, strong collaboration between stakeholders and policymakers is necessary to enable the realisation of the inclusive education vision in order to properly put these ideas into practise. If this strategy is implemented well, it would not only change the educational landscape but also build a more inclusive and equal society where everyone has the chance to prosper and advance the country.

## Conclusion

The National Education Policy, 2020 promises a number of exciting possibilities for inclusive education in India. It places a strong emphasis on early childhood care, flexible curricula, and universal access to quality education. Remedial education, vocational training, and special assistance for learners with disabilities are indispensable aspects. In order to establish an inclusive educational ecosystem, the policy emphasises teacher development, technological Edu integration, and cooperative collaborations. The goal of NEP 2020 is in order

to guarantee that every kid has access to an excellent educational opportunities and can realise their full potential by eradicating inequalities and offering equitable educational opportunities. A progressive approach to inclusive education in India is outlined in the National Education Policy 2020, with a focus on equity, quality, and accessibility. It will take unified efforts and resources to successfully implement these policies and practises, but the result could be a more diverse and inclusive education system that better prepares students for the possibilities and challenges of the twenty-first century.

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# Teacher Professional Development

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## Abstract

In the 1980s, a brand-new movement known as holistic learning was born in opposition to the then-current, mechanical-learning model. However, it is thought that the idea of educating based on a person's full experience has roots in antiquity, including ideas from Greek and other indigenous civilizations, and has become more significant during the past century. In the 20th century, a variety of strategies built on whole-person education have been used. In a holistic approach to teaching, teachers balance the needs of students in terms of academic performance, emotional well-being, social well-being, and ethical well-being. A supportive learning environment is important. Students are taught to reflect on their choices, their impact on their environment (locally and globally), and how they can learn from those around them. Teachers often provide students with assignments that ask them to apply their critical thinking skills to real-world problems. This paper examines the forms of professional learning and professional development that make comprehensive education possible in the 21st century. It argues that neo-leftist, market-oriented schooling models with an emphasis on standardized testing, limited, traditional, and uncritical use of technology, coupled with performance-based pay, have demeaning and deskilling teachers by relying on recent literature such as: (Hargreaves; Fullan; Robinson; Shirley; Timperley; and Hattie). According to the evidence, we need passionate, innovative, and socially, emotionally, physically, spiritually, and intellectually engaged educators to meet all children's educational needs and prepare them for a happy and fulfilling future in an ever-evolving world. The paper proposes an approach of continuous professional development and learning that begins with a holistic analysis of students' needs, followed by the subsequent learning

needs of teachers, and then models learning-focused interactions that are necessary for effective learning.

*Keywords:* holistic education, teacher professional learning, comprehensive education, coherent learning, market-based schooling models

## Introduction

Teacher professional development is any endeavor by educators to advance their education. It is one of the ways teachers advance their knowledge which helps students perform better. Learning can occur in both structured and unstructured environments. Some examples of formal settings include conferences, classes, workshops, and retreats. Some informal settings for teacher professional development include independent study or investigation, collaborative learning projects, or just chitchat in the staff room. There are different levels of teacher professional development for teachers. Some are district-wide, some are among instructors at a particular school, and some are within the classroom or one on one. Effective teachers are more successful in instructing students. Effective teachers are better equipped to become effective teachers, especially if they have ongoing learning opportunities and/or professional development materials. Any educator engaged in professional development must have student achievement at the forefront of their minds. According to a professional development organization's Hayes Mitchell, "Teacher professional development takes place when teams of teachers focus on their students' needs." In order to ensure that every student is successful they work together to learn and overcome challenges. New teachers have never had the chance to build their own resources. Teachers spend their whole life learning new skills to

respond to the challenges they face. Both new and experienced teachers can gain the skills they need to feel comfortable in their classrooms. Teachers can impact students' lifelong learning through successful professional development. On a daily basis, teachers have to make challenging decisions based on many different types of information. In addition to having an in-depth knowledge of these areas, teachers must be able to collect and analyze data. Understanding and making decisions lead to highly important outcomes for students' future. Educators must be cognizant of how student learning might influence their actions in various ways. To evolve, teachers must take the necessary steps to gather additional information so that they can better understand what is going on and make better decisions about what would be best for their students. The teacher must be able to develop in light of the developmental factors, the learning styles, the language and culture influences, the individual temperament, the interests, and the pedagogical philosophy. In making decisions, teachers must prioritise what is best for the student above all else.

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**Review of literature on professional learning:**

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While there are many elements that contribute to the attainment of these objectives, recent research literature indicates that what teachers know and what they are able to do is one of the most important determinants of student learning (see, for example, Darling-Hammond and Sykes (1999), Fullan (2006), Hill (2006), Wilson (2006), Floden (2006), Ferrini (Mundy (2001)) Teachers must work collaboratively with their students, translate curricula and theoretical concepts into practice in the classroom and across the school, and create a

learning environment conducive to effective learning. The most recent research also highlights the complexity of the act of teaching and the ability of highly competent teachers to apply a wide range of practises for a wide range of purposes, incorporating and integrating various types of knowledge in a range of ways, adaptable and proficient (Bransford (2006), Cole (2005), Knowles (2000), Darling-Hammond (1998), Joyce (2002) The importance of intentional, ongoing, high quality professional learning and development to support teachers in responding to changing, complex and challenging demands (see Berliner, 2001), Hawley (1999), Showers (2002). For example, According to Fullan (2006), "professional learning that is contextually based, personalised and data-driven" is "one of the three critical components of breakthrough thinking" that will be "essential for making significant changes in education" and that "will significantly enhance and sustain learning" for both students and teachers. In other words, "teachers should always be learning in their classrooms" (Fullan, 2006). In recent years, there has been a growing interest in professional development programmes specifically designed to meet the needs of mid-career teachers. The challenges of effective mid-career professional development for teachers have been extensively studied in various research papers (Berliner (2005), Elmore (2004), Feiman (2001), Fullan (2001), Guskey (1995, 2000, 2005), Hammerness (2006), Hawley (2006), Valli (2006), Lieberman (2006), Wilkins (2006), Tomlinson (2006) and Warren-Little (2007) among others. These papers outline a number of factors that must be carefully considered when selecting appropriate delivery modes/standards/approaches for assessment of professional learning.

Professional development techniques that have been tried include study groups, writing groups, professionally oriented graduate programmes, action assessment and instructional strategies in educational institutions sites and career ladder initiatives and differentiated certification and incentives. However, there is no consensus on the results of any of these strategies, although some of them appear to have some impact on professional learning. There is no magic bullet when it comes to creating and deciding on quality professional development. There are many factors that need to be considered, such as the context, the particular professional experience of the teacher learner, the school and system support and efforts, and many more. The literature shows that infrequent, ill-conceived and/or poorly planned approaches to teachers' professional development are not only costly, but also often lead to a transmission approach to learning which is often inefficient. As Warren-Little points out, 'nothing has frustrated me more than the thousand or so seminars and conferences which were held but which produced little or no change in practice when the instructors returned to their classrooms.' It is a well-known fact that these approaches to professional learning are inadequate. While continuous professional development in a variety of ways has been around for a long time, evidence from both home and abroad suggests that efforts to improve student learning and to transform schools need to pay special attention to effective professional development for experienced instructors. The literature most often describes professional development for experienced teachers as a stage or segment in a long-term career development process. Professional development for professional educators encompasses many elements and takes many forms in the overall context of teacher development initiatives. A successful

professional development initiative must be cohesive. Its goals and standards, processes and practises and assessment methods must be clear, relevant and manageable standards. It must have measurable results that are connected with student learning and organisational learning needs as well as social learning objectives. This review provides an overview of the latest literature on professional development topics and delivery methods for experienced teachers, including appendices and related references.

## Steps to Make Teacher Professional Development Effective and Engaging

Teachers are actively involved in their learning through professional development. This also ensures that students and teachers love learning. When the school administration offers training and support, it shows that the school administration values what teachers do and encourages them to move forward. When there are insufficient resources for teachers' professional development, it sends a message that the school administration is not interested in investing in the quality of instruction. It also increases the pressure for teachers to learn their craft independently. Running a successful professional development workshop for teachers is challenging for a variety of reasons. Time, money, dedication, effectiveness, etc. may seem insurmountable, but it shouldn't prevent you from giving your teachers the opportunity to improve their understanding.

## Making It Specific

Every teacher faces unique challenges and brings a diverse set of skills to the classroom every day. Many of the professional development options available to teachers are too broad and

don't apply to most, or even all, of them. It's a good idea to ask our professors for their advice on how to make professional development relevant because it's likely that they've got a lot to contribute. Giving teachers the ability to participate in what they learn or how they learn it is a good thing. Give them lots of options for seminars and courses they can sign up for. Focus on the depth rather than the breadth. Make sure that teachers leave that session with the knowledge they need to start putting it into practice in their classroom. Ask for feedback at the end of the session and then use it to repeat the cycle. Ask the teachers what went right, what didn't go so well, what they'd like to improve on and what they want to learn more about next time.

For example, there are several ways to personalize teacher professional development (PPD). Start by collecting information on topics that teachers want to learn about and reviewing past sessions using tools such as Google Forms.

### Get Teachers Invested

Most teachers say they don't like feeling like students because they're professionals who are here to build on their already existing, unique, and powerful skills. It's highly unlikely that the session is going to have a significant impact or inspire improvement in the classroom if students aren't involved. Both the teacher and the student suffer when there's a lack of engagement. Use active learning techniques when setting up an active engagement in class session. Ask teachers to look for opportunities or groups that their students can join if the class is about service learning. Teachers need to be excited and engaged Teachers learn in different ways and respond strongly to auditory, kinetic, written, and visual learning techniques, just like students do.

For instance, Discussion about blended learning might cover a variety of approaches for teachers to engage with the subject:

o   Request software demonstrations from students with experience

o   Have teachers who value collaboration come up with ideas for subject-specific methods to integrate technology into the classroom with their peers.

o   Give a teacher the chance to discuss her experiences using blended learning strategies, including her accomplishments and obstacles.

## Make it Ongoing

A professional development (PD) session's effectiveness depends on both its immediate effects and how well it sticks in the classroom. A 2021 systematic review found a strong correlation between student results and educational equality and instructor quality. It's interesting to note that the review also highlights how some PD has been linked to substantial, long-lasting effects on both teaching practises and student progress. Teachers could be hesitant to introduce novel approaches and concepts into their lesson plans if they are not dedicated to lifelong learning and support. This may lead to the wastage of resources and time.  Making ensure that teachers get the assistance they need is essential as they work to improve their teaching strategies. Encourage educators to come to you with any queries or worries. To decide on future areas of attention and teaching methods we should improve student learning and use data on both teacher and student performance. By doing this, we are aligning our decisions with the most recent research findings and demonstrating your support for evidence-based practices.

For instance, EdTech software is gradually becoming as one of the greatest methods for gathering useful information on student performance and comprehension. Teachers are given the skills they require to effectively utilise information about students for enhancing their classroom instruction when given the chance to receive training on EdTech platforms that are subject-specific. Prodigy Math is a no-cost, standards-aligned math game which puts students to the test in a knowledge- and adventure-filled setting. School administrators and instructors can gain useful

insights into which classroom strategies are promoting student performance and which areas need to be improved thanks to real-time data and robust reports.

## Embedded into the Teaching Process

Schools and districts will always need to spend money on professional development. But one of the biggest costs—time—can be controlled. Effective learning doesn't happen in the "afternoon." Teachers and administrators often struggle to fit professional development opportunities into their day-to-day schedules. Time is a resource, and we can control how we spend it. That doesn't mean we'll spend less time on teacher professional development activities, but we'll make the most of what's available. Start peer coaching sessions. Encourage teachers to observe their peers on a regular basis. They'll get the opportunity to see how their classmates solve problems in class and how they handle their assignments. They'll also get the opportunity to work together to identify areas for improvement. Make sure you're giving your teachers constructive criticism. If they don't know where to improve, they won't have the opportunity to take action.

For example, assign each educator a subject with a challenge and divide them into learning groups based on their proximity to the challenge. For example, challenge Grades 4-, 5-, and 6 teachers to find a way to scaffold information effectively and accelerate student development if you see that those students are typically struggling with fractions. Mizell suggests that learning teams should meet two or three times a week, and each group should have a "skilled facilitator" who can guide them while they focus on their objectives. All instructors work together to improve student performance, and new teachers can learn from others' experiences.

## Conclusion

With so many things to keep track of in school, professional growth often falls by the wayside. Work to change the school's culture around professional development initiatives, rather

than feeling bad about it. Any new professional development strategy should always begin with small, carefully monitored pilot studies to assess its effectiveness, as suggested by educational scholars. Everyone in the school benefits when accessible, engaging, and stimulating professional development opportunities are available for teachers. To sum up, professional learning is the pursuit of continual improvement of practise. Student learning and professional learning are closely linked. The professional learning framework supports learning activities that are based on regional legislations and regulations, system needs, personal development needs, and student learning needs. The framework encourages members of an institution to identify and pursue their interests and skills.

A standards-based approach to professional development allows for an integrated teacher preparation process. The SPS and the ETS must be embedded in every programme and professional learning initiative that the institution accredits. Good learning theories provide the basis for high-quality professional learning outcomes. The framework considers the priorities of each person's work and personal life. It includes a wide range of flexible, accessible, and professional training opportunities for Faculty Members. Teachers should structure and assess their professional development.

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https://www.yumpu.com/en/document/view/51800067/a-review-of-literature-on-

professional-development-content-and-

# Integration of Technology for the Development of 21st Century Skills in Teachers

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## Abstract

*In the 21st century, with the change in education system the role of teachers has not only changed but keep on changing from an instructor who pours the knowledge in the mind of learners, teachers have become a constructor, facilitator & creator of learning environment who guides and assist the learners in construction of own knowledge. This changed scenario of teaching and learning has necessitated the incorporation of 21st century skills in the teachers and their pedagogy deliberately with proper strategy. These skills facilitate psychosocial abilities, which may enable them to inculcate strong interpersonal skills, effective communication skill, self-awareness, critical thinking and problem-solving abilities for effective confrontation of conflicts and cope up with stressful situations and emotions. Technology can be a powerful tool for enhancing 21st-century skills in teacher. A teacher with digital literacy skills can help pupils develop scientific temper, critical thinking, and creativity to become lifelong learners and innovators. Together with learning for life and learning through life, they must respect lifelong learning. Teachers must get continuous training and retraining in order to fulfill their roles with greater significance and efficacy. This paper tries to explore that how technology can be used to foster the development of these skills.*

*Keywords:* 21st century skills, technology, professional development, teachers

# Introduction

The fundamental idea of digital competency of professionals in the knowledge sector characterizes the educational landscape of the twenty-first century. As a result, education and training must be prioritized. Teachers play a critical role in delivering education and creating learning experiences; thus, they must get ongoing training and development. Digital competency is exciting, but it also necessitates that educators put in extra effort to stay up to date on the latest developments in technology-based skills. As stated by Prensky, (2001) education is one of the largest problems facing by digital world because our educators are digital immigrants whereas our students are digital natives; this digital generation gap has created a digital divide between teachers and learners. The teachers are struggling to teach a generation that has an increased exposure to technology, which has altered their thinking style, way of working along with the way of interaction and responding to digital devices. Therefore, to meet the specific learning needs of this generation, teachers need to get the knowledge and skills necessary to incorporate technology into their everyday lives as well as the classroom. The position of a teacher has evolved and will continue to evolve from that of an instructor to that of a constructor, facilitator, and designer of learning environments. In addition, instructors must use critical and creative thinking to analyze the material that is accessible as well as their own experiences. To accomplish this, they also need to be digitally competent which assist them to learn about, communicate with, understand one another,

recognize & handle emotions, influence their societal values, improve interpersonal relationships and working in collaboration with others. It is also believed to promote deeper understanding, and the development of digital age competencies like knowledge management, critical thinking, problem-solving, and enhanced communication skills.

## 21st Century Skills

"21st-century skills" is a term often used to refer to a set of abilities, competencies, and knowledge areas that are thought to be necessary for success in the contemporary world. These abilities are believed to be particularly important in today's rapidly changing, information-driven, and technology-oriented society. 21st Century Skills has been defined by The Glossary of Education as "The term 21st century skills refer to a broad set of knowledge, skills, work habits, and character traits that are believed— by educators, school reformers, college professors, employers, and others—to be critically important to success in today's world." 21st Century Skills- A handbook published by Central Board of Secondary Education (2020) outlines that "the 21st Century Skills are the skills that are required by an individual for his/her holistic development so that he/she can contribute to the progress and development of his society/nation and world."

The European Reference Framework in 2006 had identified eight key competences i.e. (i) Communication in the mother tongue; (ii) Communication in foreign languages; (iii)

Mathematical competence and basic competences in science and technology; (iv) Digital competence; (v) Learning to learn; (vi) Social and civic competences; (vii) Sense of initiative and entrepreneurship; and (viii) Cultural awareness and expression. Trilling and Fadel (2009) proposed three groups of 21st century skills in their book 21st Century Skills: Learning for Life in Our Time, as (i) Learning and innovation skills, (ii) information, media, and technology skills, and (ii) life and career skills. Assessment and Teaching of 21st-century skills (ATC21S) grouped 21st-century skills in 4 groups (i) way of thinking, (ii) way of working, (iii) tools for working, and (iv) living in the world.

While there is some variation in how these skills are grouped and defined, they generally encompass the following key areas:

- **Critical Thinking and Problem Solving-** the ability to analyze data, assess arguments, and come to well-reasoned conclusions. Critical thinkers can identify problems, formulate solutions, and adapt to changing circumstances.

- **Creativity and Innovation**- the ability to solve problems creatively, come up with fresh concepts & original ideas, use fresh perspectives having cutting-edge methods and creative problem-solving techniques. Creative individuals are often capable of thinking "outside the box" and coming up with innovative solutions.

- **Communication**- Effective communication skills include the ability to express ideas clearly, listen actively, and convey messages through various media. This includes digital communication tools in addition to written and verbal communication.

- **Collaboration and Teamwork-** The skill to work effectively and to collaborate with people in varied teams in an efficient manner people in a variety of groups. Collaborative

individuals can share responsibilities, leverage the strengths of team members, and work toward common goals.

o **Information Literacy**- The ability to locate, evaluate, and use information from various sources, including digital resources. Information literate individuals can discern credible information from misinformation and apply it appropriately.

o **Digital Literacy and Technology Skills**- Competence in using digital tools, software, and technology devices. This includes proficiency in navigating digital platforms, using software applications, and understanding digital security and privacy.

o **Adaptability and Flexibility**- The capacity to become accustomed to new circumstances, surroundings technologies.

o This skill is crucial in a rapidly changing world where individuals may need to learn new skills and adapt to evolving circumstances.

o **Cultural and Global Awareness**- An understanding and appreciation of diverse cultures, global perspectives, and the ability to work effectively in a multicultural environment. This skill is essential in an interconnected world.

o **Emotional Intelligence**- The ability to identify, comprehend, and manage one's own emotions as well as those of others. Emotional intelligence is valuable for building positive relationships and effective interpersonal interactions.

o **Resilience and Grit**- The perseverance and resilience to overcome challenges and setbacks. Individuals with grit are determined and able to persist in the face of adversity.

o **Media Literacy**- The ability to assess and critically analyze media content, such as news, advertisements, and social media. Media literate individuals can identify bias, misinformation, and persuasive techniques.

The US Partnership for 21st Century Learning (P21), CBSE (2020) have classified the above stated 21st century skills in three sets of skills (i) learning skills, (ii) life Skills and (iii) literacy skills as shown in Figure 1.

These 21st-century skills are often seen as essential for success in education, the workforce, and everyday life in the digital age. Educational institutions and employers increasingly emphasize the development of these skills to prepare individuals for the challenges and opportunities of the modern world.

**Figure 1**

*Classification of 21st Century Skills*

**Learning Skills**
- skills required for the acquisition of new knowledge by optimizing study and reflecting on learning process; it includes
- **4Cs**: **C**ritical Thinking, **C**reativity & Innovation, **C**ollaboration, **C**ommunication

**Literacy Skills**
- skills that help in finding, assessing, using and creating knowledge through media and digital resources; it includes
- **IMT**: **I**nformation Literacy, **M**edia Literacy, **T**echnology Literacy

**Life Skills**
- skills required to handle life challenges and lead a successful life; it includes
- **FLIPS**: **F**lexibility and Adaptability, **L**eadership and Responsibility, **I**nitiative and Self-Direction, **P**roductivity, **S**ocial and Cross-Cultural Interaction

## Role of 21ˢᵗ Century Skills in Professional Development of Teachers

21st-century skills not only benefit educators personally but also have a significant impact on their effectiveness in the classroom. These skills are highly important for the professional development of teachers. The field of education is constantly evolving with new teaching methods, technology, and curricular changes. Teachers need to be adaptable to these shifts and open to incorporating new strategies and tools into their teaching practices. Technology plays a vital role in modern education. Teachers who possess digital literacy and technology skills can effectively integrate technology into their lessons, making learning more engaging and relevant for students. Further, Critical thinking and problem-solving ability of teachers help them to analyze student performance data, identify learning gaps, and adjust their teaching methods accordingly. Moreover, Effective communication skills are essential for teachers to convey information clearly to their students, colleagues, and parents. Teachers with strong communication skills can foster better relationships with students leading to

improved classroom outcomes. At the same time effective communication with colleagues helps in development of good rapport and teamwork among educators. As teachers have to often work in teams or collaborate across subjects to create interdisciplinary lessons. The ability to collaborate enhances the exchange of ideas and the development of effective teaching strategies. Effective communication and interpersonal skills are essential for building strong relationships with parents and the community. Engaging parents and community members can lead to better support for students' learning. Effective communication is one of the key elements of leadership and leadership skills enable them to not only guide and mentor students but also for guiding colleagues, mentoring new teachers, and participating in educational initiatives.

In today's diverse classrooms, teachers need to be emotionally and culturally aware and sensitive to the backgrounds and perspectives of their students. Understanding different cultures and global issues enables teachers to create inclusive and culturally responsive classrooms. Teachers possessing emotional intelligence can better understand and manage their own emotions and those of their students. This skill helps create a positive and supportive classroom environment that enhances the learning experience. To meet the needs of diverse learners, teachers must possess creativity and innovation skills, it assists them in developing innovative teaching methods, creating engaging lesson plans, and adapting new approaches.

Teachers need to be lifelong learners to stay current with best practices in education. The ability to learn independently and seek professional development opportunities is crucial

for their growth and effectiveness as educators. Incorporating professional development programs that focus on these 21st-century skills can empower teachers to excel in their roles and provide high-quality education that prepares students for success in the modern world. Teachers are not only educators but also role models for their students. Demonstrating 21st-century skills such as critical thinking, adaptability, and a growth mindset can inspire students to develop these skills themselves.

Shroff (2012) stated that developing a self-concept as a deserving and contributing member of society is the main goal of life skill education for students. Character building is a crucial component of value-based education since it guarantees a person's holistic development and enhances knowledge acquisition as well as "social skills, emotional balance, time management skills, financial literacy, health consciousness, and problem-solving skills, among others." It is necessary to instill moral qualities such as values, kindness, tolerance for other cultures and cuisines, courage, honesty, and respect for others. It is easier for the child to assimilate these skills if they are taught at a young age. Shroff (2012) further questioned on how to deliver these skills in classroom and answered it as "To deal with such questions and situations the teaching fraternity must be trained to appreciate and measure academic work, give quantitative marks and at best, write qualitative report. Unless mindset of the teachers undergoes a sea change, life skills teaching like many other concepts will remain a white paper presentation."

**Integration of Technology in the Development of 21ˢᵗ Century Skills**

Technology can be a powerful tool for enhancing 21st-century skills in education, the workplace, and everyday life. The use of digital technologies drives innovation and fosters creativity (Ramaila & Molwele, 2022). The advent of digital tools and technology in recent times has provided a plethora of online activities that foster divergent thinking; such as creative writing, graphic design, animation, and effects to communicate specific messages, The use of digital technologies in the classroom allows for the acquisition of new knowledge, skills, and experiences by both teachers and students. (Demir & Akpinar, 2018). In this digital era with the speedy evolution and inclusion of technology into routine lives, individuals are now enabled to communicate through huge variety of digital tools and technology, globally. Technological advances have provided number of ways and means to communicate such as mobile phone, email, videos, social media and more. The line in-between digital and in-person communication are fading. Computational thinking, a crucial 21$^{st}$ century skill, aids students in responding to problems they encounter on a daily basis (Haseski et al., 2018; Weintrop et al., 2016). The focus of computational thinking is on the concepts, tactics, and mental processes that students might employ to address particular issues. It is important to pay closer attention to how technology integration and the growth of 21$^{st}$ century skills and capabilities interact. The extent to which digital technology can support the development of 21$^{st}$ century skills and competencies in the classroom varies. Personalized learning is a feature of digital technology, claim Cheung et al. (2021). The usage of numerous programs that enhance the quality of instruction in the classroom improves personalized learning.

These technologies provide information about a person's behavior, performance, and learning. Digital literacy influences the ways in which technologies can be integrated to create intelligent learning environments. The digital convenience needed for the development of 21ˢᵗ century skills and competencies are provided in computational classrooms. A variety of material can be accessed by students using tools, and they can participate in technology-focused classrooms, which have been made feasible by technological breakthroughs and their effective use (Yilmaz, 2021). Through the use of computer instruments, students can learn information and practical skills like flexibility, adaptability, creativity, critical thinking, and technology literacy (Yilmaz, 2021). Technology can be used to foster the development of these skills in many ways some of them have been discussed below.

**Critical Thinking and Problem Solving**- Online research tools and databases provide access to vast amounts of information, helping individuals gather data and evidence to support their critical thinking. Simulation and modeling software allow users to experiment with complex systems and explore cause-and-effect relationships. Analytics tools can help individuals analyze data and identify trends or patterns to inform decision-making.

**Creativity and Innovation**- Creative software tools, such as graphic design, video editing, and music composition software, enable users to express their creativity. Online platforms and communities can facilitate collaboration and idea sharing among creative individuals from diverse backgrounds. Crowdsourcing and crowdfunding platforms can help turn innovative ideas into reality by connecting creators with resources and support.

**Communication**- social media, email, and messaging apps enable instant communication and collaboration with individuals around the world. Video conferencing and webinar platforms allow for face-to-face communication and presentations, even across great distances. Blogging and podcasting tools offer platforms for individuals to share their thoughts and ideas with a global audience.

**Collaboration and Teamwork**- Collaboration software and project management tools support teamwork by allowing team members to coordinate tasks, share documents, and track progress. Online collaboration platforms enable virtual teams to work together on projects regardless of their physical locations. Cloud-based document sharing and editing tools facilitate real-time collaboration on documents and presentations.

**Information and Media Literacy**-Search engines and online databases provide easy access to a wealth of information, but technology can also help users learn how to evaluate the credibility and reliability of sources. Fact-checking websites and plugins can assist users in verifying the accuracy of information they encounter online. Educational apps and games can teach information literacy skills in an engaging and interactive way. Media literacy courses and workshops can help individuals develop critical thinking skills to analyze media content.

**Digital Literacy and Technology Skills-** Online courses and tutorials can help individuals acquire and improve their digital and technical skills. Digital literacy programs can teach users about internet safety, cybersecurity, and responsible online behavior. Online learning platforms and Massive Open Online Courses (MOOCs) offer flexible learning

opportunities that allow individuals to adapt their education to their schedules. Virtual reality (VR) and augmented reality (AR) technologies can create immersive learning experiences that expose individuals to new environments and situations.

**Cultural and Global Awareness**- social media and online communities can connect individuals with people from diverse cultures and backgrounds, fostering cultural awareness and understanding. Language learning apps and online courses can help individuals acquire language skills and better communicate with people from different parts of the world.

**Emotional Intelligence**- Virtual reality simulations and games can help users develop empathy by putting them in the shoes of others and experiencing different perspectives. Online mental health resources and apps can assist individuals in managing stress and improving emotional well-being.

**Resilience and Grit**: Mindfulness and meditation apps can teach stress management and emotional resilience techniques. Online support groups and communities can provide a sense of belonging and encouragement during challenging times.

By integrating technology effectively into education and everyday life, individuals can develop and enhance these 21st-century skills, enabling them to thrive in our increasingly digital and interconnected world.

**Technological Tools to Enhance The 21ˢᵗ Century Skills of Teachers**

There are numerous technological tools and resources that can be used to enhance the 21st-century skills of teachers. These tools can support professional development and help educators acquire and strengthen these skills. Here are some technological tools and platforms that can be beneficial for the development of 21st century skills in teachers.

1. **Online Learning Platforms**- Platforms like Coursera, edX, and LinkedIn Learning offer a wide range of courses on topics related to 21st century skills, including critical thinking, digital literacy, and leadership.

2. **Webinars and Virtual Workshops**- Webinar platforms such as Zoom and Microsoft Teams allow teachers to attend virtual workshops and seminars on various topics. These platforms also offer opportunities for interaction and collaboration.

3. **Learning Management Systems (LMS)**- LMS like Moodle, Canvas, or Google Classroom can be used to create and deliver online courses and materials for teachers to develop their skills at their own pace.

4. **Educational Blogs and Podcasts**- Teachers can follow blogs and podcasts that focus on education, technology, and professional development. Tools like RSS readers or podcast apps can help curate relevant content.

5. **Social Media**- Platforms like Twitter and LinkedIn are excellent for connecting with other educators, participating in educational chats, and sharing resources related to 21st century skills.

6. **Professional Learning Networks (PLNs)**- Websites and apps like Edmodo, Ning, or Schoology provide spaces for teachers to join communities, share ideas, and engage in discussions with peers and experts.

7. **E-Books and e-Textbooks**- Digital books and resources can be easily accessed and updated, providing teachers with the latest information and insights on 21st century skills.

8. **Online Collaboration Tools**- Tools such as Google Workspace (formerly G Suite), Microsoft Office 365 etc. can facilitate collaboration among teachers, enabling them to work together on projects and share ideas.

9. **Video Conferencing Tools-** Platforms like Google meet, Zoom, Microsoft Teams can be used for immersive professional development, virtual conferences, and virtual classroom visits.

10. **Online Assessment and Feedback Tools**- Platforms like Kahoot!, Quizlet, or Formative can be used to create interactive assessments that measure teachers' knowledge and skills in various areas.

11. **Digital Note-Taking and Organization Tools**- Apps like Evernote, OneNote, or Notion help teachers stay organized, take digital notes, and manage resources related to their professional development.

12. **Data Analytics and Reporting Tools**- Teachers can use data analytics tools to assess student performance and identify areas for improvement, enhancing their ability to make data-informed decisions.

13. **Online Communities and Forums**- Websites like Reddit or specialized education forums provide spaces for teachers to ask questions, share experiences, and seek advice from their peers.

14. **Augmented and Virtual Reality (AR/VR)**- AR and VR applications can immerse teachers in various scenarios to enhance their empathy, cultural awareness, and understanding of global issues.

It's important to note that the choice of technological tools should align with specific professional development goals and the skills teachers aim to enhance. Additionally, ongoing

support and training in using these tools effectively can be beneficial to ensure that teachers can maximize their impact on professional growth.

The Government of India has recognized the importance of professional development for teachers and has implemented various provisions to support their growth and enhance the quality of education. These provisions are aimed at improving teacher training, upgrading their skills, and promoting continuous learning. Many of these initiatives leverage technology to provide training, resources, and support to educators, helping them improve their teaching practices and stay updated with modern educational techniques. Some of the key Information and Communication Technology (ICT) initiatives for teacher professional development in India includes DIKSHA (Digital Infrastructure for Knowledge Sharing), SWAYAM (Study Webs of Active-Learning for Young Aspiring Minds), SWAYAM PRABHA, National Repository of Open Educational Resources (NROER), e-PG Pathshala, National Digital Library (NDL), National Initiative for School Heads' and Teachers' Holistic Advancement (NISHTHA), Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT) etc. These ICT provisions are aimed at empowering teachers with the digital skills and resources needed to enhance their teaching practices and deliver high-quality education to students. They support the government's efforts to modernize education and promote digital literacy among educators. These provisions and initiatives reflect the government's commitment to improving the quality of education in India by investing in the professional development of teachers. The goal is to equip teachers with the skills and knowledge needed to

provide high-quality education and foster positive learning outcomes for students across the country.

## Conclusion

Ever since its egression, the endless world of digital technology is influencing our lives in multitudes of fashions. It has changed almost everything from our mundane activities and tasks, to the way we interact with others, the way we work professionally and the way we spend our leisure etc. Our society has transformed into an information society due to advancements of technology; and with this fast-pacing technology the skills required to live in this technology driven information society are also changing rapidly. "The sky is the limit", when it comes to learning and with the rapid growth of the "virtual world" the need for teachers with the skills to be able to teach both in face-to-face mode in classroom environment as well as in online environments, who may inculcate the necessary 21st century skills in the students, are in high demand. Thus, it can be said that in order to effectively teach students in all of these subjects, a teacher need to be receptive to learning on how to incorporate digital tools and technology in pedagogy in addition to 21st century skills. Let the teachers be armed first and then allow them to practice what they have learnt; as teachers who model these skills can help students develop them, setting them up for success in their own future careers.

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# Mindfulness – Key to Right Attitude and Resilience among Adolescent Students

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## Abstract

Mindfulness is the fundamental human capacity to be present, conscious of our surroundings and activities, and free from overreaction and overwhelm. The paper is a theoretical presentation the researcher's review based on several papers on the topic of mindfulness.  The three mechanisms of mindfulness; Intention, Attention, and Attitude. Introducing adolescents to mindfulness can be a great way to support the early development of emotional intelligence, self-regulation, and stress management. Some methods are interactive mindfulness, mindful breathing, mindful language, and patience and being non-judgement; to accept things as they are. Schools can provide access to mindfulness resources and tools, offer mindfulness-based stress reduction classes, or integrate mindfulness programs into their curricula. Resilience can be fostered by positivity and mindfulness. A well-rounded teenager welcomes obstacles as chances for personal development and develops the right attitude towards life.

*Keywords: mindfulness, resilience, adolescent student's attitude, positive reinforcement*

## Introduction

Mindfulness is the capacity to be aware of the moment one is in. Mindfulness is mentioned in the Buddhist text named *Sattipathana Suta*. According to Buddhism, Mindfulness is the state of awareness. Buddha describes that one's mind is a powerful source to control one's actions and thoughts. He explicitly states that the mind at a moment can wander to various other ideas and get distracted. Mindfulness is the fundamental human capacity to be present, conscious of our surroundings and activities, and free from overreaction and overwhelm. Mindfulness is the ability to enjoy and savour the present moment. It enables one to understand the external reality and simultaneously allows us to reflect on our existence.

Jon Kabat-Zinn from the University of Massachusetts operationally defines *mindfulness* as the consciousness that results from purposefully focusing on the current moment and being non-judgmental. Most of the time, we are set on default mode, missing out on the present moments and doing stuff mechanically, unaware of what is happening around us. Some actions often result in spontaneous reactions, which can be positive or sometimes harmful. Practising mindfulness helps us reflect and give ourselves time to react to situations that need careful handling.

The three mechanisms of mindfulness are:

1. Intention: believe or commit to a particular state of mind
2. Attention: to make a conscious effort to be alert or observant
3. Attitude: Make a conscious effort to practice the pillars of mindfulness, such as letting go, non-judgmental, etc.

Each of these components helps us practice and create a meaningful life around us; how we respond to a situation or problem is transformed to make it more composed and peaceful. Each of these components helps us practice and create a meaningful life around us; how we respond to a situation or problem is transformed to make it more composed and peaceful. Mindfulness entails paying close attention to the task at hand, maintaining judgment-free focus, and being conscious of our feelings and ideas without giving in to them. The practice of it helps to organise, reflect, and analyse one's thoughts and actions.

Post-pandemic mindfulness as a practice has seen significant momentum. Everyone's lifestyle has drastically changed, especially of adolescent students. The nature of interaction with other adults and friends has become more restricted and restrained. The beginning of adolescence is the crucial phase for the holistic development of every individual, marked by various physical, psychological, and interpersonal skills.

One should be aware these changes may occur at different times and in various ways to most people. Early adolescence can be challenging but essential for personal growth, preparing them for later adult life. The capacity to tolerate each experience may vary from individual to individual. The guidance of parents, guardians, teachers, and other trusted adults helps adolescents negotiate the obstacles of this time and grow to be healthy, well-adjusted adults. Open communication, empathy, and a willingness to listen can be vital in helping adolescents navigate the challenges and opportunities of this stage of life.

Introducing mindfulness to children can be a fantastic way to help them develop emotional intelligence, self-regulation, and stress-coping skills from an early age. Some strategies parents can use to bring up mindfulness in their children:

1. Be a conscientious model: Frequently, kids pick up knowledge through seeing their parents.

2. You can set an excellent example for others by practising mindfulness regularly. Some examples of this include deep breathing, meditation, and mindful eating.

3. Start early: It's never too early to teach kids mindfulness. Age-appropriate mindfulness exercises, such as mindful colouring, breathing techniques, or nature sound meditation, are accessible to even young children.

4. Make use of everyday moments: • Include mindfulness in your daily activities. For instance, encourage your child to notice their breath when they wake up or before bed. Meals are another opportunity to practice mindful eating.

