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# Impact of AI in Indian Education

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## ABSTRACT

*Artificial Intelligence (AI) has made significant inroads into various aspects of society, transforming industries, and reshaping the way we live and work. In the context of India, where education is not only a fundamental right but also a critical driver of socio-economic progress, the impact of AI on education is particularly noteworthy. This paper explores the multifaceted impact of AI in Indian education, highlighting both its potential benefits and challenges.*

**Keyword:** Technology, AI, Education, Teaching, Learning.

## PERSONALIZED LEARNING

One of the profound effects of AI on the Indian education system lies in its capacity to deliver customized learning experiences. AI-powered platforms and algorithms possess the capability to analyze unique student data, understand their learning patterns, and identify strengths and weaknesses. This allows for the adaptation of educational content and pacing to cater to the specific needs of each student, ultimately enhancing the learning process [Kumar & Chaudhary]. This level of personalization has the potential to address the diverse learning abilities and backgrounds found across India's vast population.

## ACCESSIBILITY AND INCLUSIVITY

Artificial Intelligence (AI) possesses the potential to democratize education, enhancing its accessibility and inclusivity. By leveraging online courses, virtual classrooms, and educational apps driven by AI, students residing in remote and underserved regions gain access to high-quality education that was previously beyond their grasp [Miao, Wang & Pardalos]. This is

particularly crucial in a country as diverse as India, where geographical and socio-economic disparities can hinder educational opportunities.

## TEACHER EMPOWERMENT

Artificial intelligence (AI) has the potential to empower educators through the provision of valuable tools and resources. With intelligent tutoring systems and AI-driven analytics, educators can pinpoint specific areas where students require extra assistance and adapt their teaching strategies accordingly. This technology enhances the teacher's ability to provide targeted support for each student's unique learning needs [Vadivel, & Ranjani]. Additionally, AI can help automate administrative tasks, allowing educators to focus more on teaching and mentoring.

## ENHANCED ASSESSMENT AND FEEDBACK

Artificial Intelligence has the potential to transform the assessment process through its capacity to offer immediate, data-driven feedback to students. With automated grading and assessment tools, the workload on teachers can be significantly reduced, while students can benefit from prompt, constructive feedback on their performance [Conati & Maclaren]. This not only enhances learning outcomes but also helps in identifying areas that need improvement.

## CHALLENGES AND CONSIDERATIONS

While the potential benefits of AI in the Indian education sector are substantial, there are important challenges and factors that demand attention. These encompass issues surrounding data privacy, algorithmic bias, and ensuring equitable technology access [Barani, & Oghaz]. Furthermore, ensuring that AI systems align with ethical and cultural norms is crucial in the Indian context.

## CONCLUSION

The impact of AI in Indian education is multifaceted and has the potential to address longstanding challenges in the sector. By providing personalized learning experiences, improving accessibility, empowering educators, and enhancing assessment and feedback mechanisms, AI can play a transformative role in advancing education across India. However, to harness the full potential of AI, it is essential to navigate the associated challenges and ensure that ethical and inclusive practices are at the forefront of its implementation.

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# Environmental Education in India: Challenges and Opportunities

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## ABSTRACT

*It is well known phenomena that human activities affect environment significantly and pose serious consequences for future generations. Environment education has a noteworthy role in making the youth conscious about their environment, adopting green social behaviour and thus responding to the environment crises. Recognizing the importance and need of environment education, India has initiated several efforts including making the environment education compulsory at all level of education. Presently, environmental conditions are changing adversely and all living beings are suffering from the negative consequences of environmental pollution and climate changes, hence, there is a need to reorient the curriculum of environment education for making it more attractive and responsive to the local environmental issues. Moreover, various policies are also needed to be restructured for sensitizing the people, especially school and college level students about the issues related to environment management.*

**Keywords:** Environmental Education, Challenges, Opportunities, Indian Curriculum.

## INTRODUCTION

Environment education is a rapidly emerging and dynamic concept of education, which requires a new vision of empowering people about their nature and their role in conservation initiatives. It is now widely acknowledged that the EE is one of the effective conservation tools, which can play an important role in changing the behaviour of individuals. Environmental education establishes a green social behaviour among the citizens, especially

youth, by inculcating a greener way of thinking, approach, behaviour and commitment towards the environment. There are empirical evidences suggesting a positive link between direct experiences in nature and people's environmental attitudes and behaviours.