5. Interactive mindfulness: As a family, do mindfulness exercises. You can practice yoga together, take thoughtful nature walks, and lead family meditation sessions. Having to do activities together improves familial ties while simultaneously teaching awareness.

6. Mindful breathing: • Instruct kids to pay attention to their breath. They can learn to recognise the pattern of their breath with easy exercises like counting breaths or "belly breathing," which involves placing the hand on the belly and feeling it rise and fall with each breath.

7. Mindful listening: Teach your kids to listen to the noises around them. One option is to have a "sound hunt".

8. Mindful Expression: Encourage creative expression through mindful activities like drawing, painting, or journaling. Ask them to describe their emotions through art or words.

9. Mindful Stories: Share mindfulness-themed children's books or stories that promote mindfulness concepts, such as patience, gratitude, or self-awareness.

10. Mindful Language: Promote conscious communication by teaching children to think before they speak. Encourage them to express their feelings and thoughts calmly and with empathy.

11. Mindful Movement: Activities like yoga or tai chi can help children connect with their bodies and improve balance and flexibility while fostering mindfulness.

12. Patience and non-judgement: Emphasize that practicing mindfulness involves accepting things for what they are without imposing judgment.

To sum up, parents should create an open and non-judgmental space where children can ask questions about mindfulness and their experiences. Acknowledge and celebrate your child's efforts in practicing mindfulness. Positive reinforcement can motivate them to continue. Remember that introducing mindfulness to children should be a gentle and patient process. Each child is unique, so we need to tailor our approach to their age, temperament, and interests. Be supportive and create an environment where they feel comfortable exploring mindfulness at their own pace. Over time, mindfulness can become a valuable lifelong skill for managing stress and enhancing well-being.

Schools can incorporate mindfulness programs into their curriculum, offer mindfulness-based stress reduction classes, or provide access to mindfulness resources and tools. Incorporating mindfulness programs into a school curriculum can be a valuable way to

promote the well-being and development of students. Here are steps and considerations for implementing mindfulness programs in schools:

1. Assessment and Needs Analysis: Start by identifying the unique requirements and difficulties. Verify the instructors' ability and readiness to practice mindfulness in the classroom. What problems or stressors do they have to deal with? Once these trivial matters are addressed, the program will succeed.

2. Teacher Training: This is the primary step before introducing mindfulness practice in the schools. Schools should train teachers and staff members who are the responsible authorities to implement mindfulness programs. They should have a strong understanding of mindful practices and how to effectively implement them for students.

3. Integration with Academic Subjects: Schools can imbibe mindfulness activities into various academic subjects, such as English, science, or physical education. It will help students see the practical applications of mindfulness in their daily lives.

4. Start with Short Sessions: Introduce short mindfulness sessions (5-10 minutes) initially to avoid overwhelming students. Gradually increase the duration as students become more comfortable with the practice.

5. Age-Appropriate Curriculum: Tailor the curriculum to the student's age and developmental level. Mindfulness exercises for elementary school students will differ from those designed for high school students.

6. Mindfulness Techniques: Teach various mindfulness techniques, including deep breathing exercises, body scans, meditation, mindful movement (e.g., yoga), and awareness of the senses.

7.  Create a Mindful Environment: Foster a culture of mindfulness throughout the school. Display mindfulness quotes or artwork, encourage mindful walking in hallways and create designated quiet spaces for students to practice mindfulness.

8.  Regular Practice: Schedule regular mindfulness sessions, whether daily, weekly, or as part of a class routine. Consistency is vital in developing mindfulness skills.

9.  Evaluation and Feedback: Schools must assess their efforts to practise mindfulness programs via school activities. Collect feedback from all the people involved to make necessary adjustments.

10. Parent and Community Involvement: Involve parents and the broader community in mindfulness initiatives. Offer workshops or resources to help parents support mindfulness practice at home.

11. Consider bringing mindfulness experts or practitioners to lead workshops or provide resources to enhance the program's effectiveness.

12. Mindful Leadership: School administrators and teachers should lead by example. Demonstrating mindfulness in their own lives and practices can inspire students to adopt these techniques.

13. Mindfulness for Stress Management: To address the pressure students may face, highlight the stress-reduction benefits of mindfulness. It can be especially beneficial during exam periods.

14. Measuring Outcomes: To assess the impact of the mindfulness program, use qualitative and quantitative measures, including surveys, behavioural observations, and academic performance data.

15. Flexibility and Adaptation: Be open to adjusting the program based on the evolving needs and feedback of students and educators.

16. Long-Term Commitment: Understand that the benefits of mindfulness may take time to establish. It may take time for students to fully integrate mindfulness into their lives and for its effects to become apparent.

17. Stress Reduction: Adolescents often face academic pressures, social challenges, and emotional difficulties. Mindfulness practices, such as deep breathing and meditation, can help them manage stress and reduce anxiety, allowing them to approach challenges with a calmer and more balanced mindset.

18. Emotional Regulation: Mindfulness helps adolescents become more aware of their emotions and responses. This self-awareness enables them to regulate their emotions better, which is crucial for maintaining a positive attitude and resilience in adversity.

19. Improved Concentration and Focus: Mindfulness practices can enhance concentration and attention span. Improved focus can lead to better academic performance and an increased ability to persevere through complex tasks, contributing to resilience.

20. Enhanced Self-Acceptance: Adolescents often struggle with self-esteem and self-acceptance issues. Mindfulness encourages self-compassion and self-acceptance, which are essential to a positive attitude and resilience.

21. Better Decision-Making: Mindfulness promotes clear thinking and thoughtful decision-making. Adolescents who practice mindfulness are more likely to choose paths in sync with their inner values and goals that will benefit them in the long run.

22. Increased Empathy and Social Skills: Mindfulness can help adolescents become more attuned to the feelings and needs of others. Developing empathy and strong social skills can improve their relationships and support networks, essential for resilience.

23. Mindful Coping: Adolescents who practice mindfulness are better equipped to cope with setbacks and disappointments. They are more likely to approach challenges with an open and flexible mindset, vital to resilience.

24. Self-Regulation: Mindfulness teaches adolescents how to self-regulate their thoughts and behaviours. This self-discipline can help them avoid impulsive actions and reactions, promoting a more positive attitude and increased resilience.

25. Mindful Communication: Mindfulness can improve communication skills, enabling adolescents to express themselves more effectively and resolve conflicts with a calm and composed demeanour.

## Conclusion

A valuable strategy for improving the wellness of adolescents is to include mindfulness in daily routines through meditation, deep breathing exercises, or mindful sports like yoga. It can result in healthier relationships and contentment, leading to the right attitude and resilience in them.

Mindfulness can foster perseverance, and positivity can promote resilience. A balanced adolescent embraces challenges as opportunities for growth. An adolescent's well-being can be enhanced by practising mindfulness. They can increase their ability to control their emotions, lower their stress levels, and take better care of their mental health by practising mindfulness. By lessening the effects of ongoing stress on the body, mindfulness can also promote physical health. Furthermore, by engaging in mindfulness practices, adolescents may become more

aware of their needs and ideals, which can help them make decisions that advance their general wellness and professional growth.

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# Technology Integration

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## Abstract

In the ever-evolving landscape of education, the integration of technology has emerged as a transformative force, redefining the way students learn and teachers instruct. This article explores the myriad benefits, challenges, and implications of technology integration in education, underscoring its critical role in preparing students for the demands of the 21st century.

*Keywords:* technology integration, challenges, implication of technology integration.

## Introduction

NEP 2020 recognises the pivotal role of technology in transformational education. It emphasises the integration of technology in teaching, learning and assessment processes. The policy encourages using online resources, e-learning platforms virtual classrooms and educational technology tools to enhance the learning experiences. In today's fast-paced and tech-driven world, education must keep pace with the ever-evolving digital landscape. Technology integration in the classroom has become a powerful tool for educators, opening

doors to a myriad of opportunities and challenges. This article explores the concept of technology integration in education, highlighting its significance, benefits, and strategies for successful implementation.

Technology integration in education refers to the incorporation of digital tools and resources into the teaching and learning process. It goes beyond simply using technology as a supplementary tool; instead, it aims to seamlessly integrate it into the curriculum, enhancing the overall educational experience.

## The Significance of Technology Integration

1. **Enhanced Engagement**: Technology makes learning more interactive and engaging. Multimedia content, simulations, and gamified elements capture students' attention and motivate them to participate actively in their education.

2. **Personalized Learning**: Educational technology allows for customized learning experiences. With adaptive software and online resources, students can progress at their own pace, filling gaps in their knowledge and advancing when ready.

3. **Access to a Wealth of Information**: The internet is a treasure trove of knowledge. Technology provides students and teachers with access to a vast array of educational resources, from e-books and academic journals to online courses and virtual field trips.

4. **Collaboration and Communication:** Technology fosters collaboration both in and outside the classroom. Virtual classrooms, online forums, and shared documents enable students to work together on projects and connect with peers globally.

5. **Data-Driven Decision Making:** Technology allows educators to collect and analyze data on student performance. This data-driven approach enables them to identify areas where students may be struggling and tailor instruction accordingly.

## Strategies for Successful Technology Integration

1. **Professional Development**: To effectively integrate technology, teachers need training and ongoing support. Professional development programs can help educators become proficient in using technology as an instructional tool.

2. **Infrastructure and Access:** Schools must provide reliable internet access and appropriate hardware to ensure that all students can benefit from technology integration, regardless of their socioeconomic background.

3. **Curriculum Alignment**: Technology should complement the curriculum, not replace it. Teachers should align technology usage with learning objectives and goals.

4. **Pedagogical Transformation**: Educators should be encouraged to rethink their teaching methods and explore innovative ways to use technology for better learning outcomes.

5. **Assessment and Feedback**: Implement digital tools for assessment and feedback. These tools can streamline the grading process, provide instant feedback to students, and offer insights into their progress.

## The Future of Education and Technology Integration

The integration of technology in education is not a passing trend; it is a fundamental shift in the way we prepare students for the future. As technology continues to advance, education must evolve with it. The future of education and technology integration holds several promising developments:

1. **Blended Learning**: A seamless blend of in-person and online learning is becoming the norm, offering flexibility and adaptability in education.

2. **AI-Powered Education**: Artificial intelligence will play a pivotal role in adaptive learning, personalizing instruction, and supporting educators in their roles.

3. **Global Collaboration**: Technology will facilitate global collaboration among students, enhancing cross-cultural understanding and global competence.

4. **Digital Literacy:** As technology integration becomes more pervasive, students will need to develop strong digital literacy skills to succeed in a tech-driven world.

5. **Lifelong Learning:** The integration of technology is promoting a culture of lifelong learning. Online courses and resources are readily available for those who wish to continue their education beyond traditional schooling.

## The Advantages of Technology Integration

1. **Engagement and Personalization**: Technology enhances engagement by offering interactive, multimedia-rich content that caters to diverse learning styles. Educational software and platforms allow for personalized learning experiences, ensuring that no student is left behind.

2. **Access to a World of Information:** The internet is an unprecedented source of knowledge. Technology integration provides students with the ability to access vast databases, research materials, and educational resources from around the world.

3. **Collaboration and Communication:** Online tools and platforms facilitate collaboration among students, whether they are in the same classroom or on opposite sides of the globe. This encourages teamwork, problem-solving, and cross-cultural understanding.

4. **Feedback and Assessment**: Technology simplifies the process of assessment and feedback. Teachers can use data analytics to track student progress, identify areas of

improvement, and provide timely feedback, ultimately leading to better learning outcomes.

5. **Preparation for the Digital Age**: In a world increasingly reliant on technology, students equipped with technological skills are better prepared for future careers. Technology integration cultivates digital literacy, an essential skill in the modern workforce.

## Challenges and Considerations

1. **Digital Divide:** Not all students have equal access to technology at home. This creates a digital divide that can exacerbate educational inequalities.

2. **Teacher Training:** Effective technology integration requires teachers to adapt to new tools and methods. Professional development is essential to ensure educators can make the most of these tools.

3. **Data Privacy and Security:** Handling student data raises concerns about privacy and security. Schools must implement robust policies and measures to protect sensitive information.

4. **Distraction:** The same devices that can enhance learning can also be a source of distraction. Balancing educational use with potential diversions is a constant challenge.

5. **Cost:** Integrating technology can be costly, with expenses for hardware, software, and ongoing maintenance. Schools must allocate resources wisely.

## Implications for the Future

The integration of technology in education is not a mere trend; it is a fundamental shift in the way we approach learning. As technology continues to advance, education must keep pace to remain relevant. The future implications are profound:

1. **Blended Learning**: A combination of traditional and digital approaches will become the norm. This allows for flexibility and adaptability in the learning process.

2. **AI and Adaptive Learning**: Artificial intelligence will play a significant role in tailoring education to individual needs, providing real-time feedback, and improving the overall quality of instruction.

3. **Global Collaboration**: Technology will enable students to collaborate on a global scale, fostering a deeper understanding of different cultures and perspectives.

4. **STEM Education**: Science, Technology, Engineering, and Mathematics (STEM) education will be greatly enhanced by technology, preparing students for in-demand careers.

5. **Lifelong Learning**: Technology integration promotes a culture of lifelong learning, as it is no longer limited to the classroom. Online courses and resources are readily available for those seeking to expand their knowledge throughout their lives.

## Conclusion

Technology integration in education holds immense promise. While it comes with challenges, the benefits far outweigh them. The future of education lies in harnessing the power of technology to create engaging, personalized, and globally connected learning experiences. To truly prepare students for the future, embracing technology in education is not an option but a necessity. It offers numerous advantages, from enhancing engagement to

providing personalized learning experiences. To prepare students for the challenges of the

future, educators must embrace technology and harness its potential to maximize the learning

potential of every student.

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# Integrating Technology into the Math Classroom: Strategies to Engage the Students

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## Abstract

This paper explores the use of information and communication technologies (ICT) in the classroom. They participate in technology-based learning modules aligned with teaching practice taught school and became characteristic of teaching method by using the mathematical software. ICT-based learning environment has been the demands in practice learning to build a more effective approach to the learning process of students.

*Keywords:* ICT, technology integration, mathematics classroom

## Introduction

Technology as an information tool has an impact and change in performance. It can change the subject of teaching and support teachers and students (girls) in learning to use new technologies as tools to collect, organize and analyze information. you can solve real-life problems and develop new ideas and strategies. Many math teachers also use interactive whiteboards, graphing calculators, software math dynamics, program graphics, computer algebra systems, etc. He is also aware of the opportunities in education. But the advantages of

using technology lie not only in the use of technology, but also in how the chosen tools are specifically placed in context

### Linking Mathematical Concepts to Real-Life Applications

Teachers can use technology to help students understand how to use math in their daily lives. Instead of just having students solve problems, teachers prefer to create short videos that show their decision-making processes for real-life problems. Encourage students to examine the purpose and quantity of purchases of items such as cheese from price and vendor support. These instructional videos can be easily recorded using a smartphone and shared on platforms like YouTube or in the classroom.

Integrating technology into the mathematics classroom allows students to better understand and visualize their learning through interpersonal interactions in classroom settings. Teachers can now hold video conferences with experts in various fields using platforms such as Skype, Zoom and Google Classroom. For example, one teacher used Twitter to ask business professionals for ideas on how they use math concepts in their daily work, which led to students meeting a good park designer. The designer demonstrates the use of measurements, equations and calculation cycles in his work.

### The Necessity of Integrating Technology into the Mathematics Course

The integration of technology reflects the daily lives of students. Because students and technology are inextricably linked in today's world, the National Council of Teachers of

Mathematics emphasizes the importance of integrating technology into mathematics classrooms. Given that technology has become an important part of their daily lives, including digital tools is a way to guide their thinking, create unique lessons for their special needs experiences, and ensure they understand the mathematical concepts they are learning.

**Technology Promotes Truth - World Context of Mathematics**

Many students often wonder about the importance of mathematics in daily life. Mathematical literacy is essential to being a 21st-century thinker, enabling collaboration, facilitating communication, and even performing daily tasks like grocery shopping. Technology plays an important role in helping students learn and empowering students through the use of mathematics. For example, they can use interactive text to solve everyday problems, create their own visual aids, or join in the fun of coding.

**Increasing Interaction with Digital Mathematics Tools**

Integration of digital tools can increase the importance and interactivity of the mathematics learning process in the classroom. Teachers can teach students more by using the right technology. Using multimedia tools such as animations and quizzes adds an extra layer of interest to the classroom. For example, we enhanced our digital textbooks with interactive Geogebra visualizations that not only capture students' imaginations but also allow them to actively explore mathematical concepts. Additionally, it is important to use mind mapping software to promote understanding of various mathematical concepts.

**Technology-facilitated Education**

It is important to remember that digital technology cannot replace the role of mathematics teachers in mathematics; However, they can also be effective in improving teaching quality while reducing teacher workload. As the examples below show, integrating technology into the mathematics classroom ultimately allows teachers to be more efficient and effective.

**Guide to Implementing Technology in the Mathematics Classroom**

There are many different educational technologies that can be used for different mathematics applications, but the integration of technology should not be its own goal. The important thing is to carefully consider these options to determine which one best meets the unique needs of your classroom.

**The Importance of School Culture for Technology Integration**

School culture has a common vision, plans, standards and benefits derived from school membership (Maslowski 2001).

Pelgrum and Law (2009) focused on the importance of school culture in ICT integration, saying that effective ICT integration depends on the understanding and vision of school principals rather than ICT teachers. School culture has a mediating role in affecting teachers' attitudes, beliefs and behaviors (Chai, Hong and Teo 2009). Therefore, in addition to the previously mentioned internal and external changes, school culture also plays an important role in effective technology integration (Tezci 2011b).

To investigate teachers' understanding of school culture regarding ICT use, Tezci (2011b) examined Turkish teachers in terms of technology use and motivation. The results show that their thinking is not good from their perspective because most do not believe they will receive adequate support from school. However, when the school culture becomes positive, teachers also step in. The level of ICT usage has improved. Ward and Parr (2010) stated that in order to incorporate technology into the classroom, teachers need to be confident in their ability to use technology to improve student learning. To achieve this, more professional development is needed that focuses on improving teachers' skills to overcome technology-related concerns. Additionally, schools must provide new instruction and support that allows them to support computer-based learning while maintaining control. In general, implementing effective teaching through technology integration requires changes in teacher education, beliefs, and school culture (Ertmer and Otternbreit-Leftwich 2010).

We can now generate new ideas for successfully integrating technology into Mathematics lessons:

**1. Automate the most repetitive tasks**

Online training tools save you valuable time by automating repetitive tasks in your business. Our platform ranks students and provides them with automatic recommendations.

In this example, we see a teacher using Google Forms to manage questions, with each user asking the same question in a different way. Teachers later realized that feedback and discussions on the platform encouraged students to participate in class and achieve higher levels.

**2. Using Learning Analytics**

Getting anywhere in the classroom can be difficult and time consuming. Learning Analytics allows you to view the entire course. You may be teaching math to many people with different math backgrounds and experiences. Identifying struggling students allows you to provide them with additional support in a timely manner.

## 3. Encouraging collaboration with e-learning tools

Although mathematics is widely seen as an individual activity, group learning is more effective at the end of the lesson (Koçak, Bozan, & Işık, 2009). Among the many activities for shared math e-learning, there are some useful ones, such as free-text discussion papers or graded worksheets. Digital media can also help create a safe space for the quietest and shyest students and encourage their participation

## 4. Using Gamification to Increase Classroom Engagement

Learning games are a great way to learn. Connect with your students and encourage them to engage in learning. They can stimulate interest and interest in mathematical concepts. Gamification makes content more interesting for students and improves their performance.

**Integrating technology into the mathematics classroom also means:**

o   Independent learning: students can learn on their own and receive feedback and feedback.

o    Collaboration: Students can work together anytime and anywhere.

o   Real World Applications: Machines can test real-world situations that require mathematical thinking and reasoning skills.

o  Saves time for teachers: Technology helps teachers monitor learning, provide quick feedback, and identify where students need support.

The best technology in the math classroom is active, not active. They also invite deep thinking and creative thinking, not quick learning.

**Here are some ways to encourage collaboration:**

o  Use an interactive table or projector: Display math problems and solutions, diagrams, and simulations so students can interact with visualizations of mathematical concepts and operations.

o  Use math calculators and virtual objects: Helps students visualize and solve complex math problems and prepares them to better understand math concepts.

o  Use gamification techniques: You can make mathematics useful for your students.

o  Use online sharing tools: These tools can help students do math and homework together, even if they are not in the same physical space.

o  Use selected publications and other online resources: Create a math community where students can collaborate, share resources, and ask questions.

o  Use math software and apps: These programs help students practice math, solve problems, and visualize math concepts in 3D or interactive models.

**How is Desmos Math 6–A1 presented?**

Desmos Math 6-A1 is this program. It offers digital and interactive learning as well as simple and creative outputs. The teacher dashboard is designed to support classroom communication and collaboration. It invites students to explore a variety of teaching methods and teachers to celebrate and create positive experiences in the classroom.

The dashboard also allows teachers to measure the performance of each student and class and allows students to write feedback for use in the classroom. class.

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# Parent Orientation and Community Engagement in Physical Education

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## Abstract

A holistic education must include physical education (PE), which not only encourages physical fitness but also makes a substantial contribution to mental, social, and emotional health. Acknowledging the significance of parental engagement in cultivating a constructive and encouraging atmosphere for pupils, this parent orientation seeks to offer insightful information on the function of physical education in a child's holistic growth. The orientation session will cover various aspects, including the significance of physical activity, the curriculum's goals and objectives, and the positive impact of an active lifestyle on academic performance. Parents will gain a deeper understanding of the diverse range of activities incorporated into the PE curriculum and how these activities contribute to the physical, mental, and social growth of their children. The programe takes a multipronged approach, including collaborative community activities, teacher training sessions, and incorporating physical activity into the larger educational framework. To improve their knowledge of the advantages of physical activity and its effects on cognitive, social, and emotional development, teachers will undergo specialized training. Armed with this knowledge, instructors will be able to encourage kids and their families to pursue healthier, more active lifestyles by setting an example. In this, major problem is said to be that people do not get proper sports training from childhood to old

age. The reason for that is that there are no physical education teachers everywhere. To solve this problem is to appoint physical education teacher in all educational institutions

*Keywords:* non-communicable diseases (NCDS), lifestyle diseases (LDS), physical education teachers, physical education (PE).

## Introduction

It is believed that the expanding next generation of children has a significant role in the development of a society. But what we can see is that most of the children are addicted to various lifestyle disease and various addictive product. Every human being, including those with special needs, has the right to and the hope of leading a healthy lifestyle. The contribution of education to preparing a physically fit generation and wholesome spiritually. Students participating in sports can significantly solve a lot of issues like this. Children working in the field of sports are freed from various lifestyle diseases and drug addiction. Both parents and teachers contribute to getting their kids involved in sports. Typically, we see students concentrating entirely on their education. Today's students are only concerned with their external looks and exam results, and we all forget that children have great life outside of that. The fact that everyone is bound to their books, smartphones, and computers is causing a significant issue that teachers, parents, and children are unaware of. If we talk about schools, one of the reasons is the lack of physical education teachers everywhere, as well as not being able to provide the conditions for playing, it can be said that parents are limited. However, it is

clear that few teachers and parents are encouraging their students to participate in sports with a focus toward their future health.

Several authors have documented the effects of parental involvement in their child's sport and athletic career development. (e.g., Brustad, 1993, Brustad, 1996, Greendorfer, Lewko and Rosengren, 1996, Salmela, 1994, Scanlan and Lewthwaite, 1988, Taylor, Baranowski and Sallis, 1994, Weiss and Hayashi, 1995). Some parents are spending more money and time to develop their child's sports carrier and sports performance and also, they act as a first coach of their child

The number of sports events dedicated to the public at large is growing every day (Hallman & Breuer, 2010). Sports fairs held by governments like panchayats or municipalities, as well as those held by local and foreign clubs, are examples of mass sports programs that have a significant impact on society's growth. Sports participation helps everyone in society develop physically and psychologically while also helping them solve numerous difficulties in their own unique way. That is why everyone from the government is looking at the mass sports program with great importance and trying to implement it to the best of their ability. Sporting activities are a great way to become involved in your community and meet new people during free time. The social environment is an intertwinement of social, cultural, political and economic circumstances. Circles of friends, relatives and acquaintances as well as school, societies, clubs and different organizations shape one's views on sport activity. Personality traits largely define one's attitude to practicing sport (Year, 1990).

## Objectives

1. Find out what are the major problems raised by the absence of sports.

2. Find out the remedy for the issue raised by the absence of sports.

## Reasons

## Social Problems

Sports play a big part in many facets of society; hence their absence or restricted access can cause a number of societal issues. The following social problems may become more severe if there aren't enough sports:

1. Physical health issues: Sports are essential for fostering physical fitness and well health in general. Without sports, sedentary lives might become more prevalent, which could result in obesity, cardiovascular troubles, and other health problems.

2. Mental health challenges: Sports offer a venue for stress alleviation, interpersonal engagement, and endorphin release. Without sports, people could feel more stressed out, anxious, or depressed.

3. Community engagement and social bond: Sports frequently serve as a social glue, uniting localities. Lack of participation in sports can have a negative impact on social interaction, sense of belonging, and community involvement.

4. Youth development: Sports participation promotes healthy youth development by instilling characteristics like leadership, discipline, and teamwork. Opportunities for character growth and life skill acquisition may be limited without sports.

5.  Social inclusion and diversity: Sports have the ability to unite people from all origins, fostering diversity and social inclusion. Without sports, there might be fewer chances for interaction between individuals from different social, cultural, and economic backgrounds.

6.  Education and discipline: By teaching discipline and time management skills, sports can help students perform better academically. Without sports, children can find it difficult to develop these skills, which could have an impact on their academic progress.

## Life Style Diseases

Non-communicable diseases (NCDs), commonly referred to as lifestyle diseases (LDs), are frequently connected to sedentary habits, poor eating habits, and other features of contemporary living. Although physical activity and sports can be extremely important in avoiding and controlling lifestyle disorders, their absence may increase the prevalence of these conditions. Following are some lifestyle conditions that can be aggravated by a lack of exercise or sports:

1.  Obesity: Obesity is significantly impacted by physical inactivity. Without exercise, people may find it difficult to maintain a healthy weight, which increases their risk of developing obesity-related conditions like diabetes, heart disease, and some types of cancer.

2.  Cardiovascular diseases: A key risk factor for cardiovascular conditions like heart disease and stroke is physical inactivity. By strengthening the heart and enhancing blood circulation, participating in sports helps to promote cardiovascular health.

3.  Mental health disorder: A lack of physical activity is linked to an increased risk of mental health disorders like depression and anxiety, despite the fact that sports have good impacts on mental health, including lower stress and enhanced mood.

4. Digestive disorder: Healthy digestion is supported by regular exercise. Without sports, people might be more susceptible to gastrointestinal issues like constipation and irritable bowel syndrome (IBS).

5. Sleep disorder: Lack of exercise may increase sleep issues including insomnia. Exercise and sports have been shown to improve sleep quality.

6. Respiratory issue: Better respiratory health is a result of exercise. Without sports, people may be more likely to experience respiratory problems, especially if they lead sedentary lifestyles.

## Action Plan

A variety of duties are involved in teaching physical education at various grade levels, from preschool to high school and even in colleges. Here are some broad pointers and things to keep in mind for each level of physical education teachers:

Pre-Primary

1. Motor Skills Development

o Prioritize developing your basic motor abilities, such as running, jumping, and throwing.

o To make learning fun, use age-appropriate games and activities

2. Play-based Learning

o Incorporate play and fun activities to engage young children.

o Introduce basic concepts of teamwork and cooperation through simple games.

3. Safety First

o Establish a secure setting for physical activity.

o Teach fundamental safety principles in an approachable and straightforward way.

Primary

1. Skill Progression

o   Enhance the foundational motor abilities you learnt in pre-primary.

o   To promote the growth of particular skills, introduce more organized games and sports.

2. Team Sports

o   Introduce basic team games like basketball, volleyball, or soccer.

o   Put a focus on sportsmanship, fair play, and teamwork.

3. Inclusive Activities

o   Offer exercises that may be done at various ability levels.

o   Promote diversity and create a welcoming atmosphere where everyone can participate.

## Upper Primary (UP) and High School (HS)

1. Specialization in Sports

o   If pupils express an interest, let them explore and pursue specialization in a particular sport.

o   Hold interschool competitions to encourage healthy rivalry.

2. Fitness Education

o   Include instruction on total fitness, emphasizing the value of flexibility, strength training, and cardiovascular health.

o   Share the advantages of leading a healthy lifestyle.

3. Sportsmanship and Leadership

o   Focus on good sportsmanship, fair play, and consideration for your opponents.

o   Give students the chance of taking leadership positions in sporting events.

## Higher Secondary (HSS) and College

1. Advanced Skills

o   For individuals interested in pursuing a particular sport further, develop advanced talents in it.

o   Increase the complexity of your conditioning and training regimens.

2.  Competition and Tournaments

o   Prepare students for competitions between schools and colleges.

o   Promote participation in competitions and activities above the high school or college level.

3.  Fitness Programming

o   Introduce students to a range of fitness activities and programs that they can engage in well into adulthood.

4.  Professional Development

o   Keep up with the most recent physical education trends, studies, and instructional techniques.

o   To improve your talents, go to conferences and workshops.

Instilling key values in kids, cultivating a lifetime enjoyment of physical activity, and encouraging health and wellness are all important aspects of being a physical education teacher.

Teachers of physical education are key to the growth and welfare of people of all ages, from young people to middle-aged people to senior citizens. They have an impact on many facets of social, emotional, and physical health in addition to training certain physical abilities.

Youth

1.  Physical Development

Physical education teachers help youth to grow physically by introducing them to a variety of sports, workouts, and hobbies. They support the growth of core motor abilities, agility, and coordination.

2. Healthy Lifestyle Habits

Physical education teachers have the ability to impart the value of a healthy lifestyle and frequent physical activity. They inform young people about the advantages of physical activity in reducing obesity and enhancing general health.

3. Social Skills

Physical education teachers help young people develop social skills like leadership, teamwork, and communication by including them in team sports and group activities.

4. Lifelong Habits

Good physical education (PE) experiences can help children develop lifelong habits of being active and leading healthy lifestyles.

Middle-aged

1. Physical Fitness Maintenance

Middle-aged people can maintain their physical health with the assistance of physical education teachers and appropriate exercise regimens. They might offer advice on how to modify workout regimens in response to shifting health and fitness levels.

2. Stress Reduction

Regular physical activity has stress-reducing benefits, and physical education teachers can guide middle-aged individuals in choosing activities that promote mental well-being.

3. Preventive Health Measures

At this point, educating people about the value of exercise in preventing chronic illnesses becomes essential. Teachers of physical education can support initiatives for preventative healthcare.

4. Community Building

Group fitness classes or community sports leagues organized by physical education teachers can foster a sense of community and social connection among middle-aged individuals.

Old Age

1. Functional Independence

Physical education teachers can design programs that focus on maintaining or improving functional abilities, promoting independence in activities of daily living among older individuals

2. Fall Prevention

Exercise regimens that are specifically designed for senior citizens can improve balance and coordination and reduce the risk of falls.

3. Social Engagement

Physical education teachers facilitate social interaction through group activities, which helps older people feel less alone and isolated.

4.  Cognitive Benefits

Physical education teachers can add exercises that promote mental health and cognitive function in older adults. Physical activity has been shown to provide cognitive benefits.

5.  Adapted Physical Activity

Understanding the special requirements and limits of senior citizens, physical education instructors can adapt exercises to fit their needs and ensure a fun and safe environment.

Children will have a good physical and mental growth if teachers provide accurate knowledge, if the kids are brought down to the playground, or if they participate in the appropriate sports activity. It is the responsibility of educators to recognize that academic performance can be improved and extracurricular activities properly participated in by a student with both physical and mental development. In the PTA meeting, bring up this topic and provide an explanation. Additionally, schools provide children with brief sports and fitness programs so that parents can observe the positive changes in their children when they participate in sports and exercise.

Apart from this, it is the duty of a teacher to go out into the society and give proper information to the young, middle-aged and old people in public places about how to do sports activities in a scientific manner. A teacher can properly convey the problems of lack of sports

activities to the people when they go to public places. A group of teachers or an organization can engage the public in sports activities by organizing small games and exercises that are suitable for them to participate in and creating opportunities to ensure their participation in it.

## Implementation

In any case, if these things are to be implemented, the physical education teacher is also an essential element in schools. But at present there are no physical education teachers in pre-primary and primary schools, appoint qualified physical education teachers. Also ensure the services of sports teachers at up, hss, and college levels. Only then can children and the general public understand the benefits of sports activities and bring them to it. Recruiting qualified physical education teachers and engaging with other teachers and government or management to ensure that the quality of sports activities reaches everyone.

## Conclusion

In today's society it is said that lifestyle diseases, physical problems, mental problems are the problems that affect the growth of young people in all areas. It can be seen that these problems affect every phase of a person's life. Children are given sports activities at the right time and in a scientific manner. It can also be seen that the main reason for not being able to give is the lack of physical education teachers

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# Case Studies: A Counselling Perspective

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Counselling is an empowerment of people to face the realities. Counselling is the power of individuals to discover the human mind's ability to accept reality and teach it to the subconscious mind. This is where the importance of case studies becomes more apparent. A case is an actual description of events that actually happened at some points in the past. It is designed to elicit discussion and analysis of a particular situation. In the field of education, means classroom, we are in a nuclear family situation where emotional and cognitive problems are complicated in personal relationships inside and outside the classrooms. Our children are experiencing many problems.  For example, exam stress, exam failure, entrance failure, love disappointment, parental separation, drug use, poor self-esteem, high stress, mobile phone abuse, watching porn videos etc., push our children to various mental problems.  That is where teachers need to know the importance of case studies, Counselling and psychotherapies that to solve the issues and learn them to adapt new ideas in the classroom to resolve new generation problems.  It is essential for us to have teachers who are undergone training in Counselling and have the attitude to identify children with multiple problems, identify the case, and suggest solutions through Counselling.  On the other hand, new teachers should be qualified for case management, study and Counselling.

Case studies typically cover the whole aspect of clinical psychology, learning all the steps and using or applying the method, currently available in clinical field. At the primary level, cases include interpersonal issues in the classrooms, emotional problems, sensitiveness, careless dressing, behavior, anger, rage, non – acceptance of people, grudges, financial problems that lead to emotional disturbance, truants, fights and people with mental and physical disabilities. The general practice is to examine each one thoroughly, identify the problems of the original case, address them individually, and review them. After that, diagnosis and prognosis are done in usual ways.

In such times, school teachers should be the ones who know the primary lesson of counselling. The teacher counsellor is one who can go beyond teaching and give address the reality of students and a deep understanding. In such cases, teachers should be able to implement the deep Freudian therapeutic method of Free association in classrooms. For that, it is necessary to have a permanent Counselling room either in the schools or nearby school environment. Because if the teachers who know the Counselling mantra, have to talk to the children. There should be a noise free environment in the schools. In addition, a room should be set in the school where the child can relax mentally and physically. Teacher or teacher counselors should find specific time for a child to present his/her case. Case listening and Counselling have normally done for both sides of a table with a transparent glass-covered table where the child's mind can easily captured. Normally there should be a Freudian coat or coach is required in the hearing or healing issues in Counselling room. It is usually using for rest, to set psychotherapy such as Hypnotherapy and more. Moreover, the room should be decorating

with good blue light. The seating arrangement of the teacher and the child and listening the case should be suitable to capture the emotions of the child.

Counselors should make careful observations when consulting someone for a case. Counselor teacher should constantly watch their clients non-verbal movements, body language, clothing, facial movements, eye movements, lip movements, finger movements, foot placement, finger twitching, towel pressing, etc.  If the client looks up, it may indicate a tendency to recall something.  If he cracks his elbows, he might be upset, and if he does not give you face, he might be the one who jumps into a lot of trouble.  Constant monitoring should be counsel at the time of making the rapport.  The important thing for the counselor to do while studying the case is to observe every movement accurately and record it in his diary. Counselling requires that as much non-verbal communication as possible be given early notice. Counselling skills in case studies help us to question things at each developmental stage and critical stage.  For that, the school teachers should practice Counselling skills.  At many stages, the client may not go along with the counselor.  The counselor can use the following Counselling studies to identify the psychological distress that the child is experiencing at such stages.

## Counselling Skills

1. Rapport building 2. Perception checking 3. Feeling reflection 4. Reflecting the content

5. Clarification 6. Silence 7. Acceptance 8. Listening 9. Interpretation 10. Leading

11. Questioning 12 Attending 13 Summarizing 14. Information giving 15. Confronting

16. Re statement

All the above skills are very particular while find out a case and considering its details. Using unconditional positive regard, non-judgmental attitude, empathy, self-disclosure and mutual respect are the general attitude while doing counselling. Counselling normally begins with respecting oneself. Here the counselor cannot impose his values and attitudes upon students while doing counselling case study. Non-judgmental attitude is the basic footsteps, which the counselor must follow during counselling session. The counselor should always consider the individuality of the child during counselling whether it is inside the classroom or in a counselling room. The basic element in counselling is relationship between the client and counselor. Good relationship can be created through communication and listening. An unconditional positive regard is ensure throughout the counselling session. The negative verbal statement and the blaming words during counselling create the session ineffective. We can check the child's perception by asking questions clearly and accurately. Asking isn't what you are experienced can help him feel reflection on the suffering and challenges he is going through. We can ask through content reflection to find out the reasons behind that difficulty. A number of clarifications should be given in the form of questions for detailed answers. As a teacher you need to be empathetic, that will responsive to both content and feeling expressed by students. This attitude helps a counselor to assess student's concerns and understand them

better. At some point of, the case analysis or counselling the client may be burst into tears and sometimes need more expressive. At those times, the counselor can adopt the way of silence. Even if a patient or client confesses to committing a murder and seeks your help in counselling, we can accept him completely and understand all of his feelings. Counselling's catchphrase is "accept as it is". The most important thing in case studies is to listen carefully to the conversations and emotions at each stage of the case. Counselor should be able to record each thing very accurately. Only on that basis, we can make interpretations. Interpretations in counselling are crucial factors influencing the person's life. For that, the teacher counselor needs to pay attention to every tiny emotional movement. At the final stage of counselling, it is important to be able to summarize all these topics in conversation. The teacher counselor must be careful to provide the client with the information they need to correct.

**Importance of Psychotherapeutic Methods in Case Analysis**

Psychotherapy is the final way to diagnosis and prognosis of each case study. The last step in case studies is problem solving and define what is next. The role played by the counselor is crucial for problem solving. For that, he needs to study and practice different types of psychotherapy. A child who experiences stress in life may lead a stress reduction therapy, so all school teachers need to learn some fundamentals of psychotherapies. There different types of psychotherapy. To learn and practice them, teachers should rise to the level of teacher counselor. We need to use psychotherapy to deal with mental problems that do not fall under the D.S.M category. Such as acute stress, O.C.D, which are common in human's

experiences need to resolve through therapies. For this, it is best for teachers to know psychotherapeutic method in details.

### Diagnosis

In counselling, diagnosis is crucial and necessitates appropriate training. Through communication, perception checking, feeling reflection, capturing every minute emotion, case study and counselling, we should be able to help teachers solve problems. Case studies define problems though suitable interactions and learning.

Rational Emotive Behavior therapy, Cognitive therapies, Behavioral therapies, Humanistic therapies Gestalt therapies and Psychodynamic therapies are prominent in therapies. The catharsis, transference, free association, resistance etc. are common and essential usages in therapeutic sessions. Practicing these therapies is essential for smooth counselling and every day classroom usages.

## Conclusion

When conducting case studies, teachers have a crucial role to play. Teacher counsellors should carefully observe and provide needy assistance to those who have undergone several issues, which may emotional, personal, health, and educational difficulties. Children who are emotionally troubled can be made happy and taught problem-solving skills. We can solve academic problems in classrooms. We can teach them their developmental problems and its stress during school times. To solve interpersonal conflicts and love issues, we should step in.

Awareness can be creates against drugs and alcohol. Parents can give classes to understand their children in a better way. Different tests can be used to understand the intelligence, attitude, aptitude, interest and creativity of our students. Different skills of children in their different ages can be add and kept in schools at for future developments. For fostering a positive relationship between teacher and students, choosing a course, and learning how to respect girls, we need teacher counselors. Through school counselling and case studies, it is possible to identify children with special needs and their issues.

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# Curricular Promises for a Scientific Community of Alpha Generation

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## Abstract

Education not only empowers individuals to contribute meaningfully to their communities and economies but also serves as a driving force in addressing the challenges of the 21st century. The term 21st Century Skills is defined as a comprehensive set of knowledge, skills, work habits, and character traits widely regarded as critical for success in today's world by educators, school reformers, college professors, employers, and other stakeholders, particularly in collegiate programmes and contemporary careers and workplaces. (The Glossary of Education Reform, 2016). Science Teacher Text, SCERT (Kerala) (2019) recommends various methods for the efficient facilitation of science education. A review of literature in the field was carried out by the authors and the conclusions and recommendations are presented.  When we prepare a curriculum map, certain gaps could be identified with respect to development of the demanded skills at the secondary level. The gap is to be filled with adequate actions. For this, it is imperative that each and every school in Kerala undertakes the work of the government initiative Atal Thinking Labs and Innovation clubs. Participation in Citizen Science Projects also helps to foster such skills in students effectively.

*Keywords:* 21st century skills, learning skills, life skills, literacy skills, curricular promises in science education.

## Introduction

"Education is the most powerful weapon you can use to change the world" (Mandela, 1994). It is through education that individuals acquire the knowledge, skills and critical thinking abilities needed to adapt and thrive in a changing global landscape. Education not only empowers individuals to contribute meaningfully to their communities and economies but also serves as a driving force in addressing the challenges of the 21st century. These challenges encompass advancements, scientific discoveries and social and environmental issues.

The rapidly changing environment of technology, communication, and social demands in the twenty-first century demands the development of a set of essential skills that individuals need to master in order to flourish in this era. The term 21st Century Skills refers to a comprehensive set of knowledge, skills, work habits, and character traits widely regarded by educators, school reformers, college professors, employers, and other stakeholders as essential for success in today's world, particularly in collegiate programmes and contemporary careers and workplaces (The Glossary of Education Reform, 2016). These are also referred to as transversal competencies or future-ready skills. They encompass a range of cognitive, social, and emotional skills that go beyond conventional academic knowledge and help individuals adapt to the fast-paced, technologically-driven nature of today's world. In contrast to conventional educational knowledge, the introduction of 21st century skills underscores the need for a more comprehensive approach to learning. At this juncture, educators and

policymakers must ensure suitable environments and opportunities in order to provide individuals with the skills they need to navigate a complex and dynamic environment.

## What are the 21st Century Skills?

The 21st century skills are categorized as Literacy skills, Life skills, and Learning skills—also known as the 3L's (Framework for 21st Century Learning, 2019). This categorization offers an in-depth structure for recognizing the competences needed in globalized society. The acquisition of new knowledge necessitates a set of skills known as Learning Skills, sometimes called as the 4C's. These encompass Critical Thinking and Problem Solving, Creativity and Innovation, Collaboration, and Communication highlighting the capacity to acquire, process, and apply knowledge effectively. Life skills (FLIPS) encompass Flexibility and Adaptability, Leadership and Responsibility, Initiative and Self-Direction, Productivity and Accountability, and Social and Cross-Cultural Interaction emphasizing the personal and interpersonal competencies essential for navigating the complexities of modern life and successful day-to-day living. Literacy skills (IMT) are those that aid in the creation and acquisition of new knowledge via reading, the media, and technological tools. These include Information Literacy, Media Literacy, and Technology Literacy, underscoring the significance of understanding, evaluating, and engaging with the vast array of information and media sources available in the digital age. This classification not only assists educators and policymakers in conceptualizing the breadth of skills required for success, but it also emphasizes their

interdependence, as proficiency in one category frequently supports and enhances the development of skills in the other two, making it an essential basis for holistic personal and professional growth in the twenty-first century.

## How to Integrate the skills?

Three curricular strategies to promote the skills in an integrated manner are:

## Science Entrepreneurship Programmes:

Entrepreneurship programmes in Science enable students to foster literacy skill such as technology literacy and life skills such as productivity and accountability, leadership and responsibility, and initiative and self-direction. For example, all students participate in a Green-Chemistry programme organized by their school, as part of which, they develop new eco-friendly cleaning products and explore their marketing potential. Through such an entrepreneurship programme, students are empowered to take on leadership responsibilities and identify market opportunities for project success.  As they learn to manage resources efficiently, there is an increase in their productivity and accountability. In addition, technology is leveraged for product development and marketing opportunities. They become information literate by learning exactly what the science behind each product is.  Moreover, in such entrepreneurship programmes, students' social and cross-cultural interaction skills are enhanced by exchanging ideas with mentors, industry experts, and consumers.

**Citizen Science Projects:**

When there is an active participation of citizens in research works, it will be more beneficial to the society as it helps to disseminate the result to the society. This is where the importance of citizen science programmes comes into play. Citizen science is defined as "scientific work undertaken by members of the general public, often in collaboration with or under the direction of professional scientists and scientific institutions" (Oxford English Dictionary, n.d.) and is applied to real-world situations, incorporating various levels of public participation in research. Connecting citizen science to schools will be of great effect in which, students can enhance a wide range of Life skills, such as flexibility and adaptability, leadership and responsibility, initiative and self-direction, and social and cross-cultural interaction.

When students participate in a citizen science project related to science, such as water quality examination in nearby water sources, they plan and execute experiments, take duties as leaders within their teams, and collaborate with different types of participants, fostering social and cross-cultural interaction. While Information Literacy is essential to such efforts, Media Literacy and Technology Literacy are also necessary since they make use of a range of media and technology to connect with a broader community and share their results.

**Science Outreach Programmes:**

A wide range of life skills and literacy skills can be improved by Science Outreach programmes. When students arrange an "Awareness Programme on Chemical Poisons in

Everyday Life," for example, they learn flexibility and adaptation skill by customizing their presentations to different audiences. They grasp leadership and responsibility skills as they plan and execute this educational programme. Furthermore, students exhibit initiative and self-direction skill by generating useful content and hands-on activities to engage participants on their own. They also increase productivity and accountability skills by assuring success of the programme, and they engage in necessary social and cross-cultural interactions by connecting with people from various backgrounds. Furthermore, Science Outreach promotes information literacy by having students perform in-depth studies in order to deliver accurate and accessible information, media literacy by utilizing visual aids, and technological literacy by adding multimedia tools into their presentations.

### Strategies for Fostering 21st Century Skills: A Few Examples

We are going through a period where most of the developed and developing countries focus on strategies to develop 21st century skills. In some studies conducted in Turkey, science activities like Scientists compete, satellite design, planets and artificial satellites (Guven and Alpaslan, 2022), LEGO Educator BricQ Motion Essential training set for gifted students (Babaoglu and Yildirim, 2023) and science activities, creative thinking techniques  and problem solving techniques (Cetingoz, 2023) have been found to help foster 21st century skills in students. Similarly, according to an Indonesian study, Online-based inquiry learning model in Physics (Novitra et al., 2021) and a Mexican study, Thinking Critically (Fernandez, 2021) have been found to promote these skills effectively.

## Government of India Initiatives for Nurturing 21st Century Skills

The government of India has recognized the importance of developing 21st century skills to prepare its citizens for the challenges of the modern world. Several initiatives have been developed to help the Indian populace acquire these essential skills. The National Skill Development Mission, launched in 2015, is a significant effort aimed at offering skill training to over 400 million individuals by 2022. The endeavour spans various areas, including vocational training, entrepreneurship, and information technology, with a focus on critical thinking and problem solving, as well as communication skills. Likewise, the Atal Innovation Mission (AIM), set up as part of the government's Make in India campaign, encourages young Indians to take part in innovation and entrepreneurship. The AIM involves the formation of Atal Tinkering Labs in schools; with the primary goal of encouraging students develop innovative solutions to real-world problems.

The Rashtriya Avishkar Abhiyan (RAA) is an important initiative in the primary and secondary levels of education. RAA, which was founded in 2015, aims to nurture scientific temperament and innovation among students by enhancing their practical skills and scientific thinking. Through activities such as science exhibitions, science clubs, and science fairs, it emphasizes hands-on experimentation, problem-solving, and critical thinking, eventually preparing students with essential 21st century skills. Moving on to higher education, the National Institutional Ranking Framework (NIRF) incorporates metrics that rank institutions based on their research output and innovation, highlighting the significance of developing

students' 21st century skills. Additionally, under the "Atmanirbhar Bharat" (Self-Reliant India) initiative, higher education institutions are encouraged to focus on research and innovation, thereby fostering a culture of creativity and self-directed learning.

Innovation Hub is a platform to nurture innovative ideas and develop an inquisitive outlook among youth implemented by National Council of Science Museums (NCSM) under the Scheme for Promoting Innovation, Creativity and Engagement in Science (SPICES) approved by Planning Commission and Ministry of Culture, Government of India. The components consist of Resource centre, Idea lab, Tod-fod-Jod, Kabaad-se-jugaad and Idea box. With the defined aim of inculcating the culture of creativity and innovation in students from an early age itself, innovation clubs are being established in schools as part of the SPICES. The primary aim of the School Innovation Club is to generate awareness, educate, develop, and instill a culture of innovation in students, allowing them to produce new ideas and become more inventive. It engages children in innovative and creative activities while providing opportunities for hands-on activities. SPICES implies that the formation of innovation clubs in school is possible when interested schools in the region collaborate with existing innovation hubs.

**Kerala School Science Curriculum and 21st Century Skills**

In order to facilitate the acquisition of 21st century skills, science education in schools should be up-to-date (Science Teacher Text, Kerala SCERT, 2019). In an era dominated by information technology, significant transformations are occurring in people's life goals and

lifestyles. Consequently, it becomes paramount to nurture not only the students' learning skills but also their life skills and literacy skills. Science Teacher Text, SCERT (Kerala) (2019) recommends various methods for the efficient facilitation of science education, including student-centred classroom teaching and learning, the utilization of EDUBUNDU-ICT possibilities, usage of well-equipped science laboratories, access to comprehensive science libraries, active participation in science clubs, and the organization of science fairs, science exhibitions, and study tours/field trips. A review of literature in the field was carried out by the authors and the conclusions and recommendations are presented. The figures provide an overview of the 21st century skills that students can acquire through the proper implementation of such programmes and learning environments.

Compared to learning skills, opportunities for students to improve life skills and literacy skills are fairly limited in high school science education.  Science fairs and science exhibitions are excellent to improve such skills. The fact is that only a small percentage of students, that is selected students, can participate in such programmes. The canvas should be made available to all to play at their own potential levels.

**Figure 1**

*Futuristic Skills and it's Component Skills*
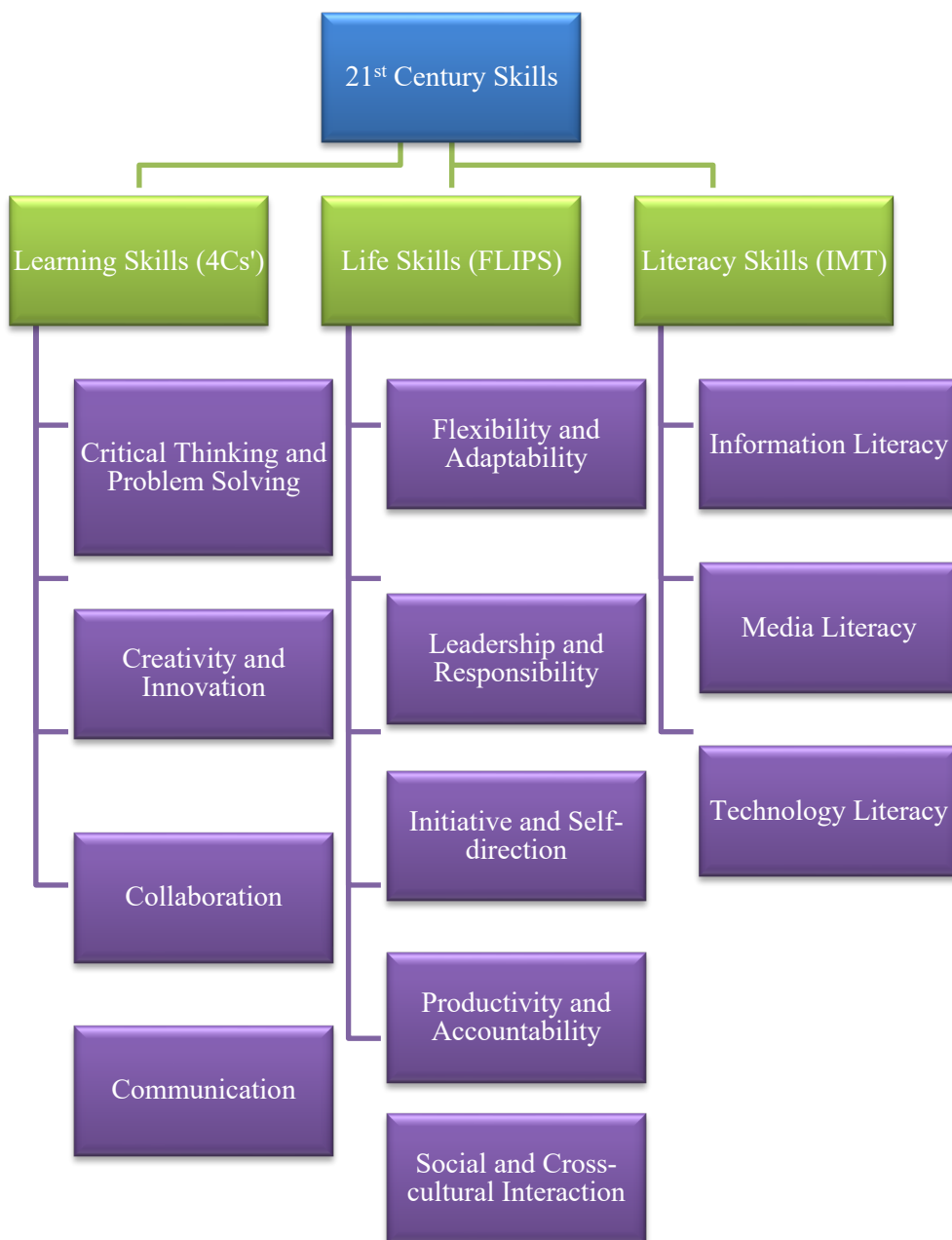
**Figure 2**

*The Integration of Learning Environment and Programmes with Learning Skills*
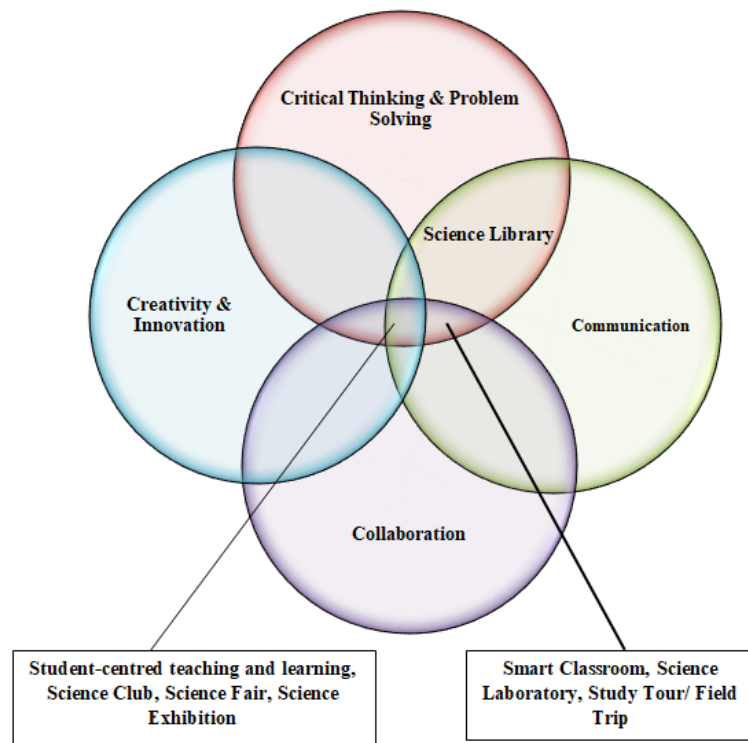


**Figure 3**

*The Integration of Learning Environment and Programmes with Life Skills*
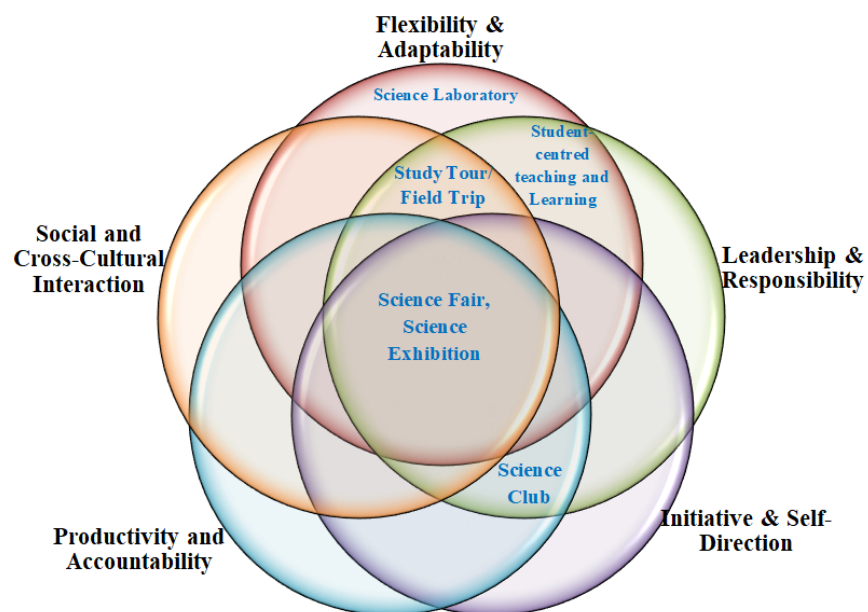
**Figure 4**

*The Integration of Learning Environment and Programmes with Literacy Skills*
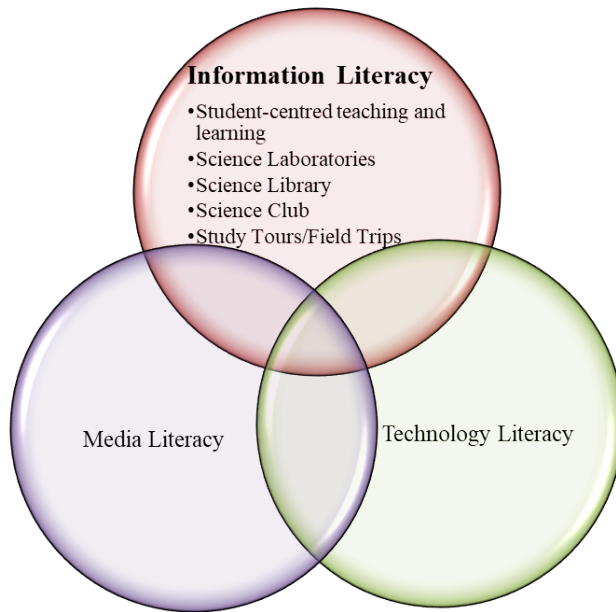


## Recommendations

When we prepare a curriculum map, certain gaps could be identified with respect to development of the demanded skills at the secondary level. The Kerala Curriculum for School Education provides instruction in textbooks and teacher texts on a range of strategies and activities that are almost adequate for students to acquire 21st century skills. However, anomalies in their implementation create obstacles for students to acquire such skills fruitfully. The gap is to be filled with adequate actions.

In order to acquire 21st century skills effectively, various activities with appropriate weightage is given to each component skill. For this, it is imperative that each and every school in Kerala undertakes the work of the government initiative Atal Thinking Labs.

Currently, ATL is functioning in 372 schools in Kerala.  Moreover, in July 2023, Oppo India in association with NITI Innovation Mission has set up the first Public-Private Partnership (PPP) model ATL in Kerala. Through such collaborations, if ATL is set up in every school, it will be possible to enhance the entrepreneurship and technological skills of the students and develop an empowered and future-ready work force. Schools need to constantly strive for this in which the programme outcome should be the component skills of 21st century skills.  Instructions can also be given to contextualize them according to the availability of the resources. For successful functioning of ATL, adequate training needs to be provided to selected teachers. Moreover, the government should monitor such activities properly.

If every school in Kerala or school cluster starts functioning of Innovation Clubs in collaboration with nearby Innovation Hubs, it will be a great asset to the Indian education system and the sustainable future of our country.  Currently, Regional Science Centre & Planetarium, Calicut and Kerala State Science & Technology Museum, Trivandrum are functioning as the innovation hubs of Kerala. Moreover, Regional Science Centre, Chalakkudy has been featured in the list of upcoming Innovation Hubs in India. In the coming years, we can expect more innovation hubs in Kerala.  As PPP model is introduced in ATLs, if Public-Private Partnership is introduced in innovation hubs, it will enable more schools to start innovation clubs. Currently, the lack of adequate resources, training of voluntary teachers, suitable infrastructure, and periodic assessment often hinders the activities of Innovation clubs. It is imperative that Government and schools jointly find and implement solutions to these problems.

If schools becoming a part of any Citizen Science Project, it can create a fresh start for students and teachers. It makes learning more meaningful, interesting and futuristic. In India, there are many Citizen Science Projects, both private and with government support, like the projects of 'CitSci India'.  Schools can also collaborate on such projects and make students a part of them.  Also, citizen science projects can be implemented by associating with the different levels of three-tier system. If students who are suitable for each stage are found, grouped and trained, such projects will be a success. Moreover, they will also stimulate the uplift of the immediate society.

However, it is essential to ensure equal and active participation of students in such programmes and it is the responsibility of the schools to make efforts towards that end. In this way, such activities will become a milestone towards the fulfillment of India's vision of becoming a developed country by 2047. Let's hope for an enriched curriculum in its broad sense to realize the dream.

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# The Effect of Teachers' Perceived Pedagogical Training on Teacher Professional Development in Higher Education

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## Abstract

This has a look at investigating the effectiveness of a mentoring application designed to support the professional improvement of teachers in higher training in Lakshadweep. This look used a blended strategies approach to determine the satisfaction of 36 college instructors with their coaching exercise. It describes how instructors affect their development, knowledge and coaching. members inside the survey, which blanketed a couple of desire and open-ended questions, stated that they had been very happy with the training application. Drawing on this study, the authors spotlight key factors inside the design of powerful college teaching, discover the results of the findings for teacher improvement, and speak about findings from the case observation. his look investigates the effectiveness of mentoring software designed to support the professional improvement of teachers in better training in Lakshadweep. This study used a combined techniques method to degree the pride of 36 college instructors with their coaching exercise. It discusses the way it affects instructors' professional improvement, techniques, and perspectives on their teaching. members in the survey, which included more than one preference and open-ended questions, showed hobbies within the schooling application. Drawing on this observation, the authors spotlight key elements inside the layout of effective

university coaching, explore the results of the findings for trainer development, and discuss findings from the case observation.

*Keywords:* better education, pedagogical coaching, professional improvement for teachers, university college, perceived effects, and instructional practices

## Introduction

Instructor-professional learning is crucial for enhancing students' skills in complex areas like problem-solving, communication, and self-direction. Effective professional development (PD) is needed to help teachers master and improve teaching methods. However, many programs fail to support teachers' practices or students' learning. Yürekli's study focuses on three key aspects of classroom pedagogy: transport, communication, and assessment. The study found that the most significant differences in effects were found in the verbal exchange issue. This aligns with Kalipci's theory, emphasizing interpersonal interactions and verbal exchange as essential traits and abilities for mentorship in teacher professional development programs.

This article examines teachers' evaluations of a pedagogical training program at a for-income higher training facility in Lakshadweep. It aims to analyse the program's structure, plans, methodologies, and performance, as well as the impact of the training on teachers' teaching conceptions, practices, and studies. The authors provide recommendations for academic builders, educators, and other stakeholders to create effective pedagogical training

programs for teachers based on a case study.

## The Need and Importance of the Observation

This study examines 35 studies that show a positive relationship between teacher professional development, academic practices, and student outcomes. It identifies the characteristics of effective professional development and discusses various models to help understand the role of professional development in enhancing teaching techniques and student learning.

## Expert Improvement for Teachers in Higher Training

Powerful professional development is a systematic approach to understanding the reasons for changes in a teacher's skills and practice. It involves clear topic awareness, active learning, collaboration, and aligning with curriculum and rules. At Lakshadweep higher education institutions, there are variations in pedagogical development, which typically includes workshops, seminars, coaching, mentoring, and other support. The goal is to help teachers maintain their skills and stay updated with the latest trends in education. This field is growing in Lakshadweep as more schools seek to develop pedagogical education programs to improve teaching and learning and address student-centred learning issues. This research highlights the importance of pedagogical workforce development in ECB institutions and

emphasizes the need for continuous support and training for teachers to ensure students receive quality education.

Professional development programs in higher education are crucial for teachers' career development, fostering a continuous learning tradition, serving diverse student populations, and advancing institutional goals. Many academics have received little training, despite having a limited understanding of the profession. The literature on teachers' professional development emphasizes the need for spaces for teachers to reflect on curriculum, pedagogical practices, and choices, rather than just acquiring techniques. Tutoring and mentorship programs are also essential for pedagogical innovation and coaching strategies. Mentors can guide novices, provide feedback, assist in painting, and provide guidance, all of which contribute to the development of new skills and practices in higher education.

## Higher Training Professional Development Programmes Layout

Darling-Hammond, Hyler, and Gardner's study on successful professional development programs identified seven common design elements: content-targeting, active learning techniques, collaborative activities, powerful exercise models, and coaching and expert support. They concluded that these programs should be related to teacher desires, allow teachers to choose the type of learning they need, and be regularly evaluated for continuous improvement. The study also discussed the creation and delivery of these programs, as well as the subjects most beneficial to faculty participants. Muammar and Alkathiri found that teachers are more likely to be satisfied with such programs if the following criteria are met:

program targets, appropriate topics and sports, appropriate activities, program length, instructional developers' teaching capabilities, program targets, and educational builders' discussion management skills.

**Better Education's Consequences of Instructor Professional Improvement Programmes**

Research shows that professional development in better training positively impacts pupils' effects, self-efficacy, coaching ideals, and task pleasure. Group-based interventions encourage teachers to reflect on their coaching practices, focus on pupil-targeted coaching, and have pedagogical understanding. Public research on the influence of pedagogical training and professional improvement efforts related to better training trainers is based on statistics collected from the coaching body of workers and using pre- and post-test surveys. Odalen et al.'s study found that pedagogical education programs for university professors had a positive effect on participants, affecting their rankings on scales that assessed conceptual trade, a student-focused approach, and self-efficacy views. The effects were widespread even after controlling for teaching enjoyment. The assessment of these programs must consider the unique motivations and desires of the academics who participate in pedagogical education. The Lakshadweep Ministry of Education and Development Knowledge and Better Education and the National Council for Evaluation and Accreditation of Higher Education (NAAC) have set requirements and rules for pedagogical training in better education in Kerala and Lakshadweep.

**The Subsequent Research Questions were Described Under The Desires of Our Observation**

- o   How do teachers compare their pleasure with the pedagogical education software offered?

o   Did participation in pedagogical schooling affect teachers' perceptions approximately teaching practices, conceptions, and expert development?

o   Primarily based on this situation, what are the characteristics of successful better schooling pedagogical training applications?

## Resources and Processes

The Centre for Excellence in Teaching (CET) was established in 2017 to address the pedagogical needs and challenges faced by higher education institutions. The centre aims to promote good practices, enhance the quality of practice, support professional development, and provide pedagogical training for teachers. The primary focus of the study is the introduction of engaging teaching-learning techniques such as team-based and assignment-based learning, and flipped classrooms. The first pedagogical training program was implemented from 2017-2018, consisting of five 12-hour modules that included task-based learning, teaching and mastering, team-based learning, flipped classroom, and curriculum improvement for path coordinators. In 2018/2019, modifications were made to the modules to accommodate a wider range of issues and learning opportunities. A total of 36 higher education instructors from five departments (economics and control, law, psychology and education, tourism, inheritance and culture, and technological know-how and technology) participated in the study. The researchers used two questionnaires to gauge teachers' satisfaction with their pedagogical education programs. The questionnaire asked about four elements: the organization of the training, the methods used in the training, the teacher's overall performance, and standard satisfaction. Members also had the opportunity to voice

their reviews and offer suggestions for future guides. The questionnaires were distributed via email after completing each program.

The second questionnaire, Questionnaire 2, was a compliance survey conducted a year after schooling to examine the impact of pedagogical training on teachers' principles, practices, and reviews. The questionnaire focused on four dimensions: teaching experience, challenging situations, perceived changes in pedagogical practice, and willingness to change. The survey was open-ended and anonymous, with participants informed about the survey's goals and given informed consent. Information analyses included both quantitative and qualitative methods, with quantitative responses explored through descriptive analysis using IBM-SPSS 22.0. The qualitative responses were analysed using a thematic analysis.

The survey results showed that teachers' satisfaction with pedagogical education sessions during the 2017-2018 and 2018-2019 school years was high. Most teachers believed the subjects were relevant, the predetermined desires were met, and the education materials provided were appropriate. They valued the threat of learning new dynamic teaching techniques and tested with diverse teaching methods. The majority of teachers gave high marks to the methodologies used in the training, with 82% stating that physical activities were beneficial for teaching education and 89.6% stating that they actively participated. Perceived changes in teaching standards and methods and willingness to change were also high. 33.3% of teachers changed their practices as a result of the training, with 33.3% saying they had completely changed their practices. However, 25% of teachers did not agree or disagree with

this announcement, indicating difficulty in implementing changes. Education had a slightly larger impact on converting teachers' perceptions than perceptions about practices. The self-suggested choice to trade was the measure with the most effect. 68.1%) of teachers agreed that they are inspired to analyse more and participate in pedagogical education. Additionally, 42% agreed and 25.0% agreed that they need to use new pedagogical tactics in their classrooms, while 27.8% and 55.6% agreed that the education made them reflect on their academic practices.

## Conclusions based on Qualitative Facts

A content material analysis of the predominant and recurrent topics referred to via participants was done on the qualitative information from the open-ended questionnaire questions. which highlights the training program's blessings and gives recommendations for enhancement primarily based on how it is dependent and added to the growing categories.

## Appropriate Matters about the Training Programme

The training methodologies were found to be highly effective in coaching practice, as participants were able to apply their knowledge in a specific curricular unit within the following year. The opportunities for peer sharing, reflection, and dialogue were also highlighted, as well as the suitability of the activities. The teacher's quality and effectiveness were also praised, including their communication skills, availability, and ability to adapt to member needs.

## Discussion and Findings

The study analyses instructor satisfaction with pedagogical training programs at a Portuguese school organization from 2017-2018 and 2018-2019. It reveals that the perceived outcomes of the training were moderate to excessive, with teachers showing high motivation to research and practice. However, the perceptions of successful implementation of change were lower. Despite positive perceptions, there were minimal increases in teachers' belief in competence and self-assurance.

## Results

o   The making plans and business enterprise of training have to centre on pertinent topics with specific targets and sufficient materials for contributors.

o   The training techniques must inspire contributors' energetic participation by utilizing a selection of strategies that involve them in lively mastering through modelling.

o   Tasks that increase teachers' self-assurance, encourage the increase of studies on teaching guidance, and create a network of instruction that offers opportunities for individualised training and mentoring need to be supported so that you can maximise the effect of pedagogical schooling on instructors' practises and conceptions.

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# Improving Seventh-Grade Students' Academic Self-Efficacy Through Constructivist 7E Model

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## Abstract

Confidence in own ability to accomplish goals influences the overall development of the students. The goal of the current study was to determine the usefulness of the constructivist 7E model in enhancing the Academic Self-efficacy of seventh-grade students. The pre-test and post-test design for non-equivalent groups (the quasi-experimental research design) was employed. The sample was selected using the incidental sampling technique. The sample consisted of 88 students (the experimental group comprised 88 students whereas the control group incorporated 46 students). For data collection researcher prepared an Academic Self-Efficacy Scale consisting of 25 items. The t-test and Wolf's formula were used for testing the null hypothesis & effect size respectively. The students in the experimental group displayed higher academic self-efficacy than those in the control group. Wolf's criterion for the effect size showed that teaching through the Constructivist 7E model has the maximum effect in raising seventh-grade students' academic self-efficacy.

# Introduction

This statement suggests that there is a vital role of self-belief and confidence in one's academic abilities to set challenging goals, overcome obstacles, and persist through difficult tasks which not only leads to a proactive approach to learning to achieve academic goals but also foster holistic development of the learners that encompasses confidence, decision making, motivation for learning, problem-solving skills, resilience & positive interactions with teachers, peers & the environment.

Albert Bandura, a psychologist, first put up the notion of self-efficacy. The conviction or belief in one's ability to carry out a specific task or a particular goal is called self-efficacy. Academic self-efficacy is an individual's confidence in their capability to carry out academic tasks successfully to achieve their educational goals by organizing their knowledge and expertise and putting that into action to solve the problem. It is one of the very crucial elements that determine the academic performance of the learners. It refers to an individual conviction that they can successfully carry off academic tasks or achieve particular goals. Individuals with high self-efficacy when taking on challenging activities or difficult tasks feel calm and restful whereas low self-efficacy or lack of confidence in one's ability to accomplish the task may cause someone to perceive a task as more challenging than it is in reality.

Constructivism is an educational paradigm that suggests that people build their knowledge and comprehension of the world, through active engagement in the learning process, through experiencing things, social interactions, and reflecting on their learning experiences. "It is based on the belief that knowledge isn't a thing that can be simply given by the teacher at the front of the classroom to students at their desks. Rather, knowledge is constructed by learners through an active, mental process of development. A constructivist student-centered approach places more focus on students learning than on teachers teaching (Gray, 1997)." The study under consideration employs the Constructivist 7E learning cycle model given by Eisenkraft (2003). Eisenkraft outlined the seven phases of the 7E teaching-learning process as Elicit (first phase), Engage (second phase), Explore (third phase), Explain (fourth phase), Elaborate (fifth phase), Evaluate (sixth phase), and Extend (seventh phase).