Environmental education is not only a matter of science teaching, but is an essential part of general civic, moral and liberal education. This trigger also helps in sensitizing the people about various environmental issues and in ensuring their active role in taking actions toward the environment management. In order to accomplish the key goals to encourage people to understand about their environment, EE relies on both formal and non-formal mode of approaches. Today when entire world is struggling with various environmental issues, environmental education has become a more important component of education in terms of minimizing the catastrophic environmental crisis. The importance of fostering both environmental knowledge and connectedness to nature as complementary drivers of ecological behaviour, as offered by nature-based environmental education, should be researched further as a highly promising approach to fostering ecologically motivated individuals Even though the term "Environment" has been known to everyone for centuries, the United Nations Conference on the Human Environment (Stockholm Conference), which was held in Sweden in June 1972, strengthened the meaning of environment and conservation significantly by putting in place a "Framework for Environmental Action". In the year 1992, the United Nations Conference on Environment and Development (Rio Summit, Earth Summit) discussed the important role of education, training and public awareness in achieving sustainable development. Later, in the year 2002, in the World Summit on Sustainable Development held in Johannesburg (Johannesburg Summit, Rio+10), a proposal for the Decade of Education for Sustainable Development was included in the Johannesburg Plan of Implementation, which was adopted by the United Nations General Assembly. In the United Nations conference on Sustainable Development (Rio+20) held in 2012, the international community resolved to promote education for sustainable development and to integrate sustainable development more actively into education beyond the United Nations Decade of Education for Sustainable Development.

## COMPONENTS OF ENVIRONMENTAL EDUCATION

- Development of creative thinking, attitude, skills and eco- friendly.
- Development of environment champions for addressing environmental crisis.
- Motivation towards environment conservation issues like bio diversity management, waste management, pollution abatement and climatic change mitigation.
- Development of green consciousness to take green social responsible actions.

In general, environment is a very common term that we all understand well; however, it is also true that we probably do not understand how the future of the human beings is linked with this small word. Slowly, with the increase in the environmental hazards and their long- term negative consequences, we realized the importance of environmental education primarily for raising awareness to address the environmental issues for sustainable future. Given that the environmental pollution has become a worldwide problem, which is affecting

the existence of human beings and threatening the survival of floral and faunal species, environmental education was considered as one of the important discipline in 1990s. It was actually the decade when environmental education was initiated across the country, mainly to educate people about the environmental issues.

## ENVIRONMENTAL EDUCATION IN INDIA

In the year 1991, the Supreme Court of India, in its judgment on the petition titled M.C. Mehta Vs. Union of India ordered the Central and State Governments to ensure environment education in all the educational institutions, making it a compulsory subject for all levels of education including schools, colleges, universities and technical institutions. Further, in the year 2003, the Supreme Court of India once again, in one of its orders, made environmental education a compulsory subject at all levels of education. Following the orders of the Supreme Court, courses of "Environmental Sciences" were initiated by some of the colleges, institutions and universities across the country. However, in the beginning stage it received very limited interest among the youth and society. Later on, environmental education had been streamlined in to the curriculums as a separate subject at school as well as at higher education levels. In this way, India is one of the few countries who have given the legal back up to the importance of environmental education. As per a report of UNESCO, the judgment of Supreme Court of India has resulted in over 300 million students in 1.3 million schools receiving environmental education training.

Thereafter, consequent upon the increase in environmental crisis viz. environmental pollution, biodiversity loss, waste management and climate change, environmental education received wide attention of the stakeholders and specialized courses were also initiated by several universities like "Environmental Microbiology", "Biodiversity", "Natural Resource Management", "Wildlife Biology", "Marine Biology/Sciences", "Environmental Impact Assessment", etc. Considering broadly the status of EE at school and college level, it is clear that environmental education is only a vocational subject, which needs to be read and cleared by every student. At school level (up to the class fifth), environmental education is a separate subject which is basically a science discipline and class six onwards it is a science subject under which students read some of the contents related to environment. At college level, environmental education is taught in the first year or semester of the technical and professional courses. The National Council of Education and Research and Training has also developed a model curriculum of environmental education and a resource book titled "Towards a green school" on education for sustainable development for elementary schools.