## Need and Significance of the Study

The holistic pedagogy aims to nurture the overall development of students in such a way that they are not only intellectually proficient but also socially, emotionally aware, and self-confident individuals, having the resilience to cope with life's challenges & contributing towards the development of society. A global study to assess the educational performance of students in **reading, mathematics, and science** revealed that India participated in PISA in 2009 & ranked towards the bottom among the participating countries**.** The 2021 National Achievement Survey (NAS) also reported a nationwide decline in students' learning levels across all grades and subjects tested. Academic self-efficacy plays a crucial in an individual's educational

journey as well as their overall development. Students displaying confidence in their capabilities tend to achieve higher grades & demonstrate outstanding performance in assessments. Academic self-efficacy is positively correlated with the educational performance of the students. Students with higher degrees of self-efficacy persevere with given tasks and show greater levels of effort and self-guided interest, as it relates to academic learning and achievement (Schunk, 1984b, 1990), the exceptional academic accomplishment was discovered in the students with high academic self-efficacy. The crucial importance of academic self-efficacy in improving academic performance, coping with challenges, enhancing motivation & engagement in learning, boosting confidence, fostering resilience, developing a positive mindset & contributing to overall well-being and mental health was also found. Thus, there is a need to foster & nurture the students' confidence in their academic abilities.

## Objectives

1. To examine the academic self-efficacy pre-test scores of students in experimental and control groups.

2. To examine the academic self-efficacy post-test scores of students in experimental and control groups.

3. To investigate the relationship between gender and treatment on the students' academic self-efficacy in the experimental and control groups.

4. To investigate how treatment and gender interact to affect the students' academic self-efficacy in the experimental and control groups.

5. To determine the effect size of treatment on the students' Academic Self-efficacy.

## Methodology

**Research Design & Sample**

A quasi-experimental study was carried out by the investigator. The study included eighty-eight students in all. The technique of incidental sampling was employed. The students of class VII-A from C.E.S. Michael High School, Kurla(W) were randomly assigned as the experimental group, and of class VII-A from St. Joseph High School, Kurla(W)was assigned as the control group.

**Tool**

For the collection of data, the academic Self-Efficacy Scale was prepared by the investigator. The scale consisted of 25 items. Based on the experts' opinion the validity of the scale was confirmed. Reliability was assessed using the Cronbach's alpha method. The tool's reliability coefficient as determined by Cronbach's alpha method was 0.87.

**Data Collection Procedure**

The current study was carried out during the academic year 2022-23 for teaching science to 7th-grade students using the Constructivist 7E model. The lesson plans were prepared from the Science textbook of Maharashtra State Board by the researcher according to the Constructivist 7E Learning Cycle model. Different activities were developed based on the seven phases of the constructivist 7E model & implemented by the researcher. The program was implemented on forty-eight 7th-grade students of Michael High School, Kurla, Mumbai. Before the implementation of the program, both groups received an academic self-efficacy

scale as a pre-test. Following the treatment both groups were given the same test again as a

post-test.

## Data Analysis and Results

Data was analyzed using a t-test and Wolf's formula.

## Comparison of the Students' Pre-test Scores of Academic Self-efficacy

The appropriate statistics of the scores of pre-test academic self-efficacy for experimental and

control groups are displayed in Table 1.

**Table 1**

*Statistics for Pre-test Academic Self-Efficacy of EG and CG*

| Variable | Group | N | Mean | SD | Obtained t-value | L.O. S |
|---|---|---|---|---|---|---|
| Academic Self-Efficacy | EG | 42 | 67.43 | 10.38 | 0.66 | NS |
| | CG | 46 | 63.85 | 9.12 | | |

From table C, for N=88, df=86, tabulated t=1.99 at 0.05 level and t= 2.63 at 0.01 level

**Interpretation & Conclusion**

For the pre-test scores of Academic Self-Efficacy, the obtained value of 't' is 0.66 is

lesser than the tabulated 't' value which shows that experimental and control group pre-test

results do not significantly differ from one another. Therefore, it can be claimed that both

groups were comparable in their level of Academic Self-Efficacy before the implementation of

the intervention program.

**Comparison of the Students' Post-test Scores of Academic Self-efficacy**

The appropriate statistics of the scores of post-test academic self-efficacy for experimental and control groups are displayed in Table 2.

**Table 2**

*Pertinent Statistics for Post-test Academic Self-Efficacy of EG and CG*

| Variables | Group | N | Mean | SD | Obtained t-value | L.O. S |
|---|---|---|---|---|---|---|
| Academic Self-Efficacy | EG | 42 | 80.74 | 10.88 | | |
| | CG | 46 | 66.93 | 8.27 | 6.64 | 0.01 |

From table C, for N=88, df=86, tabulated t=1.99 at 0.05 level and t= 2.63 at 0.01 level

**Interpretation & Conclusion**

For the students in the experimental and control group the obtained value of 't' is 6.64 for post-test Academic Self-Efficacy which exceeds the tabulated 't' value. Hence, it can be said that the experimental group differed in their level of Academic Self-Efficacy after the treatment. The experimental group's post-test mean score is greater than that of the control group suggesting that the experimental group's Academic Self-Efficacy has increased as a result of their learning through the constructivist 7E model.

**Influence of Interaction between Gender and Treatment on the students' Academic Self Efficacy**

Table 3 shows the appropriate statistics of academic self-efficacy by treatment and gender.

**Table 3**

*Pertinent Statistics of Academic Self-Efficacy scores by Treatment and Gender*

| Treatment | Gender | N | Total N | Mean | SD |
|-----------|--------|---|---------|------|-----|
| Experimental | Boys | 18 | 42 | 79.39 | 12.77 |
| | Girls | 24 | | 81.75 | 9.38 |
| Control | Boys | 23 | 46 | 65.04 | 8.15 |
| | Girls | 23 | | 68.83 | 8.12 |

Table 4 presents the results of a two-way analysis of the variance for Academic Self-Efficacy scores according to treatment and gender.

**Table 4**

*Analysis of Variance of Academic Self-Efficacy scores by Treatment and Gender*

| Source of Variance | SS | df | MSS | F | L.O.S |
|--------------------|-----|-----|------|-----|-------|
| Gender | 365.25 | 1 | 365.25 | 3.98 | 0.05 |
| Treatment | 4183.03 | 1 | 4183.03 | 45.58 | 0.01 |
| Interaction | 143.36 | 1 | 143.36 | 1.56 | NS |
| Within Group | 7709.03 | 84 | 91.77 | | |
| Total | 12113.95 | 87 | | | |

From table D, for N=88, df= (1, 84), tabulated F=3.95 at 0.05 level and F= 6.92 at 0.01 level

## Interpretation and Conclusion

o   For the gender, the obtained F =3.98 which at the significance level of 0.05 is higher than 3.95. Thus, it may be concluded that there is a substantial difference in Academic Self-Efficacy by gender.

o   For the treatment, the obtained F =45.58 which at the significance level of 0.01 is greater than 6.92. Therefore, Academic Self-Efficacy varies significantly depending upon the treatment.

o   For the interaction, the obtained F= 1.56 is smaller than 3.95 at a 0.05 level of significance. Hence it can be concluded that there is no substantial impact of interaction between gender and treatment on the student's academic self-efficacy.

Figure 1 illustrates the pattern of interaction between gender and treatment on the Academic Self-Efficacy scores.

**Figure 1**

*The Trend of Influence of Interaction Between Gender and Treatment on the Students' Academic Self-Efficacy*
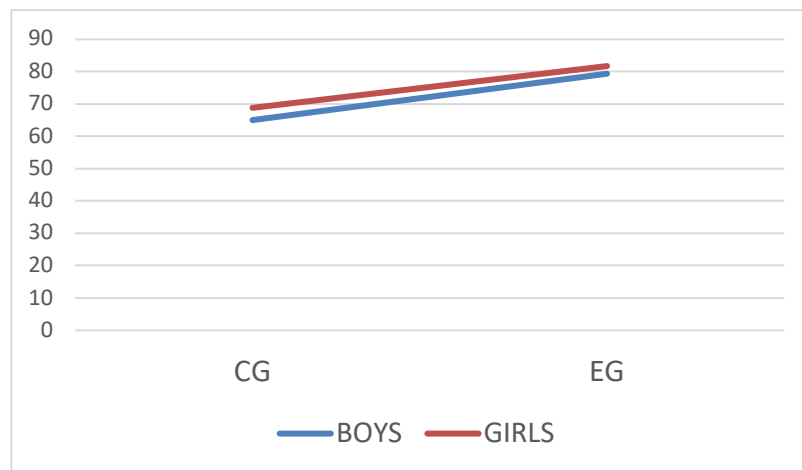


From the graph, it can be seen that as the treatment changes from CG to EG there is a sharp increase in the students' academic self-efficacy(both boys & girls). But compared to boys, girls' academic self-efficacy was found slightly higher. It may be inferred that the treatment

has an equal impact on both girls' and boys' academic self-efficacy since the lines are essentially parallel to one another and do not cross.

## Effect Size of Treatment on The Students' Academic Self-Efficacy

Wolf's formula was employed to calculate the treatment's effect size on the students' Academic Self-Efficacy.

**Table 5**

*Effect Size of Treatment on Students' Academic Self-Efficacy*

| Group | N | Mean | SD | The magnitude of the effect | Effect size |
|---|---|---|---|---|---|
| Experimental | 42 | 80.74 | 10.88 | 1.67 | maximum |
| Control | 46 | 66.93 | 8.27 | | |

## Interpretation & Conclusion

From Table 5, it is evident that the treatment's impact on Academic Self-Efficacy is 1.67. Therefore, the treatment has the greatest effect on improving students' academic self-efficacy, according to Wolf's criterion.

## Discussion and Recommendations

The study showed that the students in the experimental group were more confident in their academic abilities than those in the control group. This shows that the student's academic self-efficacy has increased as a result of the intervention program.

Furthermore, the students' academic self-efficacy was not shown to be significantly impacted by the relationship between treatment and gender. It indicates that gender does not considerably mitigate the impact of the treatment on the levels of academic self-efficacy of the students i.e. the treatment has a consistent effect on the students' academic self-efficacy for both boys & girls. Besides, it is also evident from Wolf's criterion of effect size that after undergoing the treatment the students' academic self-efficacy is significantly raised and it has shown maximum impact in improving the student's academic self-efficacy.

The concept of Academic self-efficacy is vital in the realm of education and the personal development of an individual. The present study has a limited sample size so the generalization of the results is not possible but it can serve as a beginning of venture for further research on the application of the constructivist 7E model. The study put forward a need to develop and implement intervention programs to boost academic self-efficacy. The investigation recommends that there is a necessity to encourage and train teachers to create and develop constructivist teaching-learning environments in the classrooms. It also suggests that it is important to perform both qualitative and quantitative research on the challenges that the teachers face in implementing learner-centered and activity-based teaching methods such as constructivist learning models, and students' perception towards it to improve educational outcomes & to improve their academic self-efficacy as well as overall well-being. Similar research using a sizable sample can be conducted for various populations considering other factors like age, socio-economic status, etc. Comparable studies can be conducted for teaching different subjects & for various levels of education to yield a confident and learned society.

Investing in education and fostering confidence in individuals will result in a multitude of positive outcomes and benefits and create a foundation for a brighter, more prosperous future for all which will lead to the overall progress of the nation.

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# Equity and Inclusivity in Education: Nurturing a Fair and Diverse Learning Environment

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## Abstract

The article discusses how schools might improve in the future to ensure that all students feel safe and supported and have an equal opportunity to succeed. Giving every student a fair shot at success is also emphasized in the research. Equity and inclusivity are necessary to achieve the goal of education for all. To realize its potential, India must adopt a system of government that guarantees equal rights for all its citizens. It is crucial to encourage equality and acceptance to create a fair and diverse learning environment. No one, regardless of background or social standing, should be able to avoid attending school. For instance, equality guarantees that all students have access to the resources and opportunities they need to flourish, while inclusion fosters an environment where differences are encouraged.The purpose of this paper is to examine the evolution of the problem of fairness and inclusion in schools as well as its current manifestations and potential remedies. Changing legislation, pedagogical approaches, teacher preparation, and community engagement can all contribute to a more inclusive and accessible educational system. Positive acts have brought goals closer to completion, as evidenced by actual events. Educating in a way that respects individuality and provides each

student with a fair shot at success is essential if we are to make any headway. The only route ahead for education that achieves these aims simultaneously is this.

*Keywords:* equity, inclusivity, fairness, respectful learning environment

## Introduction

Many people believe that education is the key to overcoming socioeconomic barriers and achieving one's goals in life. It gives people the chance to pursue their goals and realize their potential. However, accomplishing this ambitious goal will require more than having access to classrooms and educational institutions. True educational equality and inclusion involve a few different aspects, including the provision of equitable access to resources and opportunities, and the cultivation of a learning environment that is varied and respectful of its members.

To accomplish this high goal defined for education, to help individuals transcend socioeconomic obstacles and follow their dreams, it will be essential to do more than merely have access to classrooms and educational institutions. True educational equality and inclusion involve several unique aspects, including the provision of fair access to resources and opportunities, and the development of a learning environment that is varied and respectful of its members. These are just two of many facets that make up true educational equality and inclusion.

## Definitions

**Equity in Education**

According to (Udaya, M. et al. 2018 p.65), educational equity refers to equity in education. It is a measure of achievement, fairness, and opportunity in education. It involves providing all students with the resources, support, and opportunities required to succeed, regardless of their background, abilities, or circumstances. Educational equity is dependent on two main factors. The first is fairness, which implies that factors specific to one's condition should not interfere with the potential for academic success. The second important factor is inclusion, referring to a comprehensive standard that applies to everyone in an education system.

**Inclusivity in Education**

Concept of inclusivity refers to a setting in which people of all different origins, races, genders, and religious persuasions are welcomed and given equal consideration. Also, inclusion refers to the process of cultivating an atmosphere in which individuals are free to express their true selves and offer distinctive viewpoints and skills that are their own. This notion encompasses more than just making access available. The purpose of an inclusive education is to cater to the needs and interests of every single student.

Inclusivity is vital for society because it fosters social justice, equal rights, and fairness for all. Inclusivity also benefits individuals because it helps them develop empathy, respect, and self-esteem. It can also enhance creativity, innovation, and problem-solving by bringing together diverse perspectives and ideas.

# The Significance of Fairness and Acceptance in the Educational System

## Social Justice

Education is necessary to achieve social justice. Individuals are encouraged to reach their full potential because of external factors when participating in an inclusive education system. It does this by fostering fair chances for personal and professional development, thereby minimizing inequities within the system.

## Students Performance

If children get a positive learning environment where they feel a sense of belonging and are treated equally in the classroom, those students perform better in academics.
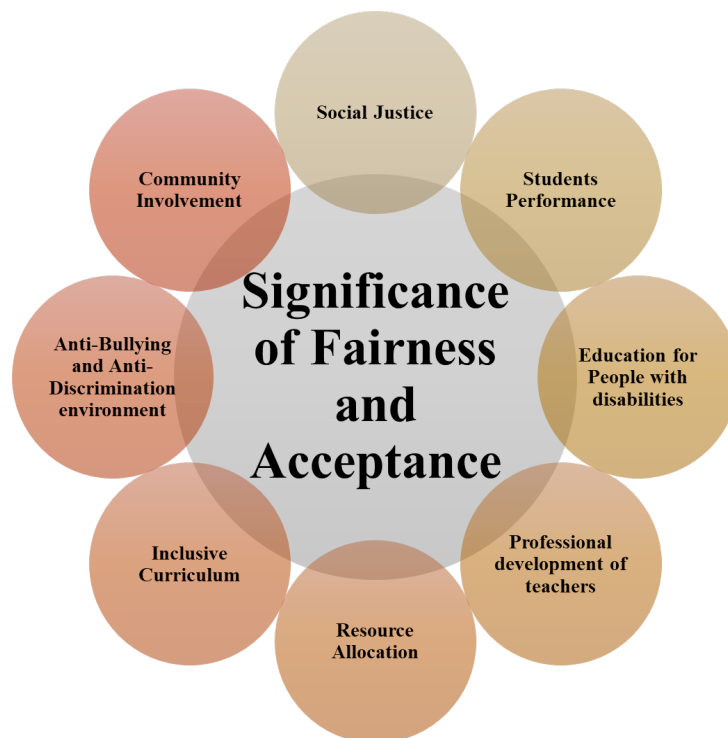
Students tend to perform better academically in settings where they have a sense that they are valued, included, and treated with safety and dignity. Equity and inclusivity improve academic performance by increasing the number of opportunities for positive learning experiences and decreasing the number of obstacles standing in the way of success.

**Education for People with Disabilities:**

It is essential for there to be inclusive education practices in place to fulfill the particular needs of all children, regardless of whether or not they have impairments. However, the resources and support necessary to provide a welcoming learning environment for students with disabilities are often lacking at many educational institutions. Inadequate facilities and specialized support services may hinder their success. Special education programs do not always have adequate funding or implementation, despite rules such as the Individuals with Disabilities Education Act (IDEA). For students to be able to participate fully in the educational system, there must be ongoing efforts made to improve facilities, educator training, and individualized support services.

**Professional development of teachers:**

Comprehensive professional development of teachers is a foundational strategy for promoting equity and inclusivity in education. Educators should receive ongoing professional development that equips them with the knowledge and skills crucial to recognize and address bias and stereotypes. Training programs should also focus on adapting teaching methods to cater to diverse learners, including those with different cultural, linguistic, and learning needs.

By fostering cultural competence and understanding, teachers can create a more inclusive classroom environment where all students feel valued and supported in their educational journey.

**Resource Allocation:**

Allocating resources in education is an important issue that has a humungous effect on fairness and inclusion. One ongoing problem is that schools and educational institutions don't always share resources equally. It is also true between schools. Many times, schools in low-income areas or communities that aren't getting enough help don't have the right facilities, skilled teachers, or up-to-date teaching materials to give kids a good education. This uneven distribution of resources can have a big impact on how kids learn, holding them back in school and limiting their future options. Rich neighborhoods may have schools with the newest technology, more extracurricular activities, and better facilities, while poor neighborhoods may have schools that fight to provide the basics.

**Inclusive Curriculum:**

An inclusive curriculum design is vital to foster a more equitable and diverse learning environment. Schools should embrace diverse perspectives and experiences, promoting cultural understanding and empathy among students. It entails integrating materials and content that reflect a wide range of cultures, histories, and backgrounds, allowing students to see themselves and their peers represented in the educational materials. An inclusive

curriculum encourages critical thinking, empathy, and a deeper appreciation of diversity, contributing to a more equitable educational experience.

**Anti-bullying and anti-discrimination learning environment:**

The adoption of effective anti-bullying initiatives is necessary to provide a learning environment that is both safe and welcoming to students of all backgrounds. Schools have a responsibility to take preventative measures against and aggressively address all types of bullying, harassment, and discrimination. These kinds of systems ought to have well-defined laws, methods for reporting violations, and repercussions for lawbreakers. In addition, educational institutions must make investments in comprehensive anti-bullying and anti-discrimination education, instructing pupils on the significance of respect, tolerance, and acceptance. Schools can provide secure environments for kids, allowing them to concentrate on their academic and personal development, if they take the initiative to address these concerns.

**Community Involvement:**

The community addresses the issues of its members and the families to which each person belongs as a single entity. Each one of our growth and development is closely linked to the resources available in the immediate environment where we live (Udaya, M. et al. 2018).

Schools should actively involve the community in decision-making processes and encourage participation in school activities. The community should help in the installation of

ramps, sign boards, hoardings, and information boards regarding the facilities for the disabled available in public places.

Engaging the community not only helps parents and caregivers understand their role in supporting their children's education but also builds a sense of ownership and shared responsibility for creating an inclusive and equitable educational environment. This approach can lead to a more holistic and sustainable commitment to the principles of equity and inclusivity in education.

## Challenges to Equity and Inclusivity in Education

Following are the challenges:

- **Socioeconomic Disparities:**

Socioeconomic disparities represent a significant challenge to achieving equity and inclusivity in education. These disparities manifest in several ways, including variations in access to quality educational resources and opportunities. Students from economically disadvantaged backgrounds often lack access to well-funded schools, experienced teachers, and extracurricular activities, which can hinder their academic progress. Addressing socioeconomic disparities requires implementing policies and interventions that aim to level the playing field, such as equitable school funding, scholarships, and support for underprivileged students.

**Geographic Disparities:**

Geographic disparities refer to the challenges of providing quality education in rural and remote areas. These areas often face issues related to inadequate infrastructure, a shortage of qualified teachers, and limited access to educational technologies. To address these disparities, policies should focus on improving infrastructure, expanding access to online learning resources, and offering incentives to attract and retain teachers in underserved regions.

- **Cultural and Linguistic Diversity:**

Embracing cultural and linguistic diversity is a crucial component of promoting inclusivity in education. Students from diverse cultural and linguistic backgrounds should not face discrimination or exclusion based on their heritage or language. Educational institutions should encourage multicultural curricula, celebrate cultural diversity, and provide language support for students who are not proficient in the primary language of instruction. This fosters cultural competence and creates a more inclusive learning environment where all students feel valued and respected.

- **Disabilities and Special Education:**

Ensuring inclusivity for students with disabilities and special needs is a critical aspect of achieving equity in education. This involves making accommodations and providing the necessary resources to support students with various disabilities, such as physical disabilities, learning disabilities, and neurodiversity. Inclusive education practices aim to integrate students

with disabilities into mainstream classrooms while also offering specialized support and services to cater to their unique needs.

- **Racial and Ethnic Disparities:**

Racial and ethnic disparities continue to be a pervasive issue in education systems. Discrimination, stereotypes, and systemic biases can result in unequal treatment and opportunities for students from minority racial and ethnic groups. Addressing these disparities necessitates implementing anti-discrimination policies, cultural sensitivity training for educators, and curricula that reflect the diversity of the student population. Furthermore, efforts to promote diversity among teachers and administrators can contribute to a more inclusive environment.

- **Gender Disparities:**

Gender disparities in education involve addressing issues of gender bias and ensuring that all students, regardless of their gender identity, have equal opportunities to thrive academically. This includes breaking down traditional gender roles and stereotypes that can limit a student's potential based on their gender. Inclusivity measures should encompass providing support for (Lesbian, gay, bisexual, transgender, and queer) LGBTQ+ students and ensuring that girls have the same opportunities as boys in all areas of education, including (Science, Technology Engineering, and Mathematics) STEM fields.

### Promoting Equity and Inclusivity in Education

## Policy Reform

Policies and acts aim to address barriers to education, such as gender inequality and financial constraints, by promoting inclusive practices and providing resources. Policy reform is crucial for promoting equity and inclusivity in education. India's 2030 Agenda for Sustainable Development aims for inclusive and equitable quality education by 2030. The National Policy on Education (NPE) of 1986 and the Right to Education Act ensure free and compulsory education for children up to 14, addressing access and attendance issues.

## Inclusive Pedagogy

Inclusive pedagogy involves the development and implementation of teaching methods that cater to diverse learning needs. This approach recognizes that students have varying learning styles and abilities. Strategies to promote inclusive pedagogy include:

## Differentiated Instruction

This approach tailors teaching methods and materials to accommodate different learning preferences and abilities within a single classroom. Teachers need to recognize that students have varying learning styles and adapt their methods accordingly.

Universal Design for Learning (UDL) and collaborative learning are educational approaches that aim to create inclusive curricula and instructional materials for all students, including those with disabilities, reducing the need for retroactive accommodations.

Digital infrastructure development ensures all students have access to digital resources, while subsidized devices help economically disadvantaged students. Digital literacy programs teach essential skills for effective online learning, bridging the gap in technology access.

NCERT has developed various initiatives, including the ePathshala portal, a mobile app for free access to NCERT books and e-content; the Barkhaa Series, a comic book with ISL explanatory videos; and the PRASHAST-Pre-Assessment Holistic Screening Tool booklet and mobile app, covering disabilities under the RPwD Act, 2016.

Educators should receive training on cultural competence, special education, recruitment, and retention to create an inclusive classroom culture. This includes addressing the unique needs of students with disabilities and making the curriculum accessible. Developing a culturally relevant curriculum enhances students' sense of belonging and engagement.

## Conclusion

Addressing challenges like discrimination, unequal access to resources, and inadequate support for students with disabilities can help create a more equitable educational system. To nurture a fair and diverse learning environment by enhancing teacher training, providing

resources, incorporating diverse perspectives, organizing anti-bullying and anti-discrimination programs, and involving community participation could create a safe and supportive environment for all students. This approach fosters a network of support that extends beyond the school walls, reinforcing the importance of inclusivity in all aspects of life.

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# Ethical Education in Shaping Global Citizens: A Pathway towards a Sustainable Future

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## Abstract

Education serves a crucial and indispensable part in the process of transforming people into knowledgeable and accountable members of the global community. By encouraging moral thinking, building empathy and compassion, and developing a feeling of social duty, ethical education plays a vital role in creating global citizens. In the contemporary globalised society, characterised by extensive interconnectivity and frequent interactions with people from various cultural and societal origins, it becomes imperative to provide individuals with the essential ethical principles and values that enable them to effectively go through intricate ethical predicaments. Ethical education is crucial in creating global citizens with the values, abilities, and information needed to handle challenging global issues in a world where connections and interdependence are growing. This study aims to investigate the role that ethical education plays in promoting cultural awareness, global responsibility, and sustainable development. Through an analysis of the advantages, obstacles, and practical approaches for implementing ethical education in global educational systems. This study attempts to emphasise the significance of ethical education in developing the next generation of global citizens.

*Keywords:* empathy, compassion, responsibility, interconnected, shaping, incorporating,

underscore.

## Introduction

Climate change, poverty, inequality, and cultural disputes are just some of the many global concerns that have made the dire need for responsible and ethical global citizens more acute than ever. The goal of ethical education is to instill in its students a feeling of personal accountability for their actions and their impact on the world around them. The primary objective of this essay is to examine the impact of ethical education on the development of individuals as global citizens.

### Significance of Ethical Education in Shaping Global Citizen

First and foremost, ethical education strengthens moral thinking, enabling people to assess moral decisions and their possible implications critically. It promotes a greater comprehension of deontology, virtue ethics, consequentialism, and other principles of ethics and frameworks. By enhancing their capacity for moral reasoning, citizens around the world can exercise ethical choices and contribute to their communities in meaningful ways.

Secondly, ethical education fosters compassion and empathy, which enables people to connect to and comprehend the perspectives and life experiences of others. In order to enable global citizens to respect other cultures, values, and beliefs, it encourages a spirit of inclusion

and acceptance of diversity. One could foster empathy and respect for others by studying moral conundrums and ethical concepts, which broadens one's perspective.

Additionally, ethical education fosters a feeling of social responsibility by highlighting the significance of adopting an active role in tackling societal issues. It promotes introspection and makes people think about the moral ramifications of their choices on a local, national, and global stage as global citizens. Ethical education inspires people to act towards social justice, environmental sustainability, and the protection of human rights by developing in them a feeling of personal accountability for the welfare of others.

Furthermore, ethical education provides people with the requisite information and competencies essential for engaging in ethical decision-making procedures. This serves them as a structure for handling intricate moral difficulties, such using cutting-edge technology, moral conundrums in commerce and politics, or issues pertaining to ecological sustainability. Fostering ethical reasoning and critical thinking makes global individuals more equipped to make moral decisions and contribute to a society that is more equitable and moral.

## Benefits of Ethical Education

The development of world citizens could potentially be greatly aided by teaching morality. To begin with, it facilitates intercultural communication and harmonious cohabitation by encouraging the growth of empathy, tolerance, and respect for cultural difference. Furthermore, ethical education equips students with the necessary skills to engage

in critical analysis of intricate global concerns, therefore fostering their inclination to pursue sustainable and fair resolutions. Finally, ethical education enables people to make well-informed ethical decisions and actively engage in responsible global citizenship, in making valuable contributions to the improvement of society and the globe.

## Challenges in Implementing Ethical Education

The significance of ethical education is evident; nonetheless, multiple hurdles impede its successful implementation. A notable hurdle that arises is the absence of a universally implemented curriculum, since the provision of ethical education sometimes lacks an authorised structure or is only occasionally included into existing educational systems. Incorporating ethical education also requires professional development and training for educators, which supports their capacity to lead inclusive and dynamic debates about ethical problems. Overcoming these challenges requires collaboration among educational institutions, policymakers and stakeholders at various levels.

## Effective Strategies for Incorporating Ethical Education

Incorporating ethical education into curricula can be beneficial for students, as it helps cultivate their moral reasoning and decision-making skills. To effectively incorporate ethical education into educational systems, several strategies can be employed.

Integrating ethical education throughout the curriculum can ensure that ethical considerations are present in various subjects and disciplines. This interdisciplinary approach

enables students to recognize ethical dimensions in different contexts and develop critical thinking skills.

Fostering experimental learning opportunities, such as service-learning or intercultural exchanges, enable students to apply ethical principles in real-world situations, promoting active engagement and cultural understanding.

### Integration into Core Subjects

Infuse ethical concepts and discussions into various subjects such as literature, history, social studies, and science. For example, analysing ethical dilemmas in literature or discussing the ethical implications of scientific advancements can stimulate critical thinking and ethical reflection.

### Dedicated Ethics Classes

Offer specific courses or modules that focus solely on ethical education. These classes can delve deeper into ethical theories, principles, and real-life case studies. They can provide a safe utilize technology to enhance

### Service-learning Projects

Encourage students to engage in community service or volunteer work. Through these experiences, students can develop empathy, social awareness, and a sense of responsibility

towards others. Reflection and dialogue on the ethical dimensions of their service can further enhance their understanding.

## Ethical Decision-making Frameworks

Teach students various ethical decision-making frameworks, such as the utilitarian approach or the deontological approach. Guide them through the process of analysing ethical scenarios and making choices based on ethical considerations.

## Ethical Reflections

Integrate regular opportunities for students to reflect on ethical issues through discussions, debates, and journaling or class presentations. Encourage them to think critically about their own values and beliefs, and these influence their decision-making.

## Guest Speakers and Experts

Invite professionals from various fields who grapple with ethical challenges in their work to share their experiences with students. This real-world perspective can enhance students' understanding of ethical decision-making in different contexts.

## Collaborative Learning

Foster collaborative learning environments where students can engage in ethical discussions and debates. Create a safe and respectful space for students to voice their opinions, challenge ideas, and learn from one another's perspectives.

### Integration of Technology

Utilize technology to enhance ethical education. For example, use online platforms for virtual simulations or interactive case studies that present students with ethical dilemmas and allow them to navigate through different scenarios.

### Ethical Leadership Development

Provide opportunities for students to develop leadership skills through ethical practices. Encourage them to take on responsibilities, make ethical choices, and become advocates for ethical values and social justice.

### Assessment and Feedback

Develop assessment strategies that evaluate students' understanding of ethical concepts and their ability to apply them to real-life situations. Provide constructive feedback to help them further develop their ethical reasoning skills.

Finally, incorporating technology and digital platforms facilitates access to diverse perspectives, promotes global dialogue, and equips students with necessary digital literacy skills to navigate ethical challenges in the digital age.

By incorporating these strategies, educators can create a supportive environment that nurtures ethical awareness, critical thinking, and responsible decision-making among students.

## Conclusion

Ethical education pivotal in shaping global citizen equipped to address pressing global challenges. By fostering empathy, critical thinking, and responsible actions, ethical education contributes to the development of a sustainable and harmonious global society. The implementation of ethical education should be at the forefront of educational policies worldwide, ensuring that future generations are prepared to contribute positively to their communities and the world at large. Empowering individuals with ethical education is essential for nurturing a sustainable future where global citizens actively work towards creating a more equitable, inclusive, and environmentally conscious world.

In conclusion, ethical education is of great significance in shaping global citizens who are morally aware, empathetic, and socially responsible. By fostering moral reasoning, promoting empathy, and cultivating a sense of social responsibility, ethical education equips individuals with the necessary ethical frameworks and values to navigate the complexities of the modern world. It empowers global citizens to make informed, ethical decisions and contribute positively to the well-being of individuals and society as a whole.

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# Teachers Professional Development in 21ˢᵗ Century

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## Abstract

**Boost Involvement**

According to surveys and research, students who are involved in their studies acquire higher grades and are more driven to learn, making them one of the most significant predictors and indicators of student success. Engaged students are 4.5 times more likely than their disengaged peers to feel optimistic about the future, according to a Gallup survey, underscoring the significant impact that learning engagement can have outside of the classroom.

Students can become more engaged learners if you can pique their attention in novel or unusual methods. Permitting students to consult with a partner can boost response rates and promote student involvement in the classroom at any grade level. Ask students to discuss their answers to a topic in pairs before inviting each team to present one or both of their responses.

**Develop Partnerships**

Getting to know your pupils as people is beneficial. According to study by the American Psychological Association, pupils who create close attachments with their teachers outperform those whose relationships are characterized by conflict. Positive student-teacher

connections have been linked to long-term health advantages for both instructors and students, according to another study.

Through district, school, grade, or department publications, stay up to date on events taking place at your child's school and any developments that may impact or involve them. This is a simple method for learning about the successes of your pupils so that you can recognize them. By demonstrating interest in their lives outside of your classroom, you can establish relationships with them whether you do so one-on-one or in your class communications.

**Establish guidelines and protocols**

"Teaching rules and procedures to students at the beginning of the year and enforcing them consistently across time increases student academic achievement and enquire engagement," claims Vanderbilt's Iris Center case study, which highlights the importance of setting classroom norms and expectations.

Students can quickly review rules, procedures, and appropriate character traits for the classroom by using posters and symbols. In addition to serving as decoration, these images offer an additional means of communicating classroom expectations, allowing students to see the rules in addition to hearing them.

**Make Learning Objectives**

Student goal setting is linked to deeper learning, according to a white paper published by the American Institutes for Research's Midwest Comprehensive Centre. According to the authors, creating goals for kids is a valuable, evidence-based strategy that benefits students of all academic levels, including those with learning impairments.

Help students define and develop learning objectives in order to motivate them to do better over the course of the semester or topic unit. Then, start tracking and charting their progress on a regular basis. At the start of a unit or grading period, you could ask students to select a goal in relation to a particular scale, and then you could keep track of their scores on that scale. The teacher gives each student a final, or summative, score at the conclusion of the unit or grading period.

**Design Quality Evaluations**

The Vanderbilt University Centre for Teaching contends that student assessment is the centrepiece of the teaching and learning process in its extensive Assessing Student Learning handbook. Instructors utilize exams at the end of each unit to gauge how well their students understand the material. The teacher may choose to provide extra individualized attention to some kids if they are struggling more. Additionally, the instructor can change the class as a whole to stay on target with the learning objectives.

There are many other informal and formal assessment techniques than the typical exam and quiz. Giving brief presentations to you or the class is one evaluation method that can be used with students of all grade levels and disciplines. In contrast to a multiple-choice exam or

test that relies on material retention, a presentation asks students to show what they have learnt and will enable you to gauge their comprehension level.

## Straightforward Guidance

When it comes to how successfully students learn, remember, and apply new material, the method of instruction can be just as crucial as the content of instruction. In a ground-breaking study called Project Follow Through, which involved 22 distinct teaching models and over 200,000 children, the federal government discovered that direct instruction methods yielded the highest results for students in terms of self-esteem, problem-solving abilities, and fundamental academic skills.

Before moving on, students at varying levels can assist others in small groups in understanding particular aspects of a concept. For both students and teachers, there is a great advantage to using the processing time to reflect on the material and discover significance or value in themselves as they utilize and connect with it, rather than just hearing it. In order to make sure that students are moving in the proper direction throughout this processing period, it's critical to travel around the classroom and identify any issues or areas that require additional training.

### *Benefits of Technical Development for Teachers*

Technical development for teachers is an essential aspect of any educator's job. Technical development for teachers can have many benefits, from increasing their knowledge and skills to developing new strategies for managing their classrooms.

**These are a few of the main advantages of professional development for educators.**

Through technical development initiatives, educators can obtain important knowledge and materials. Teachers can pick up new teaching methods or approaches to classroom management that they may not have known about previously by visiting conferences and other events. Teachers can network with other professionals in the industry through technical development activities, which can open doors to fresh ideas and important resources.

Teachers can improve their knowledge and abilities through technological growth as well. Through these exercises, educators might learn about new technological tools that they may not have previously encountered or receive insight into other teaching philosophies. Both the teacher's job satisfaction and student outcomes may enhance as a result of this expanded knowledge and skill set.

Teachers have the chance to learn more about the teaching profession through technical development programs. Teachers can acquire new techniques for better managing their classes and a greater understanding of their profession by attending lectures on educational theory or pedagogy, or by having talks with other technical staff members.

Teachers get the chance to network with other experts in the subject through technical development activities. Teachers might locate role models or fellow educators to cooperate with on projects or initiatives via networking at conferences or seminars. These relationships frequently provide access to resources and new opportunities that would not otherwise be available.

Engaging in technical development activities offers instructors many advantages, such as maintaining current with emerging ideas and approaches in education and developing knowledge and abilities that enhance student performance.

Teachers can also learn more about the teaching profession and make connections with other professionals in the industry that open doors to new resources and opportunities through technical development.

**Methods of Technical Development for Technological Advancement**

**Techniques for Technical Development in Classroom Management**

Classroom management is a crucial element of successful teacher technical development. Through participation in classroom management-focused professional development activities, educators can acquire methods and approaches that facilitate the establishment of a respectful and interactive learning environment for their students.

**These ten-classroom management technical development tactics can help teachers become more proficient instructors.**

1. Participate in conferences and workshops pertaining to classroom management. Teachers can learn from seasoned technical experts and hone their own skills in this domain at these events.

2. Enroll in a self-study course or online course on classroom management. Teachers can learn at their own and acquire a greater comprehension of good classroom management through this kind of learning.

3. Work together on projects with other experts in the area. When educators collaborate, they can exchange ideas and talk about effective strategies that they have used in their own classrooms.

4. Create plans for handling challenging behaviours and cultivating a good rapport with parents and children. In order to foster an atmosphere where everyone feels appreciated and respected, teachers should work to implement appropriate punishments for misbehaviour in addition to effective communication techniques.

5. Use tools for classroom management, such as monitoring forms, points systems, and visual indicators or signals, to keep an eye on student behaviour and provide encouraging signals.

6. Clearly define expectations for student behaviour and convey them to students on a frequent basis throughout the academic year so that they are aware of what is expected of them at all times.

7. Create a schedule and set of consistent rules for the classroom so that kids know what is expected of them when they come in each day.

8. Instead of depending only on punitive methods to address misbehaviour or mistakes made

by students during class, use positive reinforcement strategies like praise or awards when students exhibit excellent behaviour or correctly finish inquiries.

9. Promote a collaborative environment in the classroom by supporting group projects, peer mentoring, or other strategies that let students feel at ease working together to achieve shared objectives and benefit from each other's failures and accomplishments along the way.

10. Use your free time to consider the lessons you've taught, assess your students' progress, and go over your parents' comments.

**Methods of Technical Development for Teachers**

It's critical for educators to be current on the newest methods and approaches to instruction. You can achieve it with the aid of technical development activities!

**In summary**

An essential component of any teacher's profession is technical growth. It ensures that teachers stay current on the newest methods and approaches to instruction and gives them the resources they need to succeed in the classroom.

Teachers can learn new insights and strengthen their skills through the use of excellent technical development initiatives, which will benefit their students' success.

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# Unlocking the Dialogue: Pioneering Human-Machine Conversations through GPT Advancements

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## Abstract

Generative Pre-trained Transformers (GPT) are only one example of the kind of cutting-edge language model that has altered human-machine interactions. This study explores how GPT and other language models may enable astonishingly human-like discussions, and it sheds insight on the difficulties that come along with this goal. GPT's strength is in its ability to provide coherent and contextually appropriate replies because to its neural network-based design and intensive training on massive textual datasets. This article analyses the probable uses of language models like GPT in numerous areas, including healthcare, virtual assistants, education, and customer service. It also discusses important moral and societal issues related to language modelling, providing context for what it means to develop conversational machines that mimic human speech patterns.

*Keywords:* chatGpt, humans & all machines, language models, ethical considerations, machine learning, artificial intelligence, natural language processing, contextual understanding

## Unlocking the Dialogue: Pioneering Human-Machine Conversations through GPT Advancements

It's becoming harder and harder to tell the difference between modern technology and magic. The capacity of language models like GPT to create human-like replies to user input makes their comprehension and interpretation of language seem almost miraculous. There are major ethical and social issues associated with the use of language models like GPT, despite its revolutionary promise for human-machine communication. These include the possibility of biases in training data and the influence on the job market. The creation and implementation of new technologies must be approached with prudence to guarantee that they are utilised ethically and for the greater good of society.

The ability to communicate is crucial to our survival. We rely on it to share our innermost thoughts and emotions with the world. The manner in which we utilise language have also developed as time has passed. The development of computers, AI, and NLP has brought about radical changes in the way we think about the future of language and communication. The creation of conversational language models like GPT (Generative Pre-trained Transformer) is one such advancement that has received a lot of attention recently. In this seminar paper, I'll discuss how language models like GPT are shaping the future of conversational AI.

## Background and Significance

Generative Pre-trained Transformers are only one example of the cutting-edge language models that have revolutionised the area of human-machine interactions in recent years (GPT).  With the use of neural networks and massive textual datasets, these language

models have completely altered the manner in which computers comprehend and mimic human language. Models like GPT are very powerful conversational aids because to their exceptional ability to provide logical and contextually appropriate replies.

Improvements in deep learning and NLP are the foundation on which GPT was built. GPT learns the complexities of language, such as syntax, semantics, and contextual complexity, via training on large volumes of different text data. As a result of its training, GPT can now provide replies that are not only logical, but also show some awareness of and interest in the topic at hand.

**Evolution of Language Models**

Over the years, language models have improved greatly thanks to the development of cutting-edge machine learning and natural language processing (NLP) methods. Data-driven strategies that use the strength of statistical models and neural networks have essentially supplanted the traditional rule-based approaches to language interpretation and creation.

Early language models mostly focused on rule-based systems that depended on handmade linguistic rules and heuristics to analyse and create words. These methods were rigid and failed to adequately capture the nuance of human speech.

However, with the development of ML and DL, scientists have begun investigating data-driven methods that may glean representations and patterns from massive volumes of text. As a result of this change, statistical language models were created to estimate the

probability of sequences of words, using methods like n-grams and Hidden Markov Models (HMM).

## Introduction of Neural Language Models

The subject of natural language processing has been greatly advanced by the recent introduction of neural network-based language models. Recurrent Neural Networks (RNNs) and Transformer models, for example, have shown impressive ability in both comprehending and creating natural-sounding human-like language.

The creation of Generative Pre-trained Transformers is a major step forward in the field of neural language models (GPT). GPT models leverage the Transformer architecture, which allows them to capture long-range relationships and contextual information quickly. To understand the statistical features of language and provide coherent and contextually appropriate replies, these models are pre-trained on massive volumes of text data.

## Impact on Human-Machine Interactions

The development of language models, especially the advent of GPT, has had far-reaching effects on the nature of interactions between humans and computers. Conversational agents based on GPT models may more accurately mimic human discourse, making for a more pleasant and engrossing experience for end users.

GPT and other language models have the potential to create more intelligent and engaging systems in a variety of fields, including healthcare, virtual assistants, education, and

customer service. GPT's diagnostic aid, patient assistance, and research facilitation are all useful in healthcare settings. There is potential for virtual assistants to advance to the point where they can recognise human intent, provide pertinent responses, and learn from their users' preferences. When used to the classroom, GPT has the potential to improve individualised tutoring, content generation, and student engagement. Intelligent chatbots and virtual agents driven by GPT may expedite interactions with customers.

However, along with these exciting potential, there are also problems and ethical issues that need to be addressed. Concerns about the social impact of creating conversational agents that closely resemble human communication patterns are raised in light of the development and deployment of GPT, as are concerns about biases in language models, the generation of misinformation, privacy and data security, transparency and explainability.

Knowing the history and relevance of language models, and GPT in particular, sets the stage for investigating their practical, methodological, and moral implications in human-machine interactions. Leveraging language models opens up exciting new avenues for improving human-machine interaction via better communication.

## Objectives

1.  Explore the potential of advanced language models, specifically Generative Pre-trained Transformers (GPT), in enabling human-like conversations in human-machine interactions.

2.  Investigate the applications of language models like GPT in diverse industries, including healthcare, virtual assistants, education, and customer service.

3.  Evaluate the capability of GPT to generate coherent and contextually relevant responses by leveraging its neural network-based architecture and extensive training on textual datasets.

4.  Identify and address the challenges associated with the use of language models, such as bias, safety, and data privacy.

5.  Examine the ethical and social considerations surrounding the development and deployment of conversational agents that closely resemble human communication patterns.

6.  Provide insights into the implications of using language models for creating conversational agents, including their impact on human interaction and relationships.

7.  Offer recommendations and guidelines for responsible development and deployment practices of language models in human-machine interactions.

## Language Models and Human-Machine Conversations

**Advanced Language Models: An Overview**

Generative Pre-trained Transformers (GPT) and other state-of-the-art linguistic models have done wonders for the development of human-machine dialogue. These models use pre-training and fine-tuning procedures to learn from data and mimic human behaviour in their output.

**Capabilities of Advanced Language Models in Human-Machine Conversations**

The possibilities of modern language models to facilitate communication between humans and machines are astounding. They may mimic human conversation by producing answers that make sense in the given environment. In talks between humans and machines, some of the most important features of sophisticated language models are:

**a. Contextual Understanding:** Conversational context is where language models, like GPT, really shine. These models are able to create replies that are consistent with the existing discourse

by analysing prior conversations and applying contextual embeddings. .

 **b. Semantic Coherence:** Modern language models are able to give coherent answers because they capture the semantic links between words and sentences. .

**c. Contextual Adaptability**: Depending on the domain and setting, language models may modify their replies. Models may show domain-specific expertise and provide more accurate and relevant replies with fine-tuning on certain datasets or domains. .

**d. Language Generation:** These models may create replies from scratch, coming up with unique and relevant results based on the given environment. This feature is especially helpful when the input is vague or insufficient to enable the model to provide effective results.

**e. Personalization**: Personalization in language models is possible via the use of user-specific information such as preferences and past behaviour. This allows them to provide a more personalised experience for each customer and start more interesting discussions.

 **f. Multi-turn Conversations**: Advanced language models can manage multi-turn discussions, retaining coherence and comprehension across various dialogue exchanges. They're able to remember their past conversations and provide comments that continue the thread of dialogue.

## Applications of Language Models

### Healthcare

### Diagnosis Assistance and Treatment Recommendations

By aiding in diagnosis and offering therapy suggestions, language models like GPT have great promise in the healthcare sector. Medical personnel may benefit from these models' analysis of patient symptoms, medical histories, and other pertinent clinical data. Language

models may help uncover trends, uncommon illnesses, and viable treatments by drawing on their considerable expertise on medical literature and databases. This has the potential to increase the precision and speed of diagnosis, thereby benefiting the health of the patient.

## Virtual Health Assistants for Patient Support

Patients may get individualised care and engaging conversation from virtual health aides driven by language models. With the help of these assistants, patients may have discussions in which they can ask questions, get answers to their medical concerns, and get recommendations on how to best manage their ailments. Language models may answer frequently asked questions, educate patients, remind them to take their medications, encourage healthy habits, and more. Patient data, such as vital signs and symptoms, may be monitored by virtual health aides, with alarms sent to doctors as soon as a problem arises. Patient participation, knowledge, and control over their own health care might all benefit from this innovation. The uses of language models in healthcare extend beyond diagnostic aid and patient support, embracing fields such as medical research, medication development, and electronic health record analysis. Literature reviews, data extraction from scientific journals, and the discovery of new connections and insights are all made easier with the help of these models. By automating routine chores like paperwork, transcribing, and appointment scheduling, they may also let healthcare providers spend more time where it matters most: with patients. The potential influence of language models in healthcare is large and growing as

these models improve. Responsible incorporation of these models into healthcare settings depends on addressing issues of data privacy, accuracy, and regulatory compliance.

## Virtual Assistants

### Natural Language Understanding and Enhanced User Experience

Powering virtual assistants, offering natural language processing skills, and boosting the user experience are all significantly aided by language models like GPT. Intuitive and effective interactions are made possible by virtual assistants that can comprehend and respond to questions, instructions, and even natural language. In order to understand user intent, retrieve relevant information, and reply in a conversational way, language models use their considerable training on various textual data.

### Personalized Recommendations and Task Automation

By drawing on individual users' histories and preferences, language models may improve the quality of service provided by virtual assistants. These models may learn from a user's activities and interactions in order to provide specific recommendations based on the user's profile and the surrounding environment. A virtual assistant at an online store, for instance, may provide shoppers with tailored product suggestions according on their interests, past purchases, and browsing behaviour. In addition, virtual assistants may complete forms, generate automated answers, and carry out other mundane activities automatically depending on user input.

Virtual assistants that are fueled by language models may also interface with other apps and services, serving as a centre for things like smart home management, task execution, and information retrieval. They can conduct activities like as setting reminders, scheduling appointments, checking weather predictions, playing music, and controlling smart devices with natural language instructions. Everyday chores are made easier by this connection and automation.

Virtual assistants are helpful in many fields, from customer service to personal productivity to smart home automation, because to their adaptability and ability to give individualised and contextually relevant information. It is critical, however, that virtual assistants protect their users' personal information, process sensitive data safely, and honour their users' requests for privacy and data management choices.

**Education**

Intelligent Tutoring Systems for Personalized Learning

By fueling intelligent tutoring systems that provide individualised learning experiences, language models like GPT have the potential to change the educational system. These systems may be customised to meet the unique requirements of each learner. Language models may tailor their responses to each individual learner by monitoring their progress, identifying their areas of strength and weakness, and drawing on their vast body of information. This tailored strategy promotes student engagement, understanding, and information retention, leading to more successful learning results.

Real-time evaluations and progress monitoring are another feature of intelligent tutoring systems that help teachers keep tabs on student performance and pinpoint problem areas. These systems are able to continually adjust their teaching methods in response to students' input and performance trends because they combine machine learning algorithms with language models. Students' unique learning demands may be met by this method of adaptive learning's personalised assistance and scaffolding.

### Language Learning and Interactive Educational Content

Interactive and immersive instructional material is another way in which language models may aid in language acquisition. These models may stimulate conversational engagement amongst students, providing an authentic setting in which students can practise and enhance their language abilities via dialogue simulation and language production. Linguistic models may produce conversations, make language corrections, and provide vocabulary and grammatical explanations, offering a holistic language learning experience.

In addition, language models may be used to help create engaging lessons for a wide range of disciplines. They may be used as a complement to conventional textbooks and lectures by generating useful and interesting content, explaining difficult ideas, and providing answers to students' queries. To further engage students and encourage independent study, this technology allows the creation of interactive textbooks, educational chatbots, and virtual instructors.

### Customer Service

## Efficient and Personalized Customer Support

Effective and individualised customer service is within reach with the help of language models like GPT. These algorithms can decipher the meanings behind client requests and provide contextually appropriate replies. Improve the customer service experience with the use of language models that have been trained using large amounts of textual data.

Language models may help customer service agents by processing and understanding a high number of client contacts and giving them with context, recommended replies, and access to a knowledge library. Because of this, agents can better assist consumers in a timely manner, which boosts both productivity and satisfaction.

### Chatbots for Handling Common Queries and Inquiries

When it comes to answering frequent questions from customers, chatbots driven by language models are invaluable. These chatbots are able to mimic human interactions, answer commonly requested queries, and have discussions in natural language. Language models may reduce the effort of customer care workers and make 24/7 help available by evaluating user inputs and generating correct and useful replies.

Instantaneous replies, self-service choices, and basic troubleshooting methods are all things chatbots can provide for their users. They can help with things like order monitoring, product suggestions, account questions, and data collection. Chatbots allow human service

representatives to concentrate on more difficult issues while handling simple ones automatically.

## Challenges in Using Language Models

### Bias and Fairness

### Addressing Biases in Training Data

Biases in the training data presented to language models are a significant obstacle to their development. In order to train, language models need large textual datasets, which may unwittingly reflect cultural biases, stereotypes, or underrepresentation. If these prejudices aren't taken into account, language models might end up reinforcing and amplifying them in the reactions they produce.

Careful curation and preprocessing of training data, including the elimination or balance of biassed information, is essential for bias mitigation. Bias may also be reduced in language models by the use of methods including debiasing algorithms, adversarial training, and fine-tuning on a variety of datasets. It is also crucial to regularly evaluate and monitor model outputs for any bias to guarantee impartial results.

### Ensuring Fairness in Language Generation and Response Selection

An further significant difficulty is ensuring language creation is fair. Responses produced by language models should be equitable, nondiscriminatory, and nonsexist. They should not advocate for or support harmful ideas or information that discriminates against any

group. It is possible, nevertheless, for language models to pick up and perpetuate biassed tendencies in the training data, leading to inappropriate or insulting answers.

Concerns about fairness have prompted researchers to work on algorithms and strategies to identify biassed results from language models and reduce their impact. Responsible implementation of language models requires the establishment of ethical rules and review mechanisms, with human monitoring and involvement to correct for any possible biases or harmful outcomes. Trust and responsibility may be fostered by openness in the language modelling decision-making process.

**Safety and Control**

**Preventing Malicious Use of Language Models**

Language models, especially GPT, have the potential to be exploited for nefarious objectives, such as creating false news, distributing disinformation, or participating in destructive behaviours. Concerns regarding language models being used to produce misleading material or impersonate real people arise because of their widespread availability. Individuals, businesses, and society as a whole are all put at risk.

Safeguards and controls must be put in place to avoid misuse. Access and use regulations, authentication methods, and monitoring tools to identify and prevent abuse are all part of this. The dangers of improperly using language models might be lessened by the establishment of ethical principles and regulatory frameworks. To guarantee the ethical use of

language models, it is crucial that developers, academics, and policymakers work together to set rules and standards.

## Mitigating Risks of Misinformation and Harmful Content

Unintentionally, language models may produce and disseminate incorrect information, exaggerated claims, or malicious material. The impact it may have on public opinion and the ease with which rumours could spread are only two examples of the possible social effects of this phenomenon. The hazards connected with the production of deceptive or harmful material must be identified, and measures taken to reduce their impact.

Research is continuing to create strategies for fact-checking, content verification, and bias identification in language models to mitigate these dangers. Misinformation may be identified and its spread reduced by the combination of external knowledge sources, real-time monitoring, and human evaluation. To further improve the quality and dependability of language model produced information, collaboration with fact-checking groups, media outlets, and topic specialists is encouraged.

Users will have a better grasp of the model's limits and any inherent biases if the language model's training and decision-making processes are made public. Providing users with agency and the means to alter the behaviour of language models, such as fine-tuning for particular goals or filtering certain sorts of material, may provide them additional tools to reduce vulnerability and safeguard themselves.

The hazards of disinformation and harmful material can only be reduced via a concerted effort on the part of academics, technology developers, legislators, and the general public to create effective measures to avoid the malevolent use of language models. Language models may be used in a way that benefits people and society while minimising related dangers if safety, responsible use, and user empowerment are prioritised.

**Data Privacy and Security**

### Protecting Sensitive User Information during Interactions

In human-machine talks, it is not uncommon for users to reveal private information. The security of user information must be a top priority, and language models must be built without endangering individual confidentiality. There may be serious repercussions for both persons and businesses when sensitive information is accessed by unauthorised parties, compromised, or misused.

Strict security measures should be established all the way through the data handling lifecycle to secure private user information. Compliance with privacy standards and industry best practises, as well as encryption for data at rest and in transit, are all part of this. Consent from users and open rules for data processing are also necessary to ensure.

### Implementing Privacy-Preserving Mechanisms

The design and implementation of language models may include privacy-preserving methods to improve data privacy. Collaborative model training may take place without the

need to reveal sensitive information thanks to methods like federated learning, differential privacy, and secure multi-party computing. These methods make it possible to compile information from many sources while keeping personal details confidential.

An extra safeguard for user privacy is provided by methods such as on-device processing and edge computing, which lessen the need for transferring data to centralised servers. By keeping calculations on users' devices, they may keep control of their data and lessen the dangers connected with data transit and storage.

In order to detect and fix any data privacy and security flaws in language models, routine security audits, vulnerability assessments, and proactive monitoring are required. Language models may be made more secure and compliant with privacy regulations by cooperation with cybersecurity professionals, privacy activists, and regulatory agencies.

## Ethical and Social Considerations

### Transparency and Explainability:

### Understanding the Decision-Making Process of Language Models

Ethical concerns about the use of language models need their openness and ability to be explained. There is a growing need for consumers to comprehend the reasoning behind more complex language models like GPT. Users may worry about potential biases, data sources, or the criteria used to create replies in language models due to the complexity of the decision-making process.

The decision-making process behind language models should be made more open and understandable. This may be accomplished by detailing the model's data requirements, the sorts of inputs it accepts, and the weights it gives to various pieces of information. Improving user comprehension and confidence in language models requires transparent documentation and user interfaces that explain their strengths and weaknesses.

### Enabling Users to Comprehend and Question System Responses

Language model outputs should be understandable and open to user scrutiny. Users may engage with the model more effectively if they are given insight into the factors that contributed to its response. Additionally, enabling users to offer input on the accuracy or relevance of system replies may assist enhance the model's performance and eliminate possible biases or misconceptions.

System-generated replies may be presented in user interfaces with contextual details like data sources and the degree of confidence in the model's prediction. This allows users to better analyse the language model's output and draw more accurate conclusions.

Furthermore, encouraging communication between users and developers may help with the continuous enhancement of language models. Language models that actively include user comments and concerns into the development process are more likely to be transparent, dependable, and responsible.

### Accountability and Responsibility

## Establishing Guidelines for Developers and Organizations

There should be explicit norms and ethical frameworks put in place by developers and organisations implementing language models. Language models have both practical and ethical implications that need to be addressed in these recommendations. The challenges of prejudice reduction, data privacy, and the avoidance of abuse or injury should also be addressed.

The need of using varied and representative training data, thorough testing, and continuous assessment of model performance should all be emphasised in guidelines meant to promote responsible research and development procedures. To guarantee the appropriate and ethical deployment of language models, they should also encourage openness, user empowerment, and engagement with relevant stakeholders, including affected populations.

## Determining Liability in Case of System Errors or Harm Caused

Liability issues occur when there are system faults or damage is produced by language models interacting with users and possibly influencing their judgments. Responsibility and obligation must be clearly delineated, taking into account the many stakeholders (including developers, businesses, and end users).

Liability issues in the context of language models need the creation of legal frameworks and rules. The scope and severity of the damage, the motivations for the activities, and the amount of human supervision and control over the usage of language models should all be taken into account by these frameworks.

Establishing liability frameworks that combine stimulating innovation with safeguarding persons from possible damage requires collaboration between legislators, legal experts, and industry players. These structures need to reward responsible behaviour while giving anyone harmed by system failures or harmful outputs a way to seek redress.

## Impact on Human Interaction and Relationships

### Examining Implications of Human-Like Conversational Agents:

Important questions about human connection and relationships are raised by the creation of language models that can participate in astonishingly human-like conversations. Conversational bots driven by language models have the potential to profoundly alter how humans interact socially, find information, and convey meaning to one another.

The effects of these developments on social dynamics, trust, and personal privacy must be thoroughly investigated. Human-like conversational bots may cause ethical quandaries, emotional ties, and misunderstandings when they fail to clearly distinguish between human and computer.

### Preserving Human Connection and Empathy in Human-Machine Interactions

While language models may greatly improve human-machine conversations, it is essential that human connections and empathy be preserved. It may be difficult for language models to properly grasp and recreate the complexities of human connection and empathy, such as the role of emotions, cultural context, and non-verbal clues.

It is important to keep human connection and empathy in mind while interacting with language models. Design decisions that put an emphasis on empathy, such including empathic

replies or giving users ways to express their emotions, may help. Some interactions may benefit from human supervision or assistance in order to deal with difficult or delicate matters.

Human connection may be preserved by user education on language models' strengths and weaknesses. Balance the usage of language models and avoid isolation or over-reliance on technology by encouraging users to retain real-world social contacts and connections.

The creation of conversational bots that value human connection and empathy may benefit from the combined efforts of psychologists, sociologists, designers, and developers. We can make sure that language models don't replace human contact but rather improve it by including human values and emotions into their development and rollout.

## Recommendations for Responsible Development and Deployment

**Guidelines for Training Data Collection and Curation:** Researchers and developers should agree on standard practises for gathering and organising language model training data. In order to reduce discrimination and boost performance for all users, these standards must promote diversity, inclusiveness, and representation. Potential ethical considerations, such as the use of personal or sensitive information, should be carefully considered, and actions should be made to resolve these issues in a responsible manner.

Training data collecting and curation procedures may be made more robust, impartial, and in accordance with ethical norms by the participation of different groups and professionals from a variety of fields. The development process may be made more robust by conducting regular audits and reviews of the training data to detect and address any potential biases or limits.

**Ensuring User Consent, Privacy, and Control:** Responsible development and implementation of language models need emphasising user permission, privacy, and control. Clear and open information regarding the interaction, data usage, and possible consequences of language model-generated replies should be provided to users. Informed permission should be secured from users before engaging them in chats or exploiting their data for model development.

Users' privacy should be taken seriously, and they should feel confident that their information is safe whenever they engage with the service. The ability to restrict data retention or opt out of specific interactions is one example of how users' privacy choices should be managed under their control.

When interacting with language models, users should be given transparent information about how their data will be used and how their privacy will be protected. To guarantee conformity with privacy rules and industry standards, data handling and privacy procedures should be routinely audited and assessed. .

**Promoting Transparency, Explainability, and Accountability:** To build and release language models responsibly, transparency, explainability, and accountability are necessities. The developers of language models should make their reasoning clear and give context for the results they produce. Users should have access to comprehensive documentation explaining the models' assumptions, biases, and data sources.

Establishing means of accountability to listen to and act upon customer input is essential. To enhance the precision, fairness, and dependability of language models, user interfaces should encourage people to question, dispute, and offer feedback on system replies.

In addition, businesses and developers need to accept responsibility for how their language models affect end users and society as a whole. Seeking external audits, forming partnerships with academics and experts, and addressing complaints and critiques from users, privacy activists, and

other stakeholders are all part of this process. .

**Conclusion**

Human-machine interactions have been completely transformed by language models such as GPT, which provide extraordinary capabilities and have wide-ranging potential uses. However, there are concerns and ethical issues that come up while using them. It is essential to take measures to reduce prejudice, protect user privacy, encourage openness, and solve security issues. To go forward, we need to become better at things like preventing and correcting for prejudice, being able to explain our decisions, promoting human-machine cooperation, evaluating the social and cultural effects of our work, and constantly monitoring and assessing our progress. Language models have the potential to design a future that takes advantage of technological advantages while also valuing justice, accountability, and the preservation of human values and relationships, provided that their development and deployment are conducted in a responsible manner.

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# Enhancing Student Learning Through Teacher Professional Development

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## Abstract

Teacher Professional Development is the continuous drive of enhancing educators' expertise, capabilities, and methodologies in the realm of education. It serves as a fundamental element in elevating the standards of teaching, ultimately enriching the educational encounters of students. The objectives of this paper are: To Enhance teaching and learning excellence through professional development. To improve teacher quality and effectiveness. To identify obstacles in effective development. To share successful professional development strategies. To elevate student outcomes through teacher development. So, it is reasonable to assert that teachers who consistently engage in professional development opportunities can markedly enhance their students' learning.

*Keywords:* fostering, teaching excellence, teacher, professional development

### Enhancing Student Learning Through Teacher Professional Development

Teacher Professional Development is the continuous drive of enhancing educators' expertise, capabilities, and methodologies in the realm of education. It serves as a fundamental element in elevating the standards of teaching, ultimately enriching the educational encounters of students. Productive programs engage educators in learning experiences that mirror those they will employ with their students. These initiatives foster the creation of

teacher learning communities, promoting collaborative growth. This dynamic process of teacher development can manifest through diverse avenues and adapt to the evolving phases of a teacher's professional journey.

Professional development opportunities enable teachers to enrich their grasp of subject matter and expertise. Consequently, this increased knowledge base enhances their confidence in delivering accurate and high-quality information to their students. Promoting professional development in education yields advantages that extend to both teachers and students.

Professional development for teachers encompasses more than just providing opportunities for learning new concepts or embracing innovative teaching methodologies. It also places a strong emphasis on cultivating their abilities to navigate the evolving landscape of the teaching and learning process, all for the benefit of students. This comprehensive approach to professional development results in positive transformations in a teacher's approach, mindset, comprehension, and instructional methods, ultimately elevating the quality of education. The objectives of this paper are:

- o   To Enhance teaching and learning excellence through professional development.
- o   To improve teacher quality and effectiveness.
- o   To identify obstacles in effective development.
- o   To share successful professional development strategies.
- o   To elevate student outcomes through teacher development.
- o   To provide recommendations for policymakers, educational institutions, and educators on how to improve and optimize teacher professional development programs

## Profession

A profession can be defined as an occupation that requires specialized study and training, typically aimed at offering skilled services and guidance in exchange for compensation. Professions are not merely jobs but callings, signifying the acquisition of knowledge, a range of skills, and their application for the betterment of society.

A profession can be pursued independently or within institutional settings, or even a combination of both. In the context of teaching as a profession, it implies that a teacher has the flexibility to teach independently to students or work within an educational institution as part of a team of educators.

## Fundamental Attributes of Teaching as a Profession

As discussed earlier, the teaching profession exhibits distinct characteristics that qualify it as a true profession. It is notably complex, as it must continually adapt to the evolving needs and expectations of a dynamic society, influenced by the following political ideologies and economic factors.

## Teaching is Fundamentally an Intellectual Endeavour

It involves purposefully structuring learning activities, creating an environment that fosters learning, and continually assessing and adapting to the ever-changing dynamics of a diverse group of students.

## Teaching, in Essence, Shapes Raw Materials into a Tangible and Specific Outcome

Within the teaching profession, the students themselves are the raw materials. These students, equipped with diverse expectations, are shaped into a practical and well-defined result through the imparting of hands-on training in teaching and various pedagogical practices.

## Teaching Inherently Leans Towards Self-Organization

Those involved in the teaching profession are naturally inclined towards personal growth and development. They establish a structured mechanism to uphold and enhance the standards of the teaching profession, ensuring its continued progress and excellence.

## Teaching Fundamentally Serves as a Social Endeavour

It is widely acknowledged that education wields substantial influence in effecting transformations within a society. Teaching plays a pivotal role in the development and advancement of a society.

## Teaching is a Structural Foundation of Knowledge

Teaching represents a well-organized and foundational realm of knowledge. The teaching profession is firmly grounded in a structured reservoir of understanding, integrating insights from diverse facets of life, including the social, psychological, historical, political, and economic domains.

## Teaching has a Unifying Values

The teaching profession universally adheres to a shared code of ethics. This common unifying value serves as a guiding set of principles and values that educators across the globe uphold, regardless of cultural or geographic differences.

In light of these complexities and more, teaching remains a noble profession driven by the central aim of serving society.

## Teacher Professional Development

Teacher professional development is the continuous process of educators acquiring and enhancing knowledge and skills to improve teaching methods and enhance student learning. This systematic effort keeps teachers current with educational developments, fosters personal and career growth, and equips them to meet evolving educational needs. It includes activities like workshops, courses, collaboration, mentorship, and observations, all aimed at enhancing teaching effectiveness and student outcomes.

It is the process by which teachers review, renew and extend their commitment as change agents and by which they acquire and develop critically the knowledge, skills, planning and practice through each phase of their teaching lives (Day, 1999).

"Teacher's Professional Development "is the body of systematic activities to prepare teachers for their job, including initial training, induction courses, in-service training and continuous professional development within school settings" (OECD, 2010).

### Empirical Evidences

Several research studies have been carried out to uncover the impacts of teacher professional development to enhance student learning. Fischer et al. investigated the implications of teacher professional development for learners' achievement. The multi-level structural equation models indicated that teacher professional development can noticeably affect student achievement.

Similarly, Tanveer et al. (2021) examined the role of teacher professional development in students' learning achievements. Two self-developed questionnaires were distributed to 170 college students and teachers. Their findings, based on regression analyses, revealed a substantial enhancement in student achievement as a result of teacher professional development.

### Need and Importance of Teacher Professional Development

Teacher professional development encompasses more than just introducing new concepts or teaching methodologies; it also centers on equipping educators with the skills to navigate the evolving landscape of the teaching and learning process and implement what's best for student benefit. It results in transformative changes in a teacher's approach, attitude, understanding, and practices, ultimately enhancing the learning experience.

## Enhancing Teaching Effectiveness

Continuous professional development empowers teachers to refine their instructional techniques, classroom management skills, and pedagogical approaches. Consequently, it elevates their efficacy in the classroom, leading to enhanced student learning.

## Adapting to an Evolving Education Landscape

Educational methods, technologies, and student demographics are in constant flux. Teacher professional development equips educators to stay abreast of these changes, enabling them to meet the ever-evolving needs of their students.

## Promoting Student Success

Through ongoing professional development, teachers become better equipped to recognize and address the diverse learning needs of their students, ultimately fostering student success and achievement.

## Fostering Innovation

Professional development serves as a catalyst, inspiring teachers to explore fresh teaching strategies and innovative classroom practices. This, in turn, ignites creativity and problem-solving skills among both educators and students.

### Effective Use of Technology

As technology becomes an integral part of education, teacher training and professional development play a crucial role in enabling educators to skilfully incorporate technology into their teaching practices, enhancing the overall learning experience for students.

### Building Subject Knowledge

In many subjects, there are continuous advancements and updates. Teacher professional development empowers educators to deepen their subject expertise, ensuring that they provide accurate and up-to-date information to their students.

### Cultivating Lifelong Learning

Teachers who actively engage in professional development serve as role models for their students, demonstrating the importance of lifelong learning and the value of acquiring new knowledge and skills.

### Addressing Teacher Burnout

Ongoing professional development can be instrumental in alleviating teacher burnout by offering fresh strategies and resources to manage the challenges of teaching effectively.

## Promoting Collaboration

Professional development often includes opportunities for collaboration and sharing best practices among educators. This strengthens the teaching community and encourages teamwork.

## Staying Informed About Education Policies

Teachers need to be aware of changing education policies and standards. Professional development helps keep educators informed about policy updates and how they impact teaching practices.

## Meeting the Needs of Diverse Students

Inclusive education is becoming increasingly important. Professional development equips teachers with strategies to address the diverse needs of students with various learning styles and backgrounds.

## Suggestions

The teacher professional development can be improved by following ways:

- Flexible online learning enhances teacher development.
- Experienced educators' mentor, fostering collaboration and reflection.
- Gamified learning integrates games for interactive professional development.
- Observing peers' instruction aids teachers' professional development.
- Seminars feature expert-led formal presentations for professional development.
- Workshops offer interactive, hands-on learning for teachers.

## Conclusion

Consequently, it is reasonable to assert that teachers who consistently engage in professional development opportunities can markedly enhance their students' academic accomplishments." Recognizing the significance of teacher professional growth in enhancing student performance, educators are encouraged to consistently contribute in both structured and informal professional development opportunities. Engaging in these programs empowers practicing teachers to enhance their expertise in subject matter and instructional techniques. This, in turn, allows them to enhance their students' academic leaning outcomes.

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# Numismatics Knowledge: A Holistic Pedagogy for the Digital Age

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## Abstract

In an age characterized by digital transformation and the evolving educational landscape, the integration of technology into pedagogical practices is of paramount importance. This paper delves into the intersection of numismatics, the study of coins and currency, with holistic pedagogy in the digital age. The primary focus is on how numismatics education can act as a catalyst for holistic pedagogy, nurturing comprehensive student development, and equipping learners with essential 21st-century skills. The 21st century has heralded a shift in education paradigms, necessitating a departure from traditional teaching methods. This paper asserts that numismatics, a multidisciplinary field with rich historical, cultural, economic, and artistic dimensions, provides a distinctive foundation for holistic pedagogy. Through the exploration of case studies, literature reviews, and educational experiments, it is demonstrated that the inclusion of numismatics in higher education can create an immersive and transformative learning experience. This paper investigates the amalgamation of comprehensive learning, interdisciplinary approaches, emotional intelligence, ethical values, and a commitment to lifelong learning within the pedagogical framework. It further examines how technology can serve as a potent tool for facilitating experiential learning in numismatics. Given the demands of the digital age, this fresh perspective on technology integration can significantly amplify the impact of holistic pedagogy. Finally, contends that the fusion of holistic pedagogy with

technology-infused numismatics education is a robust approach for cultivating all-rounded individuals equipped with indispensable 21st-century skills. This innovative amalgamation provides valuable insights into the reconfiguration of education for the digital age and firmly establishes numismatics as a transformative tool for holistic pedagogy, ensuring that learners are well-prepared to excel in our complex and multifaceted world.  Aim this paper to explore the potential of numismatics education as a source for holistic pedagogy, focusing on comprehensive student development and the cultivation of vital 21st-century skills in the digital age.

*Keywords:* numismatics, holistic pedagogy, digital age / technology integration,21st-century skills

## Introduction

Numismatics, the scholarly study of coins, currency, and related artifacts, unveils the intricate tapestry of history and culture. These tangible relics, often overlooked as mere metal discs, carry the imprints of civilizations and the tales of bygone eras, providing an invaluable lens into our past.

Simultaneously, modern education is in the throes of a digital revolution, demanding an evolution of traditional pedagogical methods. Holistic pedagogy, rooted in the philosophy that education must address the full spectrum of human development, recognizes the imperative of nurturing not just academic prowess but also critical thinking, emotional intelligence, ethical values, and a lifelong commitment to learning.

This paper bridges these compelling domains, fusing the rich realm of Numismatics with the contemporary landscape of holistic pedagogy in the digital age. Its mission is to explore how integrating Numismatics into education can ignite a profound learning experience. This fusion is an exploration of educational reformation, designed to equip learners with essential skills in an ever more multifaceted world.

## Objectives of this Study

1. To explore the Numismatics for Holistic Education: Investigate how the study of coins and currency (numismatics) can contribute to well-rounded education in the digital era.

2. To embrace Technology in Learning: Examine how technology can enhance numismatics education, aligning with holistic pedagogy to equip students with essential 21st-century skills.