Education has been recognized as one of the essential component for ensuring sustainable development. A skilful education can play a crucial role in changing the attitude and behaviour of individuals and in motivating them to take appropriate actions to conserve the environment. Education can play a major part in the required transformation into more environmentally sustainable societies, in concert with initiatives from government, civil society and the private sector. A separate Agenda 21 (Chapter 36) on "Education, Awareness and Training" was included and adopted at United Nations Conference on Environment &

Development held in Rio de Janeiro in 1992. Later on, based on the lessons learnt about the contribution of education to sustainable development over the decade between the United Nations Conference on Environment and Development in 1992 and the World Summit on Sustainable Development 2002, UNESCO indicated that there is a need of reorientation of education towards sustainable development and a new vision for education (2002). Out of the 17 Sustainable Development Goals (SDGs), SDG "4" refers about "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". Achieving quality education for all sections of society reaffirms that education is one of the most powerful and proven vehicles for ensuring SDG "4" as well.

## CHALLENGES AND OPPORTUNITIES

Even though we achieved success in ensuring all the modalities to implement environmental education, there is a gap in its effective implementation as a result of which a large portion of the society is not aware about the functional role of ecosystems and its services, harmful impacts of environmental pollution and climate change, etc. Some of the issues attributed to non- implementation of environmental education effectively are lack of attitude, commitments and skills towards environment management, lack of environmental training modules and adequate curriculum, lack of preparedness to tackle immediate environmental problem, lack of organizational support, lack of jobs in environment field, increasing rate of developmental projects and economy, lack of measurable results, etc. All these concerns have a restricting effect on spreading awareness and establishing responsible citizens, who can serve the environment.

Besides, formulating policies relating to environmental education and re-examining existing policies from environment conservation point of view as well as political decisions and actions are also a critical part of environmental education. Lack of concern and commitment for the environment as well as individual lack of skills to tackle environmental problems due to ineffective environmental courses are some of the reasons behind non-visibility of the impact of EE on the ground [8]. Today, when climatic conditions are changing adversely and all living beings are suffering from the negative impacts of environmental pollution and climate changes, there is a need to inculcate such knowledge and skills, which will play an important role in sensitizing the people about environmental issues. This will facilitate the people to adopt green social responsibility for the protection of environment. Consequently, a plan of action is needed to interest the students and the educators in environment and related issues (Figure 2).

In 2014, the Government of India launched "Swachh Bharat Mission", a nation-wide environment awareness campaign with an aim to accomplish the vision of "Clean India". This mission has been successfully achieved its objectives and displayed India's commitments towards a clean, green and healthy India. In fact, "Swachh Bharat Mission" is also a part of environment awareness activity. While the quantitative impact of environmental education in building environmental leaders is hard to measure, some environmentalists are seeing a huge change in the awareness levels through education while others are not convinced that

education is generating anything beyond general nature lovers. As far as legal instruments are concerned, the Ministry of Human Resources Development launched the National Policy on Education in the year 1986, which was amended in 1992, also advocating the implementation of environmental education at all levels of education. In fact, the Ministry of Human Resource Development is also in the process of bringing out the National Education Policy, 2020 which advocates the environmental education. In order to implement the EE effectively across the country, National Council of Educational Research and Training, which aim to design a curriculum for school education, can take a lead. Besides, the University Grants Commission and All India Council for Technical Education can play an important role in implementing the environmental education in technical and higher education.