3. To introduce modern assessment methods for more accurate evaluation of student progress in holistic pedagogy and numismatics education: How we evaluate students' progress and development in the context of holistic pedagogy (a teaching approach that considers a student's overall development, not just their academic achievements) and numismatics education (the study of coins and currency).

## Research Methodology

The presented research paper is based on secondary sources. For this, various reference texts, articles, and secondary sources like internet sources have been used and a content analysis technique has been used.

Numismatics is the scholarly discipline that focuses on the study of coins, currency, medals, and related objects. It involves the examination of these items from historical, cultural, economic, and artistic perspectives. Numismatics seeks to understand the historical significance and context of these monetary objects, exploring their role in various civilizations and societies. It is a multidisciplinary field that provides valuable insights into the past through the examination of these tangible artifacts.

Numismatics, often referred to as the "Hobby of Kings," is a multifaceted discipline rooted in history and retains significant relevance in the modern world.

## Historical Significance

The term "Numismatics" originates from the Latin word "Numisma," denoting "coin." This field encompasses the comprehensive study of coins, currency, medals, and related monetary objects. Its origins can be traced to ancient civilizations where rulers employed coins for trade, propaganda, and the assertion of power.

### Historical Key Roles

The history of Indian coinage is both fascinating and intricate due to its immense scope. Across numerous reigns, various rulers have established diverse coinage systems that illuminate the customs and traditions of their respective eras. Therefore, numismatics plays a crucial role in unravelling the historical transformations that occurred during different periods.

## Throughout History, Numismatics has Played Many Important Roles

**1. Record of Civilization:** Coins, as intricate pieces of art, feature designs and inscriptions that encapsulate the history, culture, and aspirations of the issuing society. They serve as historical

records, offering insights into the societies that minted them.

**2. Economic Insights:** Numismatics provides valuable understanding of economic systems, trade, and commerce during the eras they represent. The study of coins allows tracing of monetary history, inflation, and currency devaluation.

**3. Iconography and Artistry:** The artistic aspects of coins, including their designs, motifs, and materials, provide unique insights into the artistic and technological advancements of their respective times.

## Modern Relevance

**Numismatics Extends Its Relevance to the Modern World**

**1. Cultural Understanding:** The study of coins and currency offers a means to comprehend diverse cultures and their historical contexts, fostering cultural appreciation and global awareness.

**2. Collecting and Investment:** Coin collecting is a popular global hobby. Collectors value coins for their historical significance and as investments. Rare and well-preserved coins can appreciate in value over time.

**3. Academic Study:** In academia, numismatics plays a pivotal role in historical and archaeological research. It aids in dating archaeological findings and offers insights into the economic, social, and political dimensions of ancient societies.

In essence, Numismatics constitutes a multidisciplinary field bridging the past and present. It unlocks historical narratives, economic insights, and cultural understanding, serving as a valuable tool for both collectors and scholars, connecting us to the rich human history.

Numismatics has traditionally been taught and its importance in understanding historical and cultural contexts:

The traditional approach to teaching Numismatics has often concentrated on the technical characteristics of coins, including their design, minting methods, and classifications. While these technical aspects hold significance, they have occasionally overshadowed the broader historical and cultural contexts that numismatics can unveil.

Traditional Numismatics education has been primarily geared toward collectors and scholars, with a focus on studying coins for their rarity, artistic value, and historical importance. However, this approach sometimes neglects the crucial aspect of comprehending the wider historical and cultural backgrounds that coins represent.

Yet, it is vital to emphasize that numismatics plays a fundamental role in comprehending history and culture. Coins are not mere pieces of metal; they serve as historical artifacts that carry within them the imprints of the societies that produced them. They offer valuable insights into the political, economic, and social facets of specific times and places.

## The study of Numismatics provides illumination on various aspects

| Economic Systems | Political History | Social and Cultural Values | Artistic and Technological Advancements |
|---|---|---|---|
| Coins divulge information about trade, commerce, and currency systems throughout different periods, aiding in the comprehension of economic conditions and transitions. | Coins often feature the likenesses and inscriptions of rulers, and alterations in coin designs can signify shifts in political leadership and dynastic changes | The images, symbols, and inscriptions on coins mirror the values, beliefs, and cultural conventions of a given society. | The artistic and technical intricacies of coins unveil the creative and technological accomplishments of their respective periods. |

Consequently, a comprehensive approach to Numismatics education should encompass not only the study of coin attributes but also underscore their significance in reconstructing the past. By establishing connections between the technical details and the broader historical and cultural contexts, numismatics transforms into a potent tool for unravelling the intricacies of history and culture.

### Holistic Pedagogy: Concepts and Approaches

Holistic pedagogy is an educational approach designed to nurture the holistic development of individuals, transcending the mere transfer of academic knowledge. It comprises a variety of concepts and strategies aimed at providing students with a comprehensive educational experience.  given below some core concepts and strategies within holistic pedagogy:
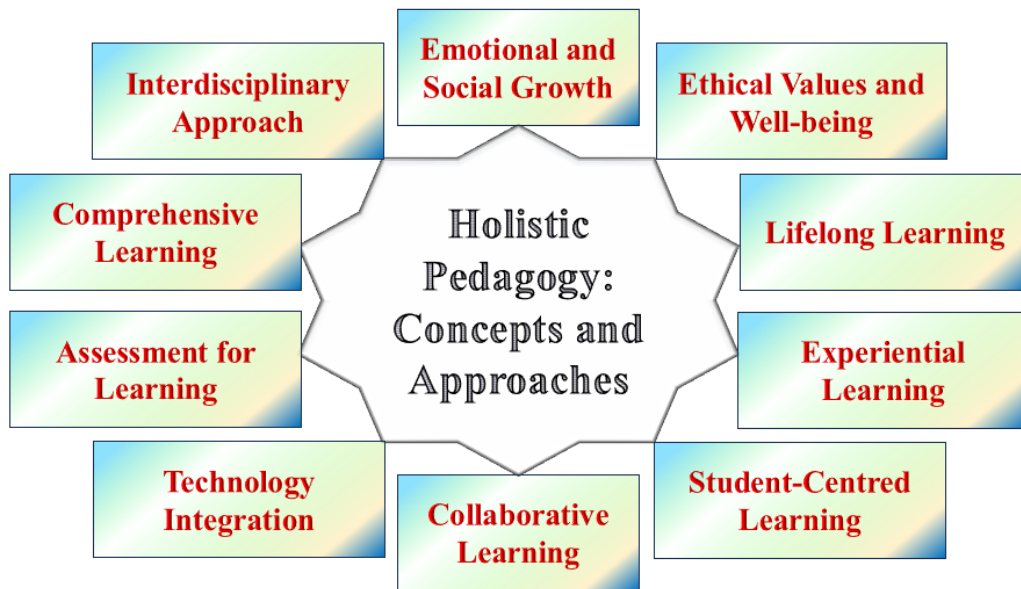
**Comprehensive Learning**: Holistic pedagogy places equal emphasis on fostering emotional intelligence, ethical values, and social competency alongside academic excellence. Its goal is to equip students with not only subject-specific knowledge but also essential life skills and values.

**Interdisciplinary Approach:** Holistic pedagogy promotes the integration of various subjects, providing students with a more profound and interconnected understanding of knowledge. It encourages them to see knowledge as a holistic, interconnected whole.

**Emotional and Social Growth**: Recognizing the significance of emotional intelligence, empathy, and social skills in personal development and societal contributions.

**Ethical Values and Well-being:** Holistic pedagogy values ethical principles and focuses on enhancing students' overall well-being, encompassing both their physical and mental health.

**Lifelong Learning**: Holistic pedagogy cultivates a passion for continual knowledge acquisition beyond formal education, emphasizing that learning is an enduring journey.

**Experiential Learning**: This approach involves active participation, hands-on experiences, and problem-solving in real-world contexts. It enables students to apply their knowledge practically.

**Student-Centred Learning**: Holistic pedagogy shifts the educational focus from teachers to

students. It encourages students to take an active role in their learning process, explore subjects of personal interest, and assume responsibility for their education.

**Collaborative Learning**: Holistic pedagogy promotes collaboration among students in projects and assignments. This enhances teamwork, communication, and interpersonal skills.

**Technology Integration**: Recognizing the significance of modern technology in education, holistic pedagogy frequently integrates digital tools to enhance learning experiences.

**Assessment for Learning**: Holistic pedagogy moves beyond traditional assessment methods, emphasizing authentic evaluation methods that provide a more thorough understanding of students' development.

Holistic pedagogy positions education as a transformative force, equipping individuals with the skills and values needed to excel in an increasingly complex world.

### The Need for Holistic Education in the Digital Age

Holistic education is imperative in the digital age as it equips individuals with the skills, values, and attitudes crucial for thriving in our swiftly evolving and deeply interconnected world. It not only prepares students for academic success but also fosters personal fulfilment and responsible global citizenship in the digital era.

# The Digital Age and Education

**Effects of Technology on Education in the Digital Age**

| Sl. No. | Positive Effects | Negative Effects |
|---|---|---|
| 1. | Enhanced Accessibility: Technology has expanded access to education, enabling learners worldwide to tap into a vast reservoir of knowledge and educational materials through online platforms. | Privacy and Data Security Concerns: The surge in student data collection has raised alarms about privacy and data security. Stringent protective measures are required to shield sensitive data from breaches and misuse. |
| 2. | Engaging and Immersive Learning: Technological integration has heightened the educational experience. Educational software, simulations, and virtual reality tools have enriched learning, making it more interactive and engrossing. Students can visualize intricate concepts, conduct virtual experiments, and embark on immersive virtual field trips. | Debate About Screen Time: The digital era has triggered discussions regarding the impact of screen time on students' mental and physical well-being. Excessive screen exposure may lead to issues like digital eye strain, sedentary behaviour, and the potential for digital device addiction. |
| 3. | Improved Collaboration: Technology has fostered collaboration among students and between students and educators. Learning management systems, video conferencing, and cloud-based collaboration tools have smoothed interaction across geographical boundaries. Students can collaborate on projects, exchange ideas, and promptly receive input from peers and instructors. | Balancing Digital and Physical Learning: Striking an optimal equilibrium between digital learning and traditional classroom experiences is a considerable challenge. It is imperative to ensure that technology augments educational quality and reach without jeopardizing the well-being of students. |

Technology in education brings a multitude of benefits, such as broadened accessibility, heightened engagement, and enriched collaboration. Nevertheless, it also introduces challenges, including concerns related to privacy, debates concerning screen time, and the necessity of effectively harmonizing digital and physical learning.

## Integrating Numismatics and Holistic Pedagogy in the Digital Age

**1. Curriculum Enhancement:** Numismatics can be seamlessly integrated into existing curricula, such as history, social studies, or economics. This ensures students explore not only the technical aspects of coins but also the broader historical and cultural contexts in which they played a role.

**2. Interdisciplinary Learning:** Holistic pedagogy encourages an interdisciplinary approach to education. Numismatics, with its connections to history, art, economics, and culture, naturally aligns with this concept. It allows students to delve into multiple subjects simultaneously, fostering a deeper and more interconnected understanding of topics.

**3. Experiential Learning:** Learning through experiences is paramount. This can involve examining actual coins and artifacts, visiting museums, or conducting hands-on research with historical coin collections. Such experiential learning methods make education more engaging and memorable.

**4. Historical Context Emphasis:** The integration of numismatics urges students to explore the historical context of the coins they study. This means delving into the eras, societies, and political events represented by these coins. This approach expands their historical knowledge and sharpens their critical thinking abilities.

**5. Critical Thinking and Research Projects:** Encouraging students to undertake research projects related to numismatics is essential. This includes the analysis of coin designs, inscriptions, and historical data. These projects stimulate critical thinking, problem-solving, and research skills, all

of which are integral components of holistic education.

**6. Ethical and Cultural Appreciation**: Numismatics provides an avenue to teach ethical values and cultural sensitivity. Students can explore the cultural symbols depicted on coins and discuss how they mirror the values and beliefs of various societies.

**7. Leveraging Digital Tools:** In the digital age, technology is indispensable. Educational apps, online databases, and virtual museums dedicated to numismatics can be integrated into the learning process. These tools enhance students' ability to access and interact with numismatic resources effectively.

**8. Promoting Collaboration and Presentation Skills:** Encouraging students to collaborate on numismatic projects cultivates teamwork and communication skills. They can conduct research, design presentations, and share their findings with peers, aligning with holistic pedagogy's emphasis on social competence.

**9. Innovative Assessment Methods:** The reimagining of traditional assessment methods is essential. Instead of relying solely on written exams, assessment can include project work, presentations, and the application of knowledge in real-world scenarios. Authentic assessment methods can provide a more comprehensive evaluation of students' development.

By integrating Numismatics into holistic pedagogy, educators provide students with an education that transcends academic knowledge. This integration nurtures essential skills, values, and attitudes vital for success in our interconnected and multifaceted world. It creates a powerful educational synergy that aligns with the principles of holistic education, catering to the comprehensive development of the whole person.

The role of technology in integrating Numismatics with holistic pedagogy (including e-learning, interactive resources, and digital tools)

1. E-learning Platforms

2. Virtual Museums

3. Online Databases

4. Interactive Simulations

5. Educational Apps

6. Digital Collaborative Spaces

7. Webinars and Virtual Lectures

8. Augmented Reality (AR) and Virtual Reality (VR)

9. Online Numismatic Communities

10. Digital Assessment Tools

Incorporating these digital resources and tools guarantees that numismatics becomes an engaging and interconnected component of holistic pedagogy. By leveraging technology, educators provide students with an enriching and comprehensive educational experience that nurtures holistic development and equips them with 21st-century skills. This integration is a testament to the transformative potential of numismatics and holistic pedagogy in the digital age.

**Examples of Innovative Approaches for Teaching Numismatics Holistically Using Technology**

**1. Virtual Coin Tours:** Use platforms like Google Earth for virtual coin tours, allowing students to explore history and culture through original coin contexts.

**2. Augmented Reality (AR) Coin Apps:** Develop AR apps for scanning physical coins, providing historical information and 3D models for immersive learning.

**3. Digital Numismatic Databases:** Utilize online databases like MANTIS and the British Museum for comprehensive access to numismatic materials and cultural insights.

**4. Online Numismatic Challenges:** Organize digital coin identification and research competitions to enhance critical thinking and research skills.

**5. Interactive 3D Coin Models:** Create interactive 3D coin models to improve understanding of coin details, designs, and historical significance.

**6. Digital Storytelling:** Encourage students to make multimedia presentations about coins, fostering communication and creativity.

**7. Online Numismatic Communities:** Connect students with online numismatic forums, promoting collaboration and knowledge sharing.

**8. Virtual Museums and Exhibitions:** Develop virtual numismatic museums to explore diverse coin collections and historical periods.

**9.Numismatic Podcasts and Webinars:** Arrange expert podcasts and webinars for professional insights and active engagement.

**10. Digital Assessment Projects:** Assign digital projects such as websites or videos to evaluate students' understanding and application of numismatic concepts.

These tech-infused methods enrich coin knowledge and foster holistic development by enhancing research, critical thinking, creativity, and digital literacy.

## Benefits and Outcomes

Integrating Numismatics and holistic pedagogy benefits students in the following ways:

1. **Comprehensive Learning**: Holistic education nurtures academic, emotional, ethical, and social development.

2. **Critical Thinking**: Students analyse historical contexts and apply knowledge effectively.

3. **Cultural Understanding**: Coins connect students to global cultures and values.

4. **Digital Skills**: Technology enhances learning and prepares students for the digital world.

5. **Engagement**: Interactive methods make education more captivating and memorable.

6. **Collaboration**: Students collaborate, communicate, and share knowledge.

7. **21st-Century Skills**: They gain creativity, adaptability, and problem-solving skills for success in the modern world.

8. **Personal Fulfilment**: Holistic pedagogy emphasizes personal growth and lifelong learning.

By merging numismatics and holistic pedagogy, students acquire an all-round education that equips them for the complexities of the digital age.

**The Integration of Numismatics and Holistic Pedagogy Yields Significant Outcomes for Students**

| | |
|---|---|
| **1. Enhanced Critical Thinking:** | Students refine their analytical abilities by exploring the historical, cultural, and economic contexts related to coins. |
| **2. Interdisciplinary Knowledge:** | Numismatics provides a comprehensive understanding of history, art, economics, and more, transcending traditional subject boundaries. |
| **3. Cultural Awareness:** | Students develop insights into the values and beliefs of diverse societies, nurturing cultural sensitivity. |
| **4. Emotional Intelligence:** | Holistic pedagogy fosters self-awareness and empathy, essential components of emotional intelligence. |
| **5. Collaboration Skills:** | Through collaborative projects and discussions, students improve their teamwork and communication aptitudes |
| **6. Digital Literacy:** | The incorporation of technology enhances students' digital skills, preparing them for the challenges of the modern world. |
| **7. Engagement and Enjoyment:** | Interactive learning methods make education more captivating, nurturing a genuine passion for learning |

## Challenges and Considerations

**The potential challenges and ways to overcome the challenges in integrating Numismatics and holistic pedagogy:**

| Sl. No. | Topics | Challenges | Overcomes |
|---|---|---|---|
| 1. | Resource Limitations | Access to Numismatic collections and technology may be restricted due to budget constraints. | Seek grants and partnerships to secure funding for resources. Utilize free or open-access digital materials. |
| 2. | Teacher Training | Educators may require training to effectively merge these two educational approaches. | Provide professional development and workshops for educators to |

| | | | enhance their skills in holistic pedagogy and numismatics. |
|---|---|---|---|
| 3. | Assessment Methods | Adapting assessment techniques to holistic pedagogy can be challenging. | Create authentic assessment methods that align with holistic pedagogy goals, such as project-based assessments. |
| 4. | Technology Gaps | Unequal access to digital resources can create disparities among students. | Ensure equitable access to digital resources by providing devices or utilizing offline options. |
| 5. | Curricular Adjustments | Integrating Numismatics may necessitate changes to existing curricula, which can be met with resistance. | Gradually incorporate numismatics into existing curricula, emphasizing its interdisciplinary benefits. |
| 6. | Student Engagement | Ensuring students remain engaged and motivated in this interdisciplinary approach can be demanding. | Use interactive, technology-enhanced learning methods and real-world applications of numismatics to keep students motivated. |
| 7. | Privacy and Security | Handling student data and digital resources requires careful attention to privacy and security issues. | Implement strict data protection measures and use secure platforms for handling digital resources. |
| 8. | Balancing Tradition | Maintaining a balance between traditional teaching methods and | Blend traditional teaching methods with innovative ones to find a |

| and Innovation | innovative approaches is a challenge for educators. | balanced approach that suits the learning needs of students. |

## Case Studies and Best Practices

### Numismatics:

Mukherjee, B. N., Lee, P. K. D, and Indian Museum, (1932-2013.). Technology of Indian Coinage, Retrieved from: https://primo.getty.edu

B.N. Mukherjee and P.K.D. Lee. Calcutta: Indian Museum, (1988). Print. Proceedings of Seminars (India Museum); Vol. 1. Retrieved from: https://primo.getty.edu, This book delves into the history of Indian coinage, making it an essential resource for Numismatics enthusiasts.

D. Devakunjari, "Coins and Currency Systems in South India, c. AD 225-1300" - This book focuses on South Indian Numismatics, providing a detailed exploration of coinage in the region.

A. S. Altekar, "Indian Coins and Historical Medals" - A comprehensive guide to Indian numismatics, especially focusing on historical medals.

S. G. Kulkarni "Ancient Indian Coins: Decoding of Their Indus-Brahmi Inscriptions" - This book offers insights into the script and inscriptions on ancient Indian coins.

### Holistic Pedagogy:

Satish Khuntia , "Holistic Education: An Analysis of its Ideas and Nature" - This work provides an in-depth examination of holistic education concepts and principles.

David Carr and Jane E. H. Loxley, "Holistic Learning and Spirituality in Education: Breaking New Ground" - A collection of essays exploring the relationship between holistic learning and

spirituality.

Robert J. Sternberg and Patricia J. Williams, "Teaching for Wisdom, Intelligence, Creativity, and Success" - This book discusses a balanced approach to education, which aligns with holistic pedagogy principles.

Linda Christensen "Teaching for Joy and Justice" - While mainly focused on social justice in education, this book offers insights into how holistic approaches can be integrated.

## Integration of Numismatics and Holistic Pedagogy:

Sapna R. Kumar and T. Sathyapriya, "Innovative Pedagogy for Holistic Education" edited - This book explores innovative pedagogical approaches, which may include integrating subjects like numismatics.

Larry Bowman "Integrating History and Numismatics in the Classroom" - This work might offer insights into integrating numismatics into history education.

## Future Directions

- The future of Numismatics education in a digital world.
  o To explore the development of dedicated digital learning platforms for Numismatics.
  o To investigate the use of Virtual Reality (VR) and Augmented Reality (AR) technologies to create immersive Numismatic experiences.
  o To research AI and machine learning can assist in automating coin identification, dating, and historical context analysis.
  o To focus on digital preservation techniques for Numismatic artifacts.
  o To develop methods for creating high-quality digital replicas of coins and historical

documents to ensure their accessibility for future generations.

o   To develop interactive Numismatic games and apps to engage students in a fun and educational way.

o   To investigate the application of blockchain technology for verifying the authenticity and provenance of coins.

o   To create extensive online archives of numismatic collections.

o   To collaborate with museums and institutions to digitize their collections, making them available for study and research.

o   To develop comprehensive online databases specifically for numismatic research.

o   To explore and research the integration of numismatics with holistic pedagogy, including the development of holistic-focused curriculum and assessments for Numismatics education.

o   To investigate the broader cultural and social impacts of Numismatics

## Conclusion

The integration of Numismatics and holistic pedagogy in the digital age represents a transformative educational paradigm, amplifying critical thinking, interdisciplinary knowledge, and emotional intelligence. Though challenges are present, they are surmountable. Notably, Indian institutions and educators furnish exemplary instances of this amalgamation. The future beckons with auspicious realms for research and advancement, prominently encompassing digital learning platforms and cutting-edge technologies. This comprehensive

approach aptly equips students for the intricacies of a multifaceted world, substantiating its

capacity for profound transformation in the realm of education.

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# Integration of Digital Technology and Higher Education among College Students

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## Abstract

Integration of Digital Technology in higher education refers to using digital technology to enhance the college student's learning experience. Digital Technology integration can also refer to the application, database, and programs used by an educational institution for present and future references. Technology Integration is defined as the use of digital technology and its applications to enhance and support the educational environment so students can complete their assignments. It supports students' education to improve education quality. For this reason, the current study's discussion of digital technology integration in higher education is important. The study's sample strategy is stratified random sampling, and the research design follows the normative survey approach.  432 college students—202 men and 230 women— from several government, government-aided, and private institutions across Chennai's rural and urban districts as well as the Kancheepuram district form the sample.  The present study employed a one-way Analysis of Variance (ANOVA) and a t-test to analyze the data gathered. From the findings, female college students have more interest in integration with digital technology and education when compared to male college students. Compared to urban

college students, rural college students use digital technology in higher education more frequently. When it comes to how college students use digital technology for higher education, there aren't many notable differences between government, government-aided, and private colleges. By incorporating digital technology into higher education, college students can improve their digital literacy and use it to further their education, preparing them to be strong future leaders of our country.

*Keywords:* digital technology, higher education, college students, integration, applications, learning, teaching

## Introduction

Digital Technology is an essential tool utilized in higher education to improve the value of education. Technology has powerful impacts on the education system. Technological improvements in education systems have made learning easier for college students. Instead of using pen and pencil, college students can use digital tools to prepare presentations and projects. Digital technologies create interest among college students to do their research in higher education.

## Need for the Study

In this present education, digital technology plays a major role in higher education to develop the knowledge of college students. It also helps to develop the technological skills among college students to face the issues and challenges in this competitive world. To increase digital skills in higher education, digital technology integration with higher education is

mandatory and improves the quality of higher learning. Furthermore, the need felt by the investigator to do this study "Integration of Digital Technology and Higher Education among College Students".

## OBJECTIVES

1.  To find whether there is any significant difference in the integration of digital technology and higher education among college students concerning their Gender.

2.  To find whether there is any significant difference in the integration of digital technology and higher education among college students concerning their Locality.

3.  To find whether there is any significant difference in the integration of digital technology and higher education among college students concerning their type of management of colleges.

## Hypotheses of the Study

1.  There is no significant difference in integrating digital technology and higher education among college students concerning their gender.

2.  There is no significant difference in integrating digital technology and higher education among college students concerning their locality.

3.  There is no significant difference in the integration of digital technology and higher education among college students concerning their type of management of colleges.

## Methodology

Stratified random sampling is the sampling strategy used in this study, and the normative survey approach is the research design.

## Sample

432 college students—202 men and 230 women—from several government, government-aided, and private institutions across Chennai's rural and urban districts as well as the Kancheepuram district form the sample.

## Instruments Used

The "Integration of Digital Technology and Higher Education Scale (IDTHES)" was employed by the investigator. The investigator created the 52-statement Integration of Digital Technology and Higher Education Scale. Data regarding college students' use of digital technology in their higher education is gathered through the use of tools. The college students were given the scales along with the following instructions: "Please carefully study the statements as some are phrased negatively and some positively. To indicate your response, place a tick mark (✓) next to the option that best fits your opinion based on the Likert scale (Strongly Agree, Agree, Uncertain, Disagree, Strongly Disagree)". There is a minimum score of 1 and a maximum score of 5 for each statement. The questionnaire has a minimum score of 52 and a maximum score of 260. Data from college students attending science and arts colleges in both rural and urban locations was carefully gathered.

## Analysis and Interpretation of Data

The present study employed a one-way Analysis of Variance (ANOVA) and a t-test to analyze the data gathered.

## Testing of Hypothesis

### Hypothesis 1

There is no significant difference in integrating digital technology and higher education among college students concerning their gender.

Table 1

*The Difference Between College Students' Gender-Based Integration of Digital Technologies and Higher Education*

| Title | Gender | N | Mean | SD | CR  value | Level of significance |
|---|---|---|---|---|---|---|
| Integration of Digital Technology and Higher Education | Male | 202 | 186.89 | 42.225 | | |
| | | | | | 2.1972 | 0.05 |
| | Female | 230 | 195.61 | 40.195 | | |

At the 0.05 level of significance, the computed 'CR' value (2.1972) from Table 1 is higher than the table value (1.96). Therefore, it can be said that there is a notable variation in how college students integrate digital technology and higher education depending on their gender. Furthermore, compared to male college students, it can be deduced from the mean value that female students have a higher degree of integration with digital technology and education. When compared to male college students, female students may be more likely to use digital technological apps for their learning process since they are curious about this new method of instruction.

**Figure 1**

*The Difference Between College Students' Gender-Based Integration of Digital Technologies and Higher Education*



**Hypothesis 2**

There is no significant difference in integrating digital technology and higher education among college students concerning their locality.

**Table 2**

*The Differences in How College Students Use Digital Technologies and Higher Education Depending on Where They Live*

| Title | Locality | N | Mean | SD | CR value | Level of significance |
|---|---|---|---|---|---|---|
| Integration of Digital Technology and Higher Education | Urban | 220 | 189.72 | 39.612 | | |
| | | | | | 2.3967 | 0.05 |
| | Rural | 212 | 199.61 | 46.019 | | |

❖ At the 0.05 level of significance, the computed 'CR' value (2.3967) from Table 2 is higher than the table value (1.96). Therefore, it can be said that there is a notable distinction in how urban and rural college students use digital technology for learning. Furthermore, it can be deduced from the mean value that rural college students use digital technology in higher education more effectively than their urban counterparts. This could be because rural college students are more curious than urban college students to learn through the use of digital technologies in their coursework.

**Figure 2**

*The Differences in How College Students Use Digital Technologies and Higher Education Depending on Where They Live*
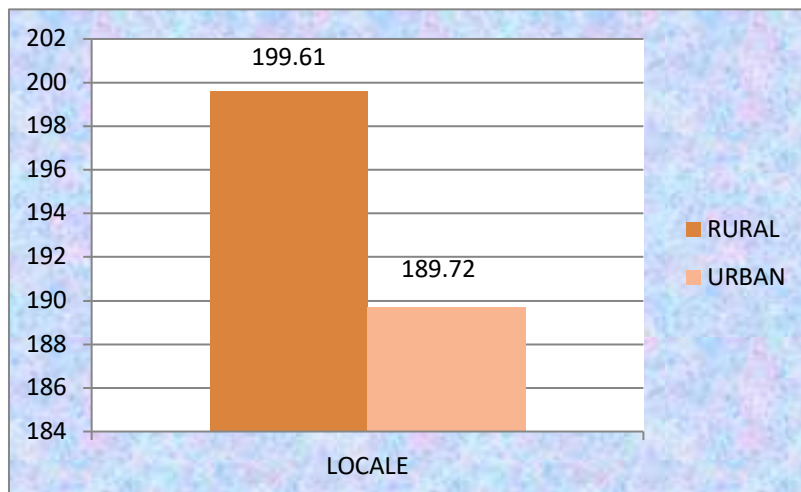


**Hypothesis 3**

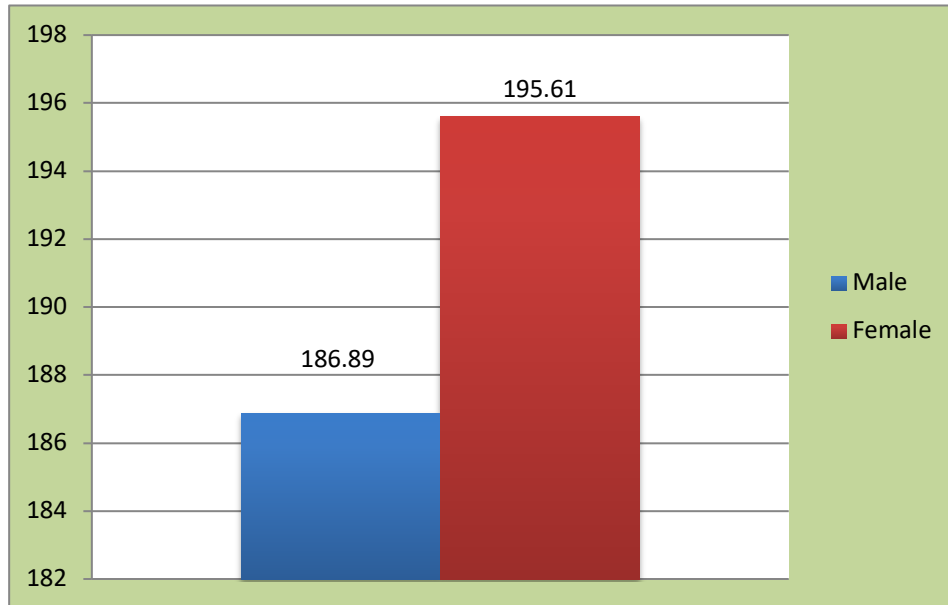There is no significant difference in the integration of digital technology and higher education among college students concerning their type of management of colleges.

**Table 3**

*The Differences in How College Students Incorporate Digital Technology into their Higher Education Depend on the Type of College Administration*

| Title | Type of management of colleges | Df | Sum of squares | Mean squares | F-value | Level of Significance |
|---|---|---|---|---|---|---|
| Integration of Digital Technology and Higher Education | Between Groups | 2 | 417.919 | 243.614 | 0.912 | NS |
| | Within Groups | 429 | 69678.690 | 376.162 | | |

The table shows that, when it comes to the type of college management, there are no significant variations in how college students integrate digital technology and higher education. It follows that when it comes to how college students integrate digital technology into their higher education, government, government-aided, and private universities do not differ all that much. This might be because all college students in the district schools of Chennai and Kancheepuram have equal access to digital technology apps for higher education.

## Educational Implications

Higher education is greatly influenced by digital technologies.  The quality of the current educational system has significantly changed as a result of the integration of digital technologies into higher education. Among the suggestions are:

o   College students' excitement for using digital technology apps for their projects and learning process needs to be stimulated in this fast-paced world.

- o Colleges can host digital technology training programmes to spark students' curiosity and develop creative applications of digital technology to help them deal with the problems and difficulties of today's world.

- o Colleges can host workshops to increase awareness about the uses of digital technologies in higher education.

- o Provide college students with the chance to present their projects and seminars on various digital technology platforms.

- o Engage college students in creative activities that make use of digital technology to help them understand the value of social media platforms. For instance: Quizizz, Zoom, Google Classroom, WhatsApp, etc.

## Conclusion

Professors and college students can apply their education in creative ways to the teaching and learning process with the aid of digital technologies. The integration of digital technology into education brings about innovative and technical improvements in the current educational surroundings, preparing college students for the demands of the future. These days, technology is integral to every aspect of human existence. Technology is essential in education to raise the technical literacy of future adults. Therefore, in order to become effective future pillars of our country, educators and college students must enhance their digital literacy and integrate digital technology into their teaching and learning processes.

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# Importance of Social Intelligence as a 21ˢᵗ Century Skill

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## Abstract

It rapidly changing environment, marked by technology developments, globalization, and shifting socio-economic paradigms, has emerged in the 21st century. The phrase "21st-century skills" has taken on a significant degree of significance in this setting. This abstract explores the value of providing students with the skills they need to succeed in our fast-paced world. The term "21st century skills" refers to a set of abilities that go beyond what is often taught in schools. These abilities include problem-solving, critical thinking, creativity, communication, cooperation, and digital literacy. These abilities are now crucial for success in the workplace, civic engagement, personal development and growth in addition to being pertinent to schooling. The rapidly evolving society of the 21st century, skills required for success are continually changing. One of the critically important skill is social intelligence. This research paper delves into the significance of social intelligence as a 21ˢᵗ C skill, emphasizing its impact on personal, professional, and societal outcomes. It explores the various components of social intelligence, its relevance in an increasingly transforming world and strategies for fostering it in educational and workplace settings. The abilities needed in the twenty-first century's environment are always changing. Social intelligence is an ability of utmost importance. This

paper examines the value of social Intelligence focusing on how it affects results for individuals, organizations, and society as a whole. It examines the elements of social intelligence, its applicability in a world that is becoming more networked, and methods for promoting it in contexts like schools and workplaces.

*Keywords:* 21st c skills, professional and societal abilities, social intelligence, prevention of isolation

## Introduction

The term "Social Intelligence" describes the capacity to comprehend and successfully negotiate social settings. It entails identifying and comprehending social signs, assessing the feelings and intentions of others, and utilizing this understanding to establish and preserve relationships. Social intelligence and mental health are closely related, and it can have a variety of effects on mental health:

The world today is characterized by significant technology developments, quick globalization, and a range of socioeconomic concerns. To properly navigate this constantly shifting environment, new sets of abilities are required. Technical expertise and academic knowledge are still crucial, but social intelligence has emerged as a crucial trait that can significantly impact one's quality of life and career success, its significance assures facilitating efficient communication, forging deep connections, and boosting both individual and collective wellbeing.

Critical thinking, problem-solving, and situational adaptability are crucial skills as our complex society moves through possibilities and obstacles. The people with these skills can come out with creative solutions in addressing the global concerns like healthcare and climate change etc.

A variety of skills connected to properly understanding and communicating with others are included in social intelligence. Empathy, emotional intelligence, active listening, cultural competency, and conflict resolution are some of its key elements. People with social intelligence are able to create relationships, effectively read others' feelings and intentions, and modify their communication style for various contexts.

## The Relevance of Social Intelligence in the 21st Century

### Interconnected World:

As a consequence of globalization, the world is now more connected than ever, highlighting the value of communication and cultural sensitivity explores how working in heterogeneous teams has become a useful skill since collaboration and efficient communication have crossed geographical barriers, global communication has become instantaneous, transcending geographical boundaries. Social intelligence is critical in this context as it enables individuals to navigate culturally diverse and digitally mediated interactions in 21st C.

### Emotional Well-Being

Social Intelligence is essential for improving emotional wellbeing. It makes it possible for people to comprehend, control, and express their emotions while assisting others in doing the same. Social intelligence supports emotional resiliency and more positive interpersonal interactions in a time when mental health and wellbeing are of utmost importance.

## Professional Success

An important factor in determining success in the modern workplace is social intelligence. In a time where innovation and adaptability are highly prized, effective teamwork, leadership, and conflict resolution abilities are crucial. Employees with strong social skills are typically more productive and successful in their employment.

## Building Inclusive Societies

Social intelligence is essential for creating inclusive and peaceful communities in a time of increasing variety and socioeconomic difficulties. It encourages compassion, tolerance, and understanding across cultural boundaries, which helps to resolve difficult global problems.

**Social Intelligence recognized as a valuable skill in the 21st century due to a number of factors mentioned below:**

**1. Collaboration and Teamwork:**  Transformation of ideas through written and virtual mediums is crucial. Social intelligence helps individuals interpret and convey messages.  In the modern world, many tasks and projects are accomplished through collaboration and team work in which      Social intelligence helps people to communicate effectively, and build

positive relationships with teammates. It enables individuals to understand and appreciate different perspectives, fostering better cross-cultural interactions.

**2. Digital Communication-** As digital communication becomes a central part of our lives, the ability to convey emotions, intentions, and effectively in these contexts. Strong social intelligence is a must for 21st-century leaders who want to understand and inspire their people, foster trust, and negotiate intricate organizational systems. Successful team leadership is more likely to come from leaders with excellent social intelligence.