Furthermore, the Wildlife (Protection) Act (1972), the Environment (Protection) Act (1986), the Biological Diversity Act (2002), and the National Environment Policy (2006) are some of the legal instruments being implemented by the Ministry of Environment, Forest and Climate Change, which also highlights the importance of environment conservation. In addition, Ministry of Environment, Forest and Climate Change, through its flagship programmes like National Green Corps (Ecoclub) programme, Green Good Deeds initiative, Green Skill Development, is also developing young professionals to promote green behaviour. Similarly, National Council of Science, Technology and Communication, Prasar Bharati, CSIR - National Institute of Science Communication and Information Resources, etc. also organise various programmes and campaigns on the environmental awareness issues. If we look at the environment related programmes being implemented internationally, there is one such programme namely Global Learning and Observations to Benefit the Environment (GLOBE) programme. This programme provides students with an opportunity to participate in data collection and the scientific process, and contribute meaningfully to our understanding of the Earth systems and global environment. As of now, nearly 122 countries are actively participating in the programme.

With changing scenarios of environmental conditions and increase in human population, conducted on regular basis. Environmental education should be made compulsory in all the year/semester of the under graduate degree courses. Also the young people need to be made aware of the various opportunities which exists as career options for them like Environment Advisors for various companies in respect of Environment Impact Assessment, one can also join international organizations like UNDP, UNEP, WWF, CEE, IUCN, BNHS, and WTI etc.

Effective and meaningful environmental education is a challenge we must take seriously if we and future generations want to enjoy the benefits of quality life and natural heritage. Given that, the term "environment" is the second form of term "nature", environment education can't only be considered as a "form of education", but should be considered as a knowledge-based conservation tool for addressing environmental issues. As Nelson Mandela said in 1990, "*Education is the most powerful weapon you can use to change the world*." Moreover, it is an essential component of education at all levels that enables the individuals to adopt

green habits for sustainable social development and preserve a cleaner and greener environment for our future generations.

## CONCLUSION

Though EE has been streamlined in the curriculum of all the education, there is a need to sensitize people, especially school and college level students about the importance of the subject. This can be achieved through both the formal and non-formal education. In order to encourage students about the environmental issues, outdoor learning modules need to be designed, like nature camping, expedition, organization of training programmes and workshops, etc. environmental education related activities should be the importance and urgency of environmental education has evolved a lot in the last three decades. There is a need to revisit and revise the curriculum of EE. EE needs to be made more attractive and interesting, especially among the school level students by implementing nature conservation aspects. Building the capacity of students and teachers is one of the important components of this education, which has to be ensured by initiating field-orientated learning activities (Figure 3). The training module can include all the important topics like biological diversity, control of pollution (air, water, soil, and noise), waste management, and forest and wildlife conservation. Besides, incorporation of some field learning tools would be of paramount importance, which will facilitate the teachers and students in learning and disseminating the knowledge about the dynamic components of the nature.

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# E- Mentorring as A Tool To Reduce Gender Disparity in Education, Postcovid 2019

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## ABSTRACT

*"Let's give tomorrow women better choices than the one we have faced past this year".*

*Sustainable Development Goals (4) aim to ensure inclusive and equitable quality education for all by 2030. The goals also put emphasis on reducing gender disparity and empowering all to lead a life of dignity. Education for sustainable development is an effective and only tool for countries like India which aims to achieve SDG goals especially for empowering girls. Although India has performed well in achieving UPE, yet the problem of USE remain a dream especially among adolescence girls. Secondary education in general is a time of gross upheaval in the life of girls especially in relation to their studies and education.Getting educated or pursuing education at this stage becomes a dream for many. The onslaught of Covid-19 helped in expanding this gap further. School closure during covid-19 affected 1.6 billion learners which posed an alarming threat to gender disparity (UNESCO-2030). Girls are more at risk of losing out because they are discriminated against in terms of access to technology, time, household chores, child marriage, sexual exploitation and other related issues. Hence it becomes imperative that girls are provided with strategies and solutions to mitigate this loss of learning. This paper focuses on the use of E-mentoring as a strategy to deal with above crisis and to mitigate the challenges posed by Covid-19 on girl's education. Keeping in mind the challenges and limitations posed by Covid -19 on education of girls Mentoring could be a step forward. Not only in On-line mode but also when school reopens. This would also be helpful for those who could not access education from formal means.*

*E-mentoring is a new context where the mentoring process between the mentor and protégé operates through online processes. E-Mentoring can be operated through three different modes keeping the means and context of the mentor and mentored in view. It could be fully virtual, blended or face to face. The*

*mentors through E-Mentoring shall not only provide academic support but also emotional and social support to these girls. Hence this paper shall focus on E-mentoring as atool to bridge gender gap in education especially in the post Covid phase.*

**Keywords:** Gender Disparity, Post Covid 19, E- Mentoring.

## INTRODUCTION

There is no doubt that to accept that the 2030 Agenda for Sustainable Development is to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all." And there is also commitment to eliminate gender disparities in education by reaffirming the belief that education is a powerful tool in empowering women and enabling them to live a life of dignity.