**3. Conflict Resolution:** Conflicts are unavoidable in a world where perspectives and interests are diverse. People with social intelligence have the ability to mediate disputes amicably, establish points of agreement, and advance understanding, leading to more harmonious and effective interactions. For problem solving and conflict resolutions, socially intelligent students have the ability to assess disputes, establish common ground through negotiation, and resolve them. It supports individuals in approaching issues with empathy, imagination, and an open mind, encouraging creative solutions and averting conflict.

**4. Leadership and Influence**: Students who possess social intelligence are more likely to be effective leaders. They can inspire and motivate others, build trust, and influence others which is one of the important aspects of life, whether it's in a project work, a community initiative, or a professional career.

**5. Emotional Stability**:  Social intelligence is also essential to a person's emotional well-being and stability. It assists in self-awareness as well as self-management of emotions, understanding and empathy for others' feelings showcasing a better mental and emotional wellness. Emotional Well-being:  It helps individuals recognize and manage their own emotions, as well as understand and empathize with the emotions of others. This can lead to better mental and emotional health.

**6. Adaptation to Development:**  To adjust with the rapid developments, to such new circumstances and continuously shifting social norms, and to be relevant in a world that is constantly changing, one needs social intelligence. Resilience and Adaptability with social intelligence are better able to cope with stress, adjust to changing conditions, and recover from failures. These characteristics are extremely valuable in a time of accelerating technology and societal change.

**7. Empathy and Compassion:**  A culture that is socially knowledgeable is an empathetic and compassionate culture. Addressing important global issues including social injustice, environmental concerns, and mental health requires S I skills**. Empathy and social Responsibility:**  Empathy is necessary for comprehending the needs and concerns of others, is also fostered by social intelligence. This results in a stronger sense of social duty and a dedication towards helping one's neighborhood and society.

**8. Communication Skills:**  Effective communication is a crucial skill for success in every industry.

Students that are socially intelligent are better able to articulate their thoughts clearly, listen intently, and understand and adapt to a variety of communication technique. It also aids in non-verbal communication, which is vital in a world where virtual expectations

**9. Cultural Competence:**  Students must be able to communicate with people from a variety of backgrounds and cultures in today's more globalized society. They gain cultural sensitivity, a tolerance for diversity, and the capacity to acclimate to various cultural standards due to social intelligence.

**10.  Emotional Intelligence:**  An element of social IQ, emotional IQ is the capacity to comprehend, control, and effectively communicate one's emotions. It is essential for developing healthy interpersonal interactions, self-control, empathy, and self-awareness. These abilities are crucial for the success of a person's personal and professional life. These skills are important for personal wellbeing and building strong relationships with others.

**11. Interpersonal Relationship**:  The success of a person's personal and professional life frequently depends on the caliber of their interactions. A fuller, more rewarding existence can result from having the ability to create and sustain meaningful connections, which is enhanced by social intelligence. **Career possibilities and networking: The** secret to professional success is the development of a strong professional network. Students that are socially intelligent are better able to build meaningful connections with mentors, peers, and possible employers, which opens doors to employment prospects and professional advancement.

**12.Prevention of Isolation**: Social intelligence can help individuals connect with others, reducing the risk of social isolation, which is a known risk factor for mental health problems

In a society that is more linked and diverse, social intelligence is essential in the twenty-first century since it supports effective leadership, cooperation, communication, and conflict resolution. People and organizations who prioritize social intelligence are better prepared for success and making constructive contributions to the world as society changes. In the twenty-first century, social intelligence is essential for students as it equips them to succeed in a complicated, interconnected environment. Interpersonal and emotional skills are just as important as academic knowledge in helping students successfully navigate a diverse and ever-changing environment in both their personal lives and future employment.

Students must work in various teams, virtually or internationally. They can successfully traverse interpersonal dynamics, manage disputes, and favorably contribute to collective activities due to their social intelligence.

## Strategies for Developing Social Intelligence

**1.Institutions of Higher Education:** IHE can play an essential role in fostering social intelligence. Interpersonal competence, emotional intelligence, and conflict resolution are crucial skills that students can develop when these topics are emphasized in the HEI's curriculum.

**2.Workplace Training:** Employers ought to fund training and development initiatives that encourage social intelligence in their workforce. Employee satisfaction, workplace dynamics, and general productivity can all be enhanced by these initiatives.

**3. Personal Development:** People can actively work on enhancing their social intelligence. Emotional intelligence, empathy, and other crucial elements of social intelligence can be improved through self-awareness, self-reflection, and mindful activities.

**4.Social Assistance and Coping:** During times of stress or adversity, those with higher social intelligence are good at seeking and receiving social assistance. Having a solid social support system is linked to better mental health outcomes because it offers psychological, emotional, and practical assistance.

**5. Reduced Social Stress:** Due to their better capability to navigate social situations and comprehend other people's viewpoints and feelings, socially intelligent people typically suffer less social anxiety and stress. Consequently, they experience less psychological disturbance.

**6.Improved Communication Skills:** - An important aspect of social intelligence is effective communication. People's ability to convey their feelings, wants, and worries to others can assist prevent misunderstandings and confrontations affecting their mental health. Empathy and compassion, which are essential for understanding and helping others, are directly tied to social intelligence. These characteristics can encourage a sense of connectedness and generosity in order to improve mental health.

## Barriers in Social Interactions And Societal Well Being

The decrease in person-to-person social interaction in modern society can be attributed to several factors, and it's important to note that these factors can vary depending on the specific context and culture. Here are some key reasons for the decline in face-to-face social interaction in many places:

1.**Technology and Screen Time:** As technology, such as smartphones, tablets, and laptops, has become more widely used, screen time has also increased. The amount of time people spends using digital devices for social media, online gaming, and streaming material can limit their opportunity for face-to-face encounters.

2. **Social Media and Online Communication:** Although social media websites and online chat services offer chances for connection, they can also take the place of in-person conversations. Some people might rely significantly on these online social networks, which can reduce their in-person connections.

3.**Work and Education Trends**: People are spending more time at home or in solitary settings because to the growth of remote work and online education. This lessens the informal social connections that frequently take place in conventional business and educational environments.

**4.Social Changes:** Individual preferences, alterations in family arrangements, and cultural shifts can all affect how people connect with one another. Some people may value isolation or smaller, more intimate social networks over more extensive ones.

**5.Safety and Security Concerns**: Concerns about personal safety and security may lead people to avoid certain social situations, particularly in public spaces.

**6.Aging Population**: Reduced social interaction among older people may occur in some communities as a result of retirement, physical constraints, or the loss of social ties . The apathetic attitude of the family and society towards aged people are also a contributing factor in making them socially alienated.

**7.Economic and Time Pressures**: Economic pressures, multiple jobs, and busy schedules can reduce the availability of the members.

Even if there's a decrease in interpersonal social connection, it's important to keep in mind that not all individuals or groups are affected in the same way by these issues. Many people still appreciate and take part in face-to-face social connections because they are aware of how important they are for mental health and welfare. Using technology, online communication, and face-to-face social interaction simultaneously is still crucial to developing and maintaining social skills and connections. Although it can offer useful abilities for navigating social interactions, social intelligence should only be seen as one part of a larger strategy.

## Conclusion

Social Intelligence is a crucial ability with implications for one self, one's career, and society as a whole. For successfully navigating the complexity of a linked world, improving emotional well-being, prospering in the workplace, and creating inclusive communities, it is crucial to understand and cultivate social intelligence. The development of social intelligence continues to be an important task and a crucial factor in both individual and societal success as we learn to adapt to the opportunities and challenges of the modern day.

This paper explored the complexity of 21st-century talents and how they affect society, the workforce, and education. In order to educate students for a future where adaptability and creativity are crucial, it emphasizes the necessity for educational systems to adjust and incorporate these talents into curricula. It also examined how technology may help people develop these skills, highlighting the value of digital literacy and the appropriate use of technology. In a society characterized by rapid change and interconnection, 21st-century skills are essential. This concept promotes a paradigm shift in education and workforce development, focusing on the development of these talents to make sure that people can not only survive in the 21st century but also thrive there.

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# Promote 21st Century Skills in the Classroom

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## Abstract

21st-century learning refers to a shift in education away from the traditional methods of the past to a more Gen-Z learner-centric approach. In this new approach, students learn skills and knowledge they need to succeed in a global economy so they can be prepared for the future. Today's learning does not rely on memorization or recitation but rather on critical thinking, creativity, and collaboration. Preparing students for the reality of life, rather than simply for testing, is what it is all about. For technology to be effectively integrated into the teaching and learning process at most institutions, both faculty and students need to participate more fully. Learning typically develops within an environment.

*Keywords:* 21st-century skills, *technical* skills, digital literacy

## Introduction

ICT is becoming an increasingly important part of 21st Century learning and teaching, and Digital Pedagogy is changing the way educators and students work and learn. By

developing digital century skills, we move away from ICT tools and skills to a way of working in the digital age. An effective digital pedagogy is based on students' individual needs and incorporates teaching and learning strategies that are relevant to today's students. Personalised approaches, intellectual engagement, rigorous learning, global connections, supportive and collaborative classroom environments, and integrated curriculum, assessment, and reporting all contribute to improving student outcomes.
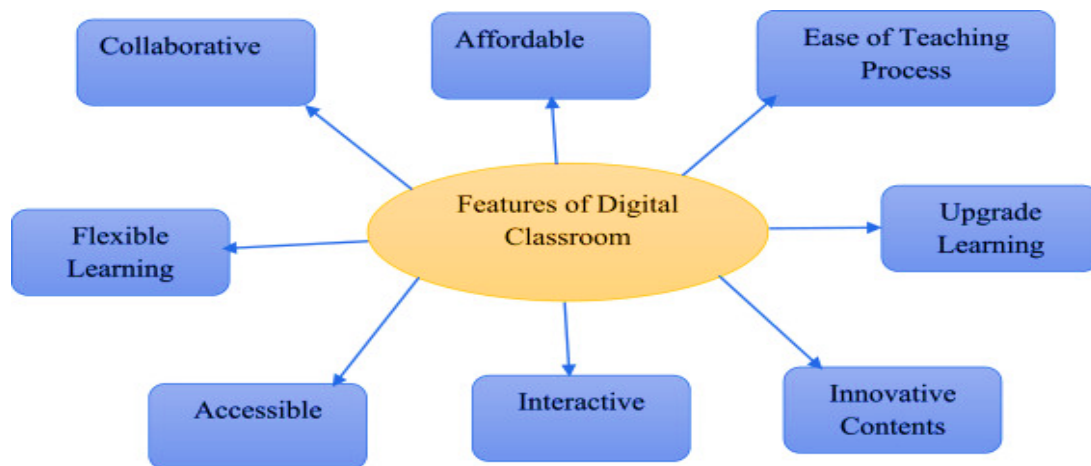


In the 21st century, learning is more than just reading, writing, and math. To succeed in the 21st century, students need skills like critical thinking, creativity, collaboration, and communication, which are essential to succeeding.

## Collaboration and Communication

Promote Firstly, creating a supportive and inclusive environment is crucial. Students should feel safe to express their thoughts and ideas without fear of judgment or ridicule. The importance of active listening and respectful dialogue cannot be overstated. Additionally, the inclusion of activities and exercises that facilitate collaboration can be highly effective. In

groups, role-playing scenarios, and problem-solving tasks, students can practice and refine their collaborative communication skills.

### Creativity and Imagination

Is it possible to develop the imagination or creativity of a learner? It is the ability of the mind to create mental pictures of things that we have never seen or experienced. Creative and imaginative expression can be achieved through language. Creating a new connection between two ideas is an example of creative thinking. Imagination and creative thinking – playing with and developing new ideas – are the foundations of innovation.

### Critical Thinking and Problem Solving

Critical thinking is an essential skill for the growth of language and literacy. To enable students to make wise decisions for themselves in life, educators should focus on teaching them how to think rather than what to think. To come up with answers and resolve issues, critical thinkers can reason and analyze data. Core 21st century abilities for the workplace, classroom, and daily living are these.

### Digital Literacy

Digital literacy pertains to our ability to locate and assess information using various technologies and to interact with others in digital environments. Both cognitive and technical

abilities are needed for digital literacy, such as the capacity to use a variety of software, tools, and devices and to establish a professional online persona while interacting and connecting with others online.

## Citizenship

Understanding a society's values such as respect, tolerance, and democracy as well as the abilities and knowledge necessary for participation as responsible, knowledgeable citizens are every component of citizenship. Accepting accountability for our deeds is essential to becoming a decent citizen both locally (in our communities and schools) and internationally. Our linked environment in the twenty-first century requires us to consider the consequences of the decisions we make daily.

## Analytical Thinking

To be able to think critically, one must first think analytically. It is important for students to analyzed and break down something to think critically about it.

Analytical thinking involves:

- o   Making a distinction between facts and opinions

- o   Making sense of a text by identifying its main points

- o   Pattern-spotting and relationship-seeking

- o   Step-by-step breakdown of complex problems

- Identifying the cause and effect of an event

- Information processing in a logical manner

## Student Leadership and Personal Development

Developing personal qualities that enable 21st century teachers and learners to make good decisions is more important than ever. It is possible for learning communities to be successful when learners value themselves and trust that they will be able to develop their skills. It is essential to instil kindness and respect for the whole school community and the environment – today's learners are tomorrow's leaders.

## Global Context

Highlights from the 21st century about how smart learning content offers access to the world beyond classroom walls, even though it has never been done before.

Teams of students work on real world problems and work with experts from various countries all over the world to solve them.

Students can overcome the barriers of time, space, and safety using ICT.

Keeping some helpful practices in mind will make digital pedagogy more effective. The purpose of implementing something into the teaching is not to have it simply for its own sake. The impact of a thoughtful selection of tools with a useful purpose will be greater than anything else.

Focus on Collaboration: As technologies are introduced, students will collaborate and teachers will add a new dimension to group work, one that will help students open up, share, and participate while building valuable 'soft skills' for life after college.

Design for Inclusion: It is imperative that the pedagogue work towards making sure every student can participate, whether technology is implemented into the teaching or the classroom. Whenever students are required to complete digital assignments, they are taken to the classroom or computer lab to complete them, just in case they do not possess their own computer.

Work Towards Class Participation: In the classroom, pedagogues can create lightning-round quizzes using student engagement platforms after each lesson to gauge whether the day's content was understood. A positive impact of this type of feedback is being able to test for overall understanding while reinforcing what has already been learned by the instructor.

### Strategies that Promote 21st Century Skill

It is continually challenging for educators to stay up with the latest research findings as well as initiatives that have the potential to improve learning and help students prepare for their futures. Although some ideas may not necessarily be new, they may have been repackaged under different labels.

Critical thinking and problem solving, for example, have seen a resurgence in recent years, although they have existed for decades. Recently, selected concepts have gained

heightened attention due to the increased interest in them. Business leaders, politicians, and educators are increasingly embracing the idea that students need '21st century skills' to succeed in the modern world, according to Educational Leadership. It is the teacher's responsibility to find a way to integrate these identified skills into his or her lessons so that students can practice and master these skills during their daily activities. Therefore, as practitioners, we need to understand how to proceed more precisely.

## Why Do We Need 21ˢᵗ Century Skills?

It is only when a student is capable of effectively fulfilling their responsibilities and duties towards themselves, their school, their family, society, and above all, their country, that learning is complete and holistic. Today's students need to be prepared to be good citizens and responsible human beings who are aware of their potential and capabilities.

A student cannot cope with everyday life situations by simply teaching to the test or studying for exams. It is crucial that children and adolescents develop 21st Century Skills so they can deal with the issues and concerns that are posed to them in their daily lives. Throughout childhood and adolescence, they experience several feelings related to their growth and development.

## Conclusion

As compared to the twentieth century, teaching and learning have improved greatly in the twenty-first century. The program adapts to the students' learning abilities and creates

multiple ways of learning for them to succeed in the future. Education systems will be changing and impacted by social change and globalisation forever. Therefore, teachers who are aware of its benefits as well as drawbacks will be able to adapt to the beliefs as well as instructional styles of their students. Education will only continue as it improves and better prepare pupils for the future.

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# Effect of Cooperative Learning Technique Think Pair and Share Developing Cooperation among Secondary School Students in Social Science Classes

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## Abstract

Students participate in cooperative learning, which is an educational technique, by working on planned projects in small groups with other classmates. The members of the groups are given instructions on how to collaborate effectively to achieve a goal, find a solution to a problem, finish a project, or manufacture a product.The purpose of this research is to investigate whether or not the think-pair-share (TPS) model of cooperative learning is successful in enhancing students' ability to work together effectively. They will have the opportunity to practise being more forthright and sincere when sharing their opinions if they take part in the exercise known as Think-Pair-Share. This approach helps children improve their interpersonal skills as well as their communication and listening abilities, all of which are beneficial to their overall growth as individuals. Students are able to get insight from the backgrounds and points of view of their peers when they collaborate in groups of two. The members of Class IX-H participated in the study as the experimental group, and the research followed a "before" and "after" format with controls that were not equal. During the course of the analysis, the IX-L cohort served as a reference class. This study employed a method known as purposeful sampling. Collaborative data collecting amongst the students through the use of a survey that is kept anonymous. After the data have been collected, the next step is to conduct a quantitative analysis based on hypotheses. The experimental group that was given

therapy had a statistically significant improvement between the "before" and "after" time periods, as shown by the findings. Even though there is a change between "before" and "after" in the non-therapy control groups, this change does not indicate improvement; rather, it indicates a worsening of the condition. As a result, it is plausible to draw the conclusion that think-pair-share (TPS) models of cooperative learning have an influence on the ability of students to collaborate with one another within the setting of social studies classrooms.

*Keywords:* student cooperation, cooperative learning, think pair and share (tps) social studies learning

## Introduction

The term "cooperative learning" refers to a style of instruction in which students perform a shared task by working together in smaller groups under the direction of the class instructor. Students are afforded the opportunity to put what they are learning into practise in an environment that is more analogous to that of the working world when cooperative learning practises are implemented in the educational setting. The incorporation of core competencies and students' communication and soft skills into the curriculum provides teachers with the opportunity to place an emphasis on these facets of students' development. Because of this, teachers are given the opportunity to direct their students towards achieving both personal and professional success. Today, we will be looking at some different cooperative learning techniques that, due to their adaptable and framework-based design, may be utilised effectively in a broad variety of different educational settings.Cooperative learning, sometimes known as learning in small groups, is one type of instruction that has been demonstrated to

assist students in acquiring both content knowledge and the ability to interact well with one another. If you want to have a more pleasant social experience in our classroom, gaining a deeper grasp of cooperative learning will help you do so.

Frank Lyman was the one who originally described TPS back in 1982. Students are encouraged to engage in TPS even if they do not think the subject matter to be especially fascinating (Lyman, 1982; Marzano& Pickering, 2005). This is because TPS is based on the theory that active learning is more effective than passive learning. Frank Lyman was the first person to define TPS in the year 1982. Students not only get a more in-depth comprehension of the material as they progress through the exercises, but they also develop their abilities to communicate effectively and find solutions to problems. Research indicates that it can enhance student involvement and performance in a variety of situations (Fitzgerald, 2013; Goodwin, 1999; Raba, 2017; Razak, 2016; Sampsel, 2013). It is simple to apply. The majority of the time, queries signal that a higher degree of thinking is required. The total amount of time needed for TPS might very well range anywhere from a few minutes to thirty or even more. The question that is presented during a TPS exercise in order for it to be effective must be tough and related to the lesson plan that is being followed for either the day or the week. (Wiggins &McTighe, 1998).

## Think-Pair-Share (TPS) Cooperative Learning Activity

Think-Pair-Share, often known as TPS, is a cooperative learning exercise that may be adapted for use in classes of varying sizes and on a broad variety of topics. TPS stands for the

acronym "Think-Pair-Share." Students are given individual time to THINK about the issue once it has been presented to them, and only then are they partnered up to discuss it with another student in the classroom. Everyone in the class then continues chatting about the issue once each couple has presented their conversation to the rest of the group. It has been suggested that teachers can foster an environment in the classroom where students are more likely to offer intelligent ideas if they are encouraged to engage in critical thinking (Rowe, 1972). According to Johnson and Johnson (1999), TPS provides students with the chance to collaborate with peers in the pursuit of a shared goal, so enhancing both their own and the comprehension of others around them in an environment that allows for the possibility of making errors.

It has been hypothesised, for example, that when students participate in a learning approach referred to as think, pair, and share, their ability to work together effectively improves. It is possible to assume that the TPS-style cooperative learning paradigm has a bigger influence on students' levels of originality in public speaking than does the conventional method, and that the two elements interact with one another. Moreover, it is also acceptable to infer that the traditional approach has no impact on students' levels of inventiveness in public speaking.The Way That It Operates, Correct? After the students have had some time to confer with one another, the instructor poses a question with several answer options for them to consider. After that, each student will choose a partner, and they will have a conversation with their companion about the topic for two to five minutes. At the conclusion of the

instructor's presentation, the teacher will conduct a class discussion during which students will raise their hands and share their last thoughts and opinions with the class.

## Think-Pair-Share Techniques for Learning

Conversation as well as the exchange of diverse perspectives is encouraged while using this strategy.  It is possible that much practise with the Think-Pair-Share approach will be required before it becomes automatic.   The phrase "Collaborative Environment for Teaching and Learning" is shortened to "CETLs" (a sort of educational system).  It is a method of instruction that was designed specifically for use in classrooms with the intention of fostering more collaboration between instructors and students.  The instructional strategy known as "Think-Pair-Share" is utilised in the classrooms of CETLs. This step is performed to make it easier to bring the process of collaboration to a successful conclusion.

## The Benefits

When addressing a more intimate audience, some students might feel more at ease expressing their thoughts and opinions than they would when addressing the entire class. They will have the opportunity to practise being more forthright and sincere when sharing their opinions if they take part in the exercise known as Think-Pair-Share. The enhancement of children's communication abilities, including their capacity to both speak and listen, is one of the most significant benefits that may be gained from using this technique. Students are able to get insight from the backgrounds and points of view of their peers when they collaborate in

groups of two. Students can profit from this by learning new vocabulary from their classmates and improving on the information they already know.

A set of rules for how to go about accomplishing specified educational goals via the implementation of a variety of different learning activities is what we mean when we talk about a curriculum. scholarly study in areas where it seems students' lack of collaboration abilities is a problem. The findings of the field research make this abundantly clear, and the remarks made by the teacher of the ninth grade at the Government Higher Secondary School lend credence to this assertion. The transition from high school to junior high school, according to an explanation provided by educators in Koduvayur, Kerala, causes pupils' engagement in social studies to decrease, which leads to a decline in academic performance. The vast majority of students are not able to understand the content that is being delivered in class. An superfluous class condition that vanishes much too quickly for it to be of any benefit. This is because many schools continue to employ more conventional methods of instruction. The most common kind of traditional education is the lecture-based format, which is also known as conventional learning techniques. This is due to the fact that, historically speaking, this approach has been utilised as a way of spoken communication between instructors and students over the course of various pedagogical tasks. This is particularly relevant to the field of social sciences.

## Objectives of the Study

1. To study on Think-Pair-Share (TPS) cooperative learning activity

2.  To study on strategy also improves students' speaking and listening skills

## Research Methodology

Methods and Organisation of the Study The researchers in this study utilised a research design that included a "before" and "after" section. This type of research design is commonly referred to as a non-equivalent control group. The treatment was administered to the class IX-H group, which was regarded as the experimental group; on the other hand, the class IX-L group, which was regarded as the control group, served as the comparison group. This configuration is ideal for conducting research on how the TPS model of cooperative learning influences students' capacity to collaborate productively with one another. A quantitative technique and a quasi-experimental design were both utilised in the research for this work. As Dantes is reported as stating in Lestari et al. (2014), page 4, "the quasi-experimental design is usually used not because the researcher is less knowledgeable in researching, but forced," Within the scope of this investigation, the research samples for the series of simulated experiments were drawn from two distinct groups: the experimental group and the control group.

In this particular investigation, a technique of research known as the non-equivalent control group design was utilised. In this particular configuration, there are two groups of individuals taking part in the action: the experimental group and the control group. Each set may be broken down into two distinct tiers. The quasi-experiment makes use of control groups that are not equal to one another (Sugiyono, 2014, page 116).

Sampling Techniques Data collection for this study consisted of using a method called purposeful sampling. Because of this, we were able to narrow the field of potential participants to only include those people who satisfied all of the requirements to be included in the research. Participants were from the IX-H class as well as the IX-L class, and they were chosen by hand.

Participants: Students from both IX-H and IX-L are taking part in this research project as participants. Students in IX-H who were included in the treatment group were given therapy, in contrast to students in IX-L who were included in the control group and who did not get therapy.

In order to assemble the data for this inquiry, a survey was employed, and the responses to the survey questions were already established in advance. The student collaboration questionnaire was used to gather data both before and after the therapy was administered. The questionnaire was presented to the participants twice: once before they began the treatment, and once again after it had been completed.

Analyses of the Information Quantitative approaches were utilised in this study in order to analyse the information that was obtained from the questionnaire. The think-pair-and-share (TPS) method of cooperative education was investigated via the use of hypothesis testing in order to identify the influence that it has on the students' willingness to work together. In order to determine if the "before" and "after" differences that were seen between the experimental group and the control group were significant, a statistical analysis of the data that had been gathered was carried out.

**Table 1**

*Non-equivalent Control Group Design*

| $0_1$ | X | $0_2$ |
|---|---|---|
| $0_3$ | | $0_4$ |

Information:

O1 = Measurement of initial ability of experimental group

O2 = Final experimental group capability measurement X = Provision of treatment

O3 = Measurement of initial ability of control group

O4 = Measurement of final ability of the control group

After the initial capability had been implemented in both the experimental class and the control class, the next meeting was held in the process of treetment in the form of learning by utilising the cooperative learning type (TPS) model for the experimental class. This meeting was held in the form of learning. During the time spent in the standard learning mode in the control group. After the treetment has been distributed to the experimental group, the final capability measurement will be conducted on both the experimental group and the control group.

## DATA ANALYSIS

**Table 2**

*Responses to the question "Have you ever participated in a group activity before?"*

| Response | Frequency |
|---|---|

| | |
|---|---|
| Yes | 95 |
| No | 45 |

You'll find a table with the answers to the question "Have you ever participated in a group activity before?" below. This table displays the replies of a sample of individuals. The overall sample size was 140, and 95 people replied "Yes," indicating that they had previously participated in a group activity. On the other hand, 45 people responded "No," indicating that they had not before participated in a group activity. With the use of these data, we will be able to investigate the usefulness of group work as a method of instruction and acquire a deeper understanding of the experiences that individuals have had while taking part in activities involving groups.

**Table 3**

*How often do you work in groups during class time? (Almost never/Rarely/Sometimes/Often/Almost always)*

| Response Option | Frequency |
|---|---|
| Almost never | 5 |
| Rarely | 10 |
| Sometimes | 25 |
| Often | 30 |
| Almost always | 20 |

The responses to the question "How often do you work in groups during class time?" are summarised in the table that can be found below. Twenty of the students work in groups for at least eighty percent of the time that they are in the classroom. Another five of the students work in groups very infrequently, ten sometimes, thirty regularly, and the other twenty

students work in groups very constantly. It is abundantly obvious that participation in group projects is an important component of the students' overall educational experience because at least half of the students frequently work together on projects even when the instructor is teaching.

**Table 4**

*How comfortable do you feel sharing your thoughts in front of others? (Not at all comfortable/Somewhat uncomfortable/Neutral/Somewhat comfortable/Very comfortable)*

| Comfort level | Frequency |
|---|---|
| Not at all comfortable | 5 |
| Somewhat uncomfortable | 12 |
| Neutral | 18 |
| Somewhat comfortable | 25 |
| Very comfortable | 40 |

The frequency distribution of the students' stated levels of comfort when making oral presentations is shown in the table that follows. Five percent of the total number of students questioned claimed that talking about their views makes them feel extremely uncomfortable, while another twelve percent of students said that talking about their ideas makes them feel somewhat uncomfortable. A little less than half of the students said they were completely at ease when discussing their thoughts and opinions with others.

The purpose of the statistics is to assist educators in determining how confident their students are in their ability to contribute their own ideas when participating in group tasks. It's possible that if you aid those who are timid about offering their opinions in a group situation, you'll be able to help increase engagement and communication among the entire group.

**Table 5**

*How important do you think it is to work effectively as a team? (Not important/Somewhat important/Neutral/Important/Very important)*

| Response | Frequency | Percentage |
|---|---|---|
| Not important | 5 | 10% |
| Somewhat important | 20 | 40% |
| Neutral | 10 | 20% |
| Important | 15 | 30% |
| Very important | 0 | 0% |
| Total | 50 | 100% |

The question "How important do you think it is to work effectively as a team?" was posed to a total of fifty different individuals, and the table below presents both the frequency of replies as well as the percentage of total responses.

Effective teamwork was ranked as extremely essential by forty percent of those polled, and in the top tier of relevance by another thirty percent of respondents to the study. An additional twenty percent of people in the sample made the decision to take a neutral posture. It is interesting to note that every single responder thought that working well with others on a team was "very important," whereas just 10% thought that it wasn't "very important."

In general, the data suggests that the majority of participants recognise the benefit of successful cooperation to some level, with just a tiny minority of people not recognising any value whatsoever in teamwork.

**Table 6**

*Have you ever used the Think-Pair-Share (TPS) model for a group activity before? (Yes/No)*

| Response | Frequency | Percentage |
|----------|-----------|------------|
| Yes | 60 | 75% |
| No | 20 | 25% |

The replies to the question "Have you ever used the Think-Pair-Share (TPS) model for a group activity before?" are summarised in the table that can be seen below. depending on the overall frequency of replies as well as the percentage of total responses. composed of eighty different persons in their own right. The percentage of people who responded "Yes" was 75% (60/80), whereas the percentage of people who responded "No" was 25% (20/80). According to

these findings, the TPS model has been utilised for the majority of the group projects that have been completed by the participants.

**Table 7**

*Did you find the TPS model helpful in sharing your thoughts with others? (Not helpful/Somewhat helpful/Neutral/Helpful/Very helpful)*

| Response Option | Frequency | Percentage |
|---|---|---|
| Not helpful | 5 | 10% |
| Somewhat helpful | 15 | 30% |
| Neutral | 10 | 20% |
| Helpful | 15 | 30% |
| Very helpful | 5 | 10% |

In the table that follows, you'll discover the frequencies and percentages of replies to the question, "Did you find the TPS model helpful in sharing your thoughts with others?" The TPS model was viewed as useful by thirty percent of respondents, and another thirty percent of respondents considered it to be moderately favourable. Another 10% said it was quite beneficial, while 20% were doubtful about its usefulness. Just 10% of respondents thought that the TPS model was not helpful in any way. According to the findings, the great majority of respondents considered the TPS model to be either extremely beneficial or moderately useful for conveying their ideas and feelings to others, whilst a smaller minority of respondents held a neutral or unfavourable opinion of the model. The TPS model was regarded favourably by the large majority of respondents who provided feedback.

**Table 8**

*Do you think the TPS model improved your speaking and listening skills? (Not at all/To some extent/Neutral/To a great extent)*

| Response | Frequency |
|---|---|
| Not at all | 5 |
| To some extent | 20 |
| Neutral | 10 |
| To a great extent | 15 |

The following table provides a summary of the responses to the question, "Do you think the TPS model improved your speaking and listening skills?" The majority of respondents (20) expressed their agreement by selecting "To some extent," followed by "To a great extent" (15), "Neutral" (10) and "Not at all" (5). This illustrates that while the TPS strategy was helpful in assisting some children in improving their speaking and listening abilities, other children did not respond as positively to it as the first group did. It is crucial to notice that the response distribution is not normal, with a greater number of respondents stating that the TPS model did have a good effect on their skills. This finding is noteworthy since it reveals that the TPS model did have a positive effect on respondents' abilities. Based on these facts, it appears that the responses do not come in an even distribution.

**Table 9**

*Did You Learn Something New from Your Partner During the TPS Activity? (No/Yes, A Little/Yes, A Lot)*

| Response | Frequency | Percentage |
|---|---|---|
| No | 10 | 20% |
| Yes, a little | 20 | 40% |
| Yes, a lot | 20 | 40% |

The following table presents the participants' replies to the question, "Did you pick up anything new from your partner while you were doing the TPS activity?" The results are organised according to their respective distributions in the table. Twenty of the fifty respondents, or forty percent, said that they had learnt a little from their spouse, and another twenty, or forty percent, said that they had learned a lot from their relationship. On the other side, ten of the respondents, which is twenty percent of the total, reported that they did not pick up anything new from their spouse while participating in the TPS activity. The findings indicate that the TPS activity was successful in promoting learning through peer interaction, as the majority of the respondents reported gaining new insights from their partner while participating in the activity. This suggests that the TPS activity was effective in promoting learning.

Do you feel that the TPS model helped increase the members of the group's ability to cooperate with one another? (Not at all/To a certain extent/Neutral/To an extremely large extent)

**Table 10**

*Responses to the Question "In Your Opinion, Did the TPS Model Help Improve Cooperation among Group Members?"*

| Response | Frequency | Percentage |
|---|---|---|
| Not at all | 2 | 10% |
| To some extent | 7 | 35% |
| Neutral | 3 | 15% |
| To a great extent | 8 | 40% |
| Total | 20 | 100% |

You'll find the responses of the participants to the question of whether or not they believed the TPS model encouraged group collaboration in the table that follows this one. Twenty people took part in the survey, and the results showed that forty percent believed the TPS model greatly increased collaboration, while thirty-five percent said it significantly improved cooperation. Ten percent of those interviewed said that it had no value whatsoever, while fifteen percent were unable to definitively state one way or the other. The fact that the majority of respondents found this to be true lends credence to the idea that the TPS model assists in making group members more ready to cooperate with one another.

**Table 11**

*Would you like to use the TPS model for Future Group Activities? (Definitely not/Probably not/Neutral/Probably yes/Definitely yes)*

| Response | Frequency | Percentage |
|---|---|---|
| Definitely not | 3 | 10% |
| Probably not | 8 | 26.7% |
| Neutral | 4 | 13.3% |
| Probably yes | 7 | 23.3% |
| Definitely yes | 8 | 26.7% |

The results of the survey indicated that 37% of respondents either did not have an opinion on the TPS model or did not express interest in using it for future group initiatives. On the other hand, fifty percent of the participants said that they would be willing to use the TPS model in further collaborative endeavours. Twenty-three percent of respondents indicated that they were likely to make use of it, and twenty-seven percent of respondents indicated that they would make regular use of it. This indicates that people felt that the TPS model was an effective method for collaborating as a team. Additionally, it appears to point to the fact that they considered this kind of collaborative effort to be fruitful.

**Table 12**

*TPS Model Based on Frequency*

| Interval | Frequency | | | | Quality |
| | Before | Percent age | After | Percent age | |
|---|---|---|---|---|---|
| 61-73 | 5 | 15,6% | 10 | 43,75% | Low |
| 74-85 | 14 | 81,25% | 6 | 50,00% | Medium |

| 86 | 1 | 3,13% | 4 | 6,25% | High |
|----|---|-------|---|-------|------|
| Total | | | 20 | | |

The following table displays the students' average scores on a high-quality test of their ability to work together effectively. The table contains the results of twenty students. After doing a competency assessment on the students in the control group, prior to providing therapy to any of the participating kids, it was determined that there were five students who did not cooperate well. This finding demonstrates that an accurate evaluation of the students' capabilities was carried out in the control group. There were a total of 14 students that participated in the discussion that the group was having regarding the usefulness of cooperation. There is just one student remaining in the class, but they have an exceptionally high degree of student capacity to collaborate with one another. Following the administration of the treatment to each of the students who took part in the study, an assessment of the students' capacity to collaborate was carried out, and a total of 14 of them were rated as having insufficiently effective cooperation. While the remaining six were chosen based on the possibility of student collaboration of a quality that was somewhere in the middle. In spite of this, the other four pupils' willingness to work together has left a positive impression. When compared to the percentage of students who belong to the low quality level after treatment (approximately 81.25 percent), the difference between the percentage of students whose cooperation skills were of low quality before treatment and the percentage of students who belong to the low quality level after treatment reveals the overall percentage of students whose cooperation skills were of low quality before treatment. After therapy, the proportion of children who were in the high-quality group grew to 43.75 percent, showing an increase from

one to fourteen children in the poor-quality category. Before treatment, the percentage of children who were in the high-quality category was 3.13 percent. Additionally, the number of students who qualify as being of Medium quality before treatment can reach a maximum of sixteen, and the proportion of students who have cultivated siswas amounts to 6.25 percent (2 out of 16). According to the facts that were shown earlier, children who are in grades nine and below have a set of cooperative skills that is comparable to the average of children across the country. After further dissection, the quality description that was mentioned above reveals five distinct indicators of the potential for cooperation. The results of the students' work both before and after they were given Treatment are presented in the accompanying chart. This class was utilised as a benchmark for evaluating the performance of other groups.

**Table 13**

*Influence Data of Student Cooperation Average*

| Average | Experiment Classroom | Control Classroom |
|---------|----------------------|-------------------|
| Before | 19 | 15 |
| | (25,53%.) | (24,05%), |
| After | 20 | 14 |
| | (26,93%) | (23,49 %) |

Looking at the table above, student cooperation in theexperimental class has increased. While the data from the control group suggested that traditional instruction led to improvement, our experimental group did not show any signs of such improvement after being exposed to the traditional instruction. The conclusions presented in the table above are supported by further data, which may be seen in the chart below. The differences between the

experimental group and the control group are depicted visually in this chart. The results of a t-test that was conducted on both an experimental group and a control group are depicted in the data that is shown in the graph that is located above. The pre-treatment number for the experimental class is twenty (with a percentage of twenty-five and fifty-three), but the post-treatment number for the experimental class is nineteen (with a persistence of twenty-six and ninety-three percent). This is revealed when the pre-treatment and post-treatment numbers for the experimental class are compared. The average level of persistence among participants in the control group decreased between the beginning and the conclusion of traditional learning, falling from 24.05% among the first 15 participants to 23.49% among the final 16 individuals. Because of this, it is not unreasonable to draw the conclusion that the experimental class has an effect on the students' level of cooperation after they have been presented with the TPS model of cooperative learning. The experimental group had a much higher average and percentage of students who worked collaboratively before to and following the typical training than the control group did. When seen from the perspective of the control group, the percentage of improvement in the experimental group following treatment with a think-pair-share cooperative learning model was determined to be 3.44 percent. This was determined by looking at the data gathered by the control group. The outcomes of this enhancement have been strengthened by the field data that was gathered during the experimental class. Because the students have done such a good job collecting and organising data on the changing demographics of the Indian population, they have an advantage.  According to Nurwnawati et al. (2012, page 5), the cooperative learning strategy known as think-pair-share helps students

develop their capacity to collaborate with one another. Efendi et al. (2013), on page 7, concur

with Nurwanti's results that the TPS type of cooperative learning model has more impact than

the conventional model and that there is a relationship between the learning model and the

degree of creativity towards speaking ability. Nurwanti's findings were that the TPS type of

cooperative learning model has more influence than the traditional model.

**Table 14**

*Descriptive Statistics of Experimental and Control Classes*

|  | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Experiment Pretest | 20 | 15 | 16 | 7.68 | 2.262 |
| Experiment Posttest | 20 | 13 | 14 | 25.93 | 4.363 |
| Control Pretest | 20 | 14 | 15 | 7.76 | 2.760 |
| Control Posttest | 20 | 11 | 12 | 22.97 | 3.914 |
| Valid N (listwise) |  |  |  |  |  |

The graph that was just given demonstrates that the average post-test results of the two groups are distinct from one another. A post-test for the experimental group revealed an average score of 25.93 with a standard deviation of 4.363, whereas a similar test for the control group revealed an average score of 22.97 with a standard deviation of 3.914. The statistics for the standard deviation that were given before enable us to draw the conclusion that the post-test data distributions of the two groups are not comparable to one another.

## Conclusion

Findings from academics in domains where it would appear that students' lack of cooperation abilities is a problem. This is corroborated by the testimony of a classroom instructor as well as evidence from outside sources from the ninth grade at the Government Higher Secondary School in Koduvayur, which is located in the state of Kerala. The instructor notes that because the pupils are still getting used to the transition from high school to junior high, social studies classes have a tendency to be more unengaged, centred on the instructor,

and individualistic. The vast majority of students are not able to understand the content that is being delivered in class. An superfluous class condition that vanishes much too quickly for it to be of any benefit. Because of this, it is not unreasonable to draw the conclusion that the experimental class has an effect on the students' level of cooperation after they have been presented with the TPS model of cooperative learning. The experimental group had a much higher average and percentage of students who worked collaboratively before to and following the typical training than the control group did. The percentage difference between the experimental group and the control group was determined to be 3.44 percent when the think-pair-share cooperative learning paradigm was applied to the experimental group.As if viewed through the eyes of those who hold power. The outcomes of this enhancement have been strengthened by the field data that was gathered during the experimental class. The students are doing an excellent job of producing materials on the shifting demographics in Indonesia, which they are now working on. Mathematical knowledge may be acquired more efficiently through the use of cooperative learning methodologies, such as think-pair-share, than through the use of more traditional methods. In other words, the presence of differences has an effect on the effectiveness of the Think-Pair-Share approach of cooperative learning on the mathematical communication abilities of students.

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Effectiveness of Activity Based ICT (Information and Communication Technology) Strategies in Development of Professional skills, Knowledge and Understanding and Attitude among Secondary School Teacher Trainees

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## Abstract

In twenty first century education is based on child centered education. Hence all the teacher must should prepare to cope with different technology for using them in the classroom for making teaching-learning more interested. Activity based Information and Communication Technology strategies has enabled better and effective communication. It is an effective tool for information acquiring thus students are encouraged to look for information from multiple sources and they are now more informed than before. It is natural that in teacher-education must include new activity-based Information and Communication Technology strategies. Teachers should also know the right attitudes and values besides being proficient in professional skills related to teaching. Review made by the researcher in the clarified that certain projects and strategies were developed for activity-based ICT teaching-learning strategies in primary and secondary level of education, but effectiveness of activity-based ICT strategies in development of professional skills among student-teachers, that wasn't ever experimented by any researcher. Hence the researcher felt that developing an activity-based ICT teaching-learning strategy in B.Ed. course could be a substantial solution for the problems

in developing ICT teaching-learning skills among student-teachers and also to know its impact on their professional skill, knowledge and understanding and attitude among student-school teacher.

*Keywords:* activity-based ICT strategies, professional skills, knowledge, understanding, attitude, and student-teachers

## Introduction

Teachers are the most essential component in the field of educational system, teachers should prepare to keep up with information and communication technology utility in the classroom. Activity-based ICT is not only an essential tool for teachers in their tasks, but also provide them opportunities for their own professional development. In conventional method of teaching most of the time is consumed for the input output and less time left for the process. But in teaching with activity-based ICT strategies the input and output time is reduced and process time is increased. When the process time is increased, time of learner's activities, discussion, correlation with other subjects, brainstorming, learning, etc., will increase.

Teachers' professional development is absolutely essential if technology provided to schools is to be used effectively. Simply put, spending scarce resources on information technology hardware and software without financing teachers' professional development as well is wasteful. All around the world in developing, industrialized, and information-based

countries has shown that teacher training in the use and application of technology is the key determining factor for improved student performance.

## Professional Skills for Teachers

Teachers need to be adequately prepared to implement a state-of-the-art ICT curriculum. Indeed introducing any new curriculum calls for careful preparation, management, resourcing, and continuing support. In the case of an ICT curriculum, even more concerns have to be considered. Educational research studies show that programs of professional development for teachers are most effective if directed to the stage of ICT development reached by schools.

## Objectives of the Study

1. To study the effectiveness of Activity Based ICT strategies in the development of knowledge of ICT among student-teachers with respect to gender.

2. To study the effect of Activity Based ICT strategies and attitude among secondary school teacher trainees with respect to stream.

3. To study the effect of Activity Based ICT strategies and attitude of secondary school teacher trainees in relation to gender.

4. To study the effect of Activity Based ICT strategies and attitude of secondary school teacher trainees in relation to stream.

5.  To study the effectiveness of Activity Based ICT strategies in development of professional skills among secondary school teacher trainees in relation to gender.

## Hypotheses of the Study

1.  There is no positive and significant relationship between Activity Based ICT strategy and professional skills among student teachers in relation to gender.

2.  There is no positive and significant relationship between Activity Based ICT strategy and professional skills among student teachers in relation to stream.

3.  There is no significant relationship between Activity Based ICT strategy and knowledge among student teachers in relation to gender.

4.  There is no significant relationship between Activity Based ICT strategy and knowledge among student teachers in relation to stream.

5.  There is no significant relationship between Activity Based ICT strategy and understanding among student teachers in relation to gender.

## Research Design

The study was experimental in nature. The research design suitable for this type of research study is found to be pre-test and post-test experimental group and control group design also known as 'Equivalent Group Design'. This design was found to be most appropriate after review of literature of experimental design.

# Population of the Study

The present study focused on 50 samples in two groups. Experimental group and Control group. Conventional method approach was used in control group; Activity based ICT strategy was used in experimental group. Each group consist both male and female, and arts and science stream of secondary school teacher trainees. The study consists 25 secondary school teacher trainees in control group (18 female and 7 male student teachers) and 25 teacher trainees in experimental group (18 female and 7 male student teachers).

The researcher followed purposive sampling technique to select the student-teachers. The study was confined to the secondary school trainees in studying CBCS two years B.Ed. degree. The investigator limited the study to only one aided college in Bangarpet Taluk. A suitable college was selected as per the requirements of the researcher to make the study feasible.

Following facts were taken into consideration while selecting suitable sample for the experimental study.

The readiness, total agreeability and complete co-operation of the head the institution and the wholehearted consent of staff members.

Punctuality and regularity on the part of the students was expected.

Availability of flexibility of time schedule.

## Experimentation

In experimental studies the researcher is manipulating the treatment so the problems of extraneous variables causing a relationship is less strong in experimental research than in any other type of research because the experimenter can control the environment and ensure that as few extraneous factors are involved as possible. One approach to the issue of the relation between the quality of design and implementation and study's result in to investigate the matter empirically (Cooper and Valentine, 2001). Randomization process helps to avoid bias in selection of the subjects for there is exactly equal chance of being in experimentation.

### Phase1: Administration of Pre-test

The investigator selected one aided B.Ed. College in Bangarpet taluk, Kolar district. There are 50 B.Ed. student-teachers in first years and 47 in second years B.Ed. The investigator selected 1st year 50 B.Ed. trainess (second semester) chosen for the research and in that 25 B.Ed. student-teachers in experimental group and 25 B.Ed. students in control group. The investigator equally randomized both the groups before assess the pre-test of control and experimental group's achievement in 'learning and teaching'.

### Phase 2: Conducting the Experiment

The student-teachers were distributed into one experimental group and one control group for treatment as given below,

Activity based ICT strategy was adopted for the experimental group and conventional method of teaching was followed in the control group of student-teachers. Teaching was carried out for a period of approximately one month period each for experimental group and control group.

### Phase 3: Administration of Post-test

After the completion of treatment, post-test was administered for both experimental group and control group, on the dimensions of professional skills, knowledge and understanding. The attitude towards Activity based ICT strategy among student-teachers was also carried out.

### Phase 4: Delayed Post-test Administration

After one month gap of the treatment the investigator has conducted delayed post-test to the experimental group maintaining a break of one month in the same dimensions to confirm the sustenance of the concepts and skill taught to them through activity-based ICT strategy, among student-teachers to ascertain the effectiveness of activity-based ICT strategy.

### Statistical Techniques Used in the Study

The obtained data are analyzed by using appropriate statistical techniques such as

Descriptive statistics, independent sample t test, paired sample t test, and Cronbachs alpa.

$H_0$: There is no significant difference in the Post-test scores of Activity based ICT teaching strategy between control group and experimental group.

$H_1$: There is a significant difference in the Post-test scores of Activity based ICT teaching strategy between control group and experimental group.

## Paired Samples Test

| Post test scores of | Paired Differences | | | | | f | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | |
| | | | | Lower | Upper | | |
| Experimental vs. Control group | 1.080 | 10.440 | 2.088 | 66.771 | 75.389 | 4.042 | 4 | .000 |

## Interpretation:

From the above data it is clear that there were 25 students who took control group post-test   and 25 students who took part in experimental group post-test. A paired sample t-test was run to determine if there were differences in control group post test scores and experimental group post test scores of students. Mean of experimental group post-test (211.04±7.092) is slightly higher than the mean of control group post-test (139.96±7.877). Hence a statistically significant difference of 71.08 (95% CI 66.771 to 75.389), t (24) =34.042,

p=0.000 was observed. Hence null hypothesis; there is no significant difference in the Post-test scores of Activity based ICT teaching strategy between control group and experimental group is rejected and the alternative hypothesis is accepted.

*Showing the t-test result between Experimental and control group post-test scores of Attitude towards Activity based ICT Teaching strategy*

| Post test scores of | | Paired Differences | | | | | f | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|
| | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | Lower | Upper | | | |
| Experimental vs. Control group | 6.200 | 9.652 | 1.930 | 42.216 | 50.184 | 3.932 | 4 | .000 |

**Interpretation**

From the above data it is clear that there were 25 students who took control group post-test   and 25 students who took part in experimental group post-test. A paired sample t-test was run to determine if there were differences in control group post test scores and experimental group post test scores of students. Mean of experimental group post-test (156.32±5.786) is slightly higher than the mean of control group post-test (110.12±7.949).

Hence a statistically significant difference of 46.200 (95% CI 42.216 to 50.184), t (24) =23.932, p=0.000 was observed. Hence null hypothesis; there is no significant difference in the Post-test scores of Activity based ICT teaching strategy between control group and experimental group is rejected and the alternative hypothesis is accepted.

$H_0$: There is no significant difference in the Post-test scores of Professional skills towards Activity based ICT teaching strategy between control group and experimental group.

$H_1$: There is a significant difference in the Post-test scores of Professional skills towards Activity based ICT teaching strategy between control group and experimental group.

*Showing the statistics of Post-test scores of Professional skills towards Activity based ICT teaching strategy between Experimental and control group.*

|  | Post test scores of | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Pair 1 | Experimental group | 18.36 | 25 | 1.319 | .264 |
|  | Control group | 9.80 | 25 | 1.291 | .258 |

| Post test scores of | Paired Differences | | | | t | f | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|
|  | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | |

|  |  |  |  | Lower | Upper |  |  |  |
|---|---|---|---|---|---|---|---|---|
| Experimental vs. Control group | 9.240 | 1.786 | .357 | 8.503 | 9.977 | 25.867 | 24 | .000 |

## Interpretation

From the above data it is clear that there were 25 students who took control group post-test  and 25 students who took part in experimental group post-test. A paired sample t-test was run to determine if there were differences in control group post test scores and experimental group post test scores of students. Mean of experimental group post-test (18.36±1.319) is slightly higher than the mean of control group post-test (9.12±1.364). Hence a statistically significant difference of 9.240 (95% CI 8.503 to 9.977), t (24) =25.867, p=0.000 was observed. Hence null hypothesis; there is no significant difference in the Post-test scores of Activity based ICT teaching strategy between control group and experimental group is rejected and the alternative hypothesis is accepted.

## Statistical Techniques Used in the Study

After the data had been collected, it was processed and tabulated using Microsoft Excel-2010 Software. The data collected on pretest and post scores of secondary school trainees studying in Gold Field College of Education in experiment and control groups approach. Also, data were collected on activity-based ICT strategy in development of professional skill, knowledge and understanding and attitude scores of secondary school trainees studying in Gold Field College of Education in experiment and control groups. Then the data were

analyzed with reference to the objectives and hypotheses by using differential analysis including descriptive statistics, and Cronbachs Alpa, independent t-test, dependent t-test, and Levene's Test for Equality of Variances, using SPSS 20.00 version statistical software and the results obtained thereby have been interpreted.

The obtained data are analyzed by using appropriate statistical techniques such as Independent sample t test, paired sample t test Cronbachs alpa and descriptive statistics.

Mean, Standard Deviation, t-test, f-test

## Major Findings of the Study

It is found that the present study reveals that the student teachers have favorable attitude towards Activity based ICT teaching strategy in their subjects.

It is found that there is significant difference between Activity based ICT strategy and knowledge of student teachers and also influence the Attitude towards using activity based ICT strategy among secondary school teacher trainees.

It is found that there is a significant relationship between Attitudes towards activity based ICT teaching strategy and Understanding.

It is found that, there is a significant difference in the post-test scores of Activity based ICT teaching strategy between control group and experimental group. Mean of experimental

group post-test (211.04±7.092) is slightly higher than the mean of control group post-test (139.96±7.877). Hence, a statistically significant difference of  71.08.

It is found that there is a significant difference in the post-test scores of Attitude towards Activity based ICT teaching strategy between control group and experimental group, mean of experimental group post-test is slightly higher than the mean of control group post-test. Hence, a statistically significant difference was observed.

It is found that there is a significant difference in the post-test scores of professional skills towards activity-based ICT teaching strategy between control group and experimental group. There were differences in control group post-test scores and experimental group post-test scores of student teachers. Mean of experimental group post-test is slightly higher than the mean of control group post-test. Hence, a statistically significant difference was found.

It is found that post-test scores of knowledge towards activity based ICT teaching strategy between control group and experimental group significantly higher as compared to pre-test scores of knowledge towards activity based ICT teaching strategy.

It is found that there is a significant difference found between pre-test and post-test scores of activity based ICT teaching strategy in experimental group. Mean of experimental group post-test is slightly higher than the mean of control group post-test.

It is found that there is a significant difference between pre-test and post-test scores of Attitude towards activity based ICT teaching strategy in experimental group is slightly higher

than the mean of control group pre-test and post-test scores. Hence, a statistically significant difference was observed.

There is a significant difference found between pre-test and post-test scores of professional skills towards activity-based ICT strategy in experimental group,

It is found that there is a significant difference between pre-test and post-test scores of knowledges towards activity-based ICT teaching strategy in experimental group.

It is found that there is a significant difference between pre-test and post-test scores of understandings towards activity based ICT teaching strategy in experimental group. Hence, null hypothesis is rejected and alternative hypothesis is accepted.

It is found that there was no significant difference in experimental group post-test scores of activity-based ICT teaching strategy between science stream and arts stream students. Mean and standard deviation scores of science stream students are found to be 210.00 and 6.766 respectively. Mean and standard deviation scores of arts stream students are found to be 211.73 and 7.450respectively, t=0.591, p> 0.05 at 5% level of confidence. Hence, the null hypothesis is accepted.

## Educational Implications

Based on the discussion of the findings of the study, the following implications could be drawn.

ICT enables the transformation of teaching, research and learning process at all levels. It empowers teachers and students, making significant contributions to the education.

ICT as a medium for teaching and learning in 21st century is an era of information and communication technology (ICT). The various approaches of activity based ICT strategy such as collaborative, team teaching, cooperative teaching, learning together strategy, and computer based learning; computer assisted instruction etc, but in educational training institutions  the use of ICT strategy in practically are very less.

Teacher educators should be trained properly to integrate activity based ICT teaching strategy in their teaching subjects.

Activity based ICT teaching strategy helps to develop professional skills, knowledge and understanding among student teacher.

Teacher educators in B.Ed. colleges should be given free and compulsory use of ICT strategies to student teachers in their practice in teaching time, it enables them to use new strategies in their teaching.

Use of activity-based ICT teaching strategies in develops professional skills, training centers knowledge and understanding among student teachers.

Activity based ICT strategies help students to understand abstract and complicated concepts of different papers better without the help of the teacher educators, particularly student teachers of individual differences.

Activity based ICT strategies makes teaching techniques for more effective than those the traditional teaching methods as it is used for presenting information, testing and evaluation. It makes a contribution of education.

Student teachers in professional course of B.Ed. should be trained properly to integrate activity based ICT strategies in their teaching practice period and then their daily classroom processes.

Teacher educated should be motivated to incorporate activity-based ICT teaching-learning strategies to develop their professional skills among secondary school teacher trainees.

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# Holistic Pedagogy Shaping 21st Century Skills in Education

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## Abstract

In this paper investigates the pivotal role of holistic pedagogy in contemporary education. As our world experiences unprecedented transformation and growing intricacies, the conventional educational approach, predominantly centred on academic knowledge, proves inadequate in preparing students for the multifaceted challenges of the 21st century. This study explores holistic pedagogy as the central focus, advocating for a more comprehensive approach that acknowledges the multifaceted nature of individuals. The research thoroughly examines the five critical dimensions of holistic pedagogy. Firstly, it emphasizes the importance of holistic learning, advocating for the cultivation of not only academic excellence but also emotional intelligence, ethical values, and social competence. The ultimate objective is to equip students with the capacity to navigate the complexities of life, extending beyond academic knowledge. Moreover, this study underscores the value of an interdisciplinary approach. It highlights the integration of diverse subjects to provide a deeper and interconnected understanding of various topics. This approach encourages students to perceive knowledge as a unified and interwoven entity. Furthermore, emotional and social growth takes the spotlight in this paper. Holistic pedagogy acknowledges the significance of emotional intelligence, empathy, and social skills, not only for personal development but also for constructive societal contributions. Ethical values and well-being are also fundamental aspects addressed. This dimension underscores the necessity of an ethical foundation and the promotion of overall well-being among students. Holistic pedagogy resonates with the belief that learning is a lifelong journey, kindling a passion for continuous knowledge acquisition

beyond formal education. In summary, this research accentuates the transformative capacity of holistic pedagogy in contemporary education. It aspires to provide students not only with extensive knowledge but also with the competencies and values indispensable for thriving in the ever-changing landscape of the 21st century. This paper underscores the profound significance of holistic pedagogy in moulding well-rounded individuals equipped with the critical thinking, creativity, adaptability, and collaborative skills crucial for success in the contemporary world.

*Keywords:* holistic pedagogy, 21st century skills

## Introduction

In our rapidly changing world characterized by rapid transformations and increased intricacies, conventional education systems focused solely on academic knowledge often prove inadequate in preparing individuals for the multifaceted challenges of the 21st century. This paper delves into the pivotal role of holistic pedagogy within modern education, signifying a transition towards a more comprehensive approach that recognizes the multifaceted nature of human beings. The study extensively explores five critical dimensions of holistic pedagogy: comprehensive learning, interdisciplinary methods, emotional and social development, ethical principles and well-being, and the cultivation of an enduring passion for lifelong learning. These dimensions collectively aspire to furnish students not only with domain-specific knowledge but also with the proficiencies and virtues essential for thriving in the dynamic 21st-century landscape. The significance of holistic pedagogy in moulding well-rounded individuals equipped with indispensable 21st-century skills, such as critical thinking,

creativity, adaptability, and collaboration, essential for flourishing in the contemporary world, is emphatically underlined.

The primary objective of this research is to comprehensively examine the five key dimensions of holistic pedagogy: comprehensive learning, an interdisciplinary approach, emotional and social development, ethical values and well-being, and the promotion of lifelong learning. To fulfil these research goals, we employ a multidisciplinary research methodology that integrates literature reviews, case studies, and educational experiments. This comprehensive investigation aims to elucidate how holistic pedagogy can effectively equip learners with the vital 21st-century skills they require, such as critical thinking, creativity, adaptability, and collaboration. Ultimately, our research seeks to prepare students to excel in the multifaceted, contemporary landscape of the modern world.

## Objectives

1. To define holistic pedagogy's core dimensions.
2. To explore the holistic pedagogy 21st-century skills.
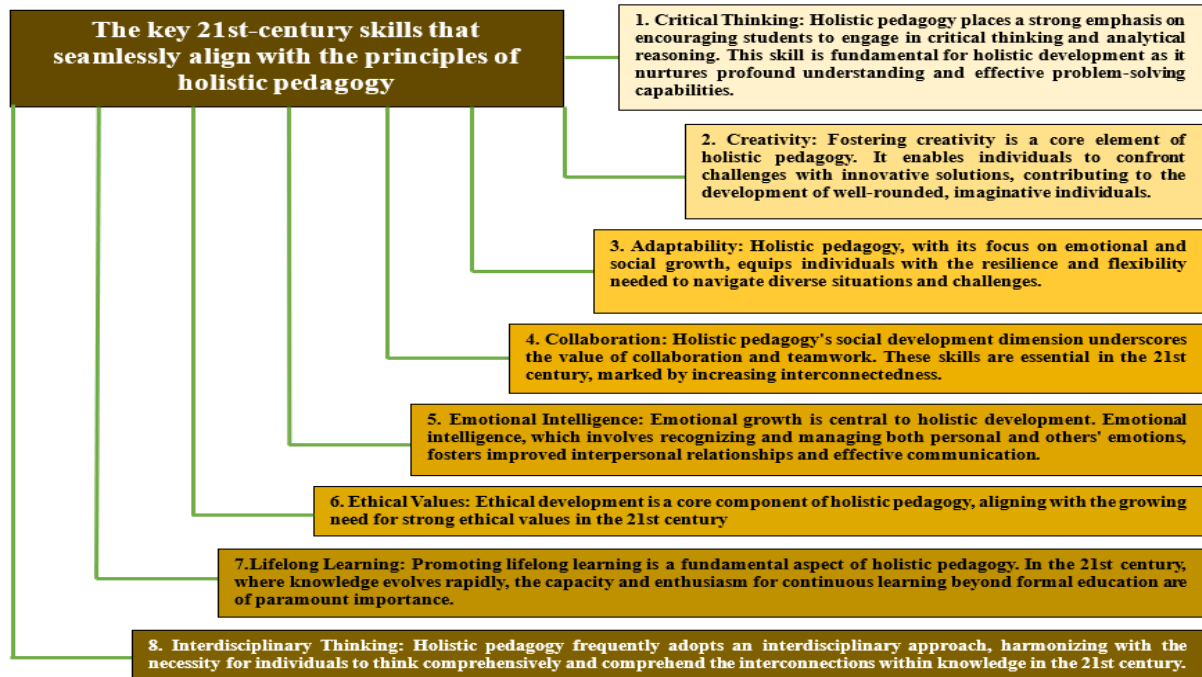3. To stress the importance of holistic pedagogy in modern education.

## Methodology

It primarily comprises a documentary study based on official documents and secondary data sources. The study draws conclusions from secondary sources. secondary data are collected from journals, articles, newspapers, and websites. This research is of a descriptive nature.

## Core Dimensions of Holistic Pedagogy

**1. Comprehensive Learning:** This facet underscores the significance of cultivating academic excellence, emotional intelligence, ethical values, and social competence. It seeks to furnish students with not just subject-specific knowledge but also essential life skills.

**2. Interdisciplinary Approach:** Holistic pedagogy champions the amalgamation of diverse subjects to provide students with a deeper and more interconnected grasp of various topics. It encourages students to perceive knowledge as a unified and interconnected whole.

**3. Emotional and Social Growth:** This dimension acknowledges the importance of emotional intelligence, empathy, and social skills in personal development and the positive contributions individuals can make to society.

**4. Ethical Values and Well-being:** Holistic pedagogy emphasizes the establishment of an ethical foundation and the promotion of overall well-being in students, encompassing both physical and mental aspects.

**5. Lifelong Learning:** It fosters a fervour for continual knowledge acquisition beyond formal educational settings, acknowledging that learning is an enduring journey. Collectively, these dimensions aim to equip students with 21st-century skills like critical thinking, creativity, adaptability, and collaboration, ensuring their success in the multifaceted contemporary world. The key 21st-century skills that seamlessly align with the principles of holistic pedagogy:

**Figure 1**

*The Key 21st Century Skills That Seamlessly Align with the Principles of Holistic Pedagogy*

**The key 21st-century skills that seamlessly align with the principles of holistic pedagogy**

1. **Critical Thinking:** Holistic pedagogy places a strong emphasis on encouraging students to engage in critical thinking and analytical reasoning. This skill is fundamental for holistic development as it nurtures profound understanding and effective problem-solving capabilities.

2. **Creativity:** Fostering creativity is a core element of holistic pedagogy. It enables individuals to confront challenges with innovative solutions, contributing to the development of well-rounded, imaginative individuals.

3. **Adaptability:** Holistic pedagogy, with its focus on emotional and social growth, equips individuals with the resilience and flexibility needed to navigate diverse situations and challenges.

4. **Collaboration:** Holistic pedagogy's social development dimension underscores the value of collaboration and teamwork. These skills are essential in the 21st century, marked by increasing interconnectedness.

5. **Emotional Intelligence:** Emotional growth is central to holistic development. Emotional intelligence, which involves recognizing and managing both personal and others' emotions, fosters improved interpersonal relationships and effective communication.

6. **Ethical Values:** Ethical development is a core component of holistic pedagogy, aligning with the growing need for strong ethical values in the 21st century

7. **Lifelong Learning:** Promoting lifelong learning is a fundamental aspect of holistic pedagogy. In the 21st century, where knowledge evolves rapidly, the capacity and enthusiasm for continuous learning beyond formal education are of paramount importance.

8. **Interdisciplinary Thinking:** Holistic pedagogy frequently adopts an interdisciplinary approach, harmonizing with the necessity for individuals to think comprehensively and comprehend the interconnections within knowledge in the 21st century.

By incorporating these 21st-century skills into the framework of holistic pedagogy, education can aptly equip individuals to effectively confront the intricacies and challenges of the modern world. This approach recognizes that true well-roundedness is achieved not merely through a strong academic foundation but also by possessing the skills and values indispensable for personal and societal accomplishment.

## Mapping Out 21st-Century Skills

To appreciate the transformative role of holistic pedagogy, it's essential to first understand the skill set required in the 21st century. Frameworks like the Partnership for 21st Century Learning (P21) define these skills as a fusion of core subjects and 21st-century themes. These themes encompass critical thinking, communication, collaboration, and creativity, all recognized as vital for success in today's workplaces and society.

**Figure 2**

*21st-Century Skills*



Source: https://www.researchgate.net
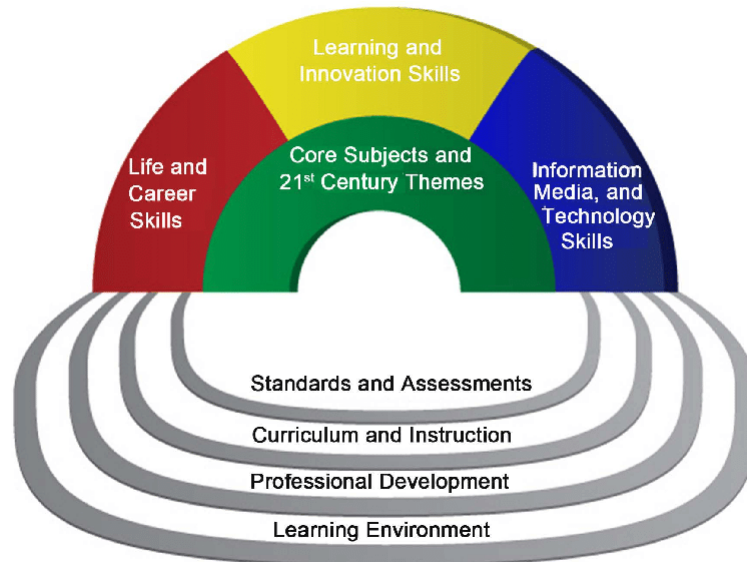
## The Interplay Between Holistic Pedagogy and Critical Thinking

Critical thinking stands as a cornerstone among the 21st-century skills. Holistic pedagogy encourages critical thinking through an emphasis on inquiry-based learning. This approach motivates students to ask questions, explore, and reflect. It draws inspiration from educational philosophers like Paulo Freire, underscoring the significance of critical consciousness in nurturing engaged and well-informed citizens.

## Constructivism and Holistic Pedagogy

Holistic pedagogy closely aligns with constructivist learning theories. The idea that learners actively construct knowledge, rather than passively receiving it, resonates strongly

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with the holistic approach. Constructivist methods endorse hands-on learning, problem-solving, and creative exploration, all integral to building 21st-century skills.

**Technology Integration in Holistic Pedagogy**

The role of technology in education is paramount in the 21st century. The theoretical foundation of technology integration in holistic pedagogy is multifaceted. It intersects with cognitive learning theories like those of Lev Vygotsky, who stressed the significance of social interaction in the learning process. Through the incorporation of educational technology, holistic pedagogy encourages collaborative learning, fosters creativity, and enhances communication skills.

**Assessment Theories and the Challenge to Tradition**

Holistic pedagogy challenges traditional assessment methods. The philosophy of holistic pedagogy values a more comprehensive evaluation of a student's growth, often at odds with formative and summative assessment models. Alternative assessment theories, such as those rooted in authentic assessment, align more closely with holistic pedagogy's principles.

**Teacher Training and Professional Development Theories**

Holistic pedagogy encompasses not only students but also educators. The theory of teacher training and professional development in this pedagogical approach aims at preparing instructors to effectively implement holistic methods. Drawing from pedagogical theories, this component is vital to ensuring the success of holistic education.

Holistic pedagogy's significance in modern education is undeniable due to several compelling reasons:

**1. Fostering Well-Rounded Individuals:** In the 21st century, the demands of the contemporary world extend well beyond academic knowledge. Holistic pedagogy recognizes that individuals are multifaceted beings, and thus, it strives to nurture individuals who possess not only subject-specific knowledge but also a wide array of vital life skills, emotional intelligence, ethical values, and social competence.

**2. 21st-Century Skills Development:** The rapid pace of change and increasing complexity in the modern world require a broad range of skills, including critical thinking, creativity, adaptability, and collaboration. Holistic pedagogy seamlessly aligns with these 21st-century skills, emphasizing their development alongside traditional academic knowledge.

**3. Interdisciplinary Learning:** Holistic pedagogy champions an interdisciplinary approach, acknowledging the interconnectedness of knowledge in today's world. This prepares students to understand complex, real-world problems that often transcend traditional disciplinary boundaries.

**4. Emotional and Social Growth:** In a society characterized by diverse interactions and relationships, emotional intelligence, empathy, and social skills are essential. Holistic pedagogy focuses on nurturing these dimensions, enabling individuals to effectively engage in personal and professional contexts.

**5. Ethical Values and Well-Being:** The 21st century calls for individuals who not only possess knowledge but also exhibit strong ethical values and a commitment to cultural sensitivity. Holistic pedagogy places great emphasis on ethical behaviour and well-being, recognizing that these aspects contribute to personal and societal success.

**6. Lifelong Learning:** In a world where knowledge evolves at a rapid pace, the ability and

enthusiasm for continuous learning are paramount. Holistic pedagogy fosters a passion for lifelong learning by making the educational experience engaging and enduring.

**7. Preparation for Complex Challenges:** The multifaceted approach of holistic pedagogy ensures that individuals are well-prepared to navigate the complexities of the modern world. This includes dealing with diverse challenges, whether they are academic, emotional, ethical, or social in nature.

**8. Well-Rounded Success:** Ultimately, the importance of holistic pedagogy lies in its capacity to prepare individuals for success in multiple facets of life. It goes beyond the singular goal of academic achievement to include the development of skills and values that are essential for personal fulfilment and positive contributions to society.

In summary, holistic pedagogy is not just an educational approach; it's a response to the evolving needs of the 21st century. It positions education as a transformative force that equips individuals with the skills and values they need to excel in our increasingly multifaceted world. As such, it is not merely an option in modern education; it is an imperative.

## Best Practices

**Anita Woolfolk "**Educational Psychology: Active Learning Edition" This book delves into the psychological aspects of holistic education and student development.

**Anjana P. Joshi** "Promoting 21st Century Skills through Holistic Education in Indian Schools" - A research paper discussing how holistic education can promote 21st-century skills in the Indian context.

**Carol S. Dweck** "Mindset: The New Psychology of Success" - It discusses the growth mindset, an essential element of holistic pedagogy.

**David Schoem** "Teaching the Whole Student: Engaged Learning with Heart, Mind, and Spirit" - This book explores the concept of educating the whole student, including their emotional and ethical dimensions.

**Dr. M.N. Reddi** "Education for Sustainable Development: Indian Perspective" - It explores how holistic education can contribute to sustainable development in India.

**Dr. Megha Bhargava** "Effect of Holistic Education on Indian Students" - A research paper that investigates the impact of holistic education practices on Indian students.

**Eric Jensen,** "Teaching with the Brain in Mind" This book explores brain-based teaching techniques and strategies for holistic pedagogy.

**J.C. Aggarwal** "Reclaiming Education: A Holistic Approach" - This book discusses the need for holistic education in India.

**John A.** "Measuring 21st Century Skills in a Holistic Pedagogy Framework" - A research paper that assesses how 21st-century skills align with holistic pedagogy.

**John P. Miller** "Holistic Education: An Analysis of its Pedagogical Principles" - This article discusses the principles of holistic education and their applications.

## Conclusion

Holistic pedagogy is a transformative educational approach vital for shaping 21st-century skills and preparing individuals to excel in our dynamic world. Grounded in a robust theoretical foundation, holistic pedagogy embraces critical thinking, creativity, adaptability, and collaboration, emphasizing the interconnectedness of knowledge and a lifelong commitment to learning.

This pedagogical approach is particularly indispensable in the digital age, where the focus of education must transcend mere knowledge acquisition to encompass the cultivation of well-rounded individuals. Holistic pedagogy actively nurtures emotional intelligence, empathy, and social skills, all of which are quintessential for triumphing in personal and professional realms. Moreover, it instils ethical values, fosters cultural sensitivity, and underscores the importance of well-being, thus giving rise to responsible and empathetic global citizens.

Furthermore, holistic pedagogy challenges conventional assessment methods by advocating for a more holistic and authentic evaluation approach. It is noteworthy that this approach doesn't exclusively benefit students; it also emphasizes teacher training and professional development, ensuring the effective implementation of holistic teaching methods.

As we stand on the threshold of a constantly changing world, the integration of holistic pedagogy illuminates a path toward a future where education genuinely nurtures individuals who are well-equipped to confront a wide array of challenges in a rapidly evolving landscape. Holistic pedagogy essentially positions education as a guiding light, bestowing the fundamental skills and values required to navigate this progressively intricate terrain. In the 21st century, it becomes not just a choice but an imperative for education.

## References

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