In pursue of this enormous effort have been made significantly progress in universalizing primary education by improving the enrolment and completion rates of girls in primary and elementary schools has been achieved but still there is challenge with secondary education as the dropout rate of adolescent girls is higher at secondary level (19.8%) than primary (6.3%). Further, while the net enrolment ratio of girls in elementary schools is 91.58% but it declines as they grow older with 52.57% for secondary and 31.42% for higher secondary.

Adolescent, stage of stress and storm a period between the ages 10 – 19 years, is a critical stage especially for every girl's life worldwide marked by a decision to either transition to secondary school, enter into the labour market, or get married.

However we can deny the fact that to accelerate sustainable development empowering women and promoting gender equality is crucial. With the sheered need for gender equality and for providing education as a platform for the same amplified schemes polices are being framed and implemented are on the path of progress but when on 5 January 2020, when the World Health Organization issued its first Disease Outbreak News report (WHO, 2020) about a cluster of cases of pneumonia of unknown cause. Just eight months later, school closures due to the COVID-19 pandemic had affected nearly 1.6 billion learners in more than 190 countries (UN, 2020) and which further amplify these barriers and increase the gender gap in education. Numerous studies at global level indicated that the adolescent girls were most targetable as they faced lot of gender disparity in terms of access to digital opportunities.

In fact there arise need to tackle with situation and this situation E- Mentoring seems to be of great potential as the mentors through E-Mentoring shall not only provide academic support but also emotional and social support to these girls. Hence this paper shall focus on E-mentoring as a tool to bridge gender gap in education especially in the post Covid phase.

## COVID 19 AND GENDER DISPARITY

The emergence of Corona Virus disease (COVID-19) has led the world to an unprecedented public health crisis. (Saha et al. 2020) Emergency protocols were implemented in India to control the spread of the virus which resulted in restrictions on all non-essential public movements and with the closure of Educational Institutions, the need for a rapid transition

from physical learning to the digital sphere of learning emerged (Kapasia et al. 2020). It was surprising that despite efforts of governments and other stakeholders; nearly 500 million learners from pre-primary to upper-secondary school had no access to remote learning, of which three quarters lived in the poorest households or rural areas (UNESCO, 2021b). According to **World bank report 2021,** educational disruption has far-reaching consequences such as immediate effects are learning loss and school dropout, which have short- and long-term negative impacts that resonate across every sector. While the full scope of these impacts will not be known for many years – not least because the pandemic is still ongoing and it has suggested that learning loss and school dropout of this magnitude are 'an inequality catastrophe in the making' that will affect an entire generation . Moreover, it may have may have pernicious gender specific effects in areas such as health, well-being and protection (UNESCO, 2020a).

What I is now a growing concern that COVID-19 might amplify these barriers and increase the gender gap in education. Girls are at more risk than boys of being discriminated against in terms of access to technology, household chores, and child marriage. Before COVID-19, India had 30 million out-of-school children, out of which 40% were adolescent girls. It is projected that post COVID-19, close to 10 million secondary school girls might dropout and a large number of these can be from India.

Research studies and surveys made throughout clearly indicated impact of potential impacts of COVID-19 on girls' education are numerous. The shutting down of schools to curb the spread of the virus. has been through the most direct impact Since then, distance learning facilities (online platforms, TV broadcasting, radio, etc.) have been adopted to facilitate children's learning during school closures. However, it has failed to reach all students due to the massive digital disparity across wealth, location, and gender. In India, the poorest girls and those living in rural areas have much less access to technology than boys. There exists a 50% gender gap in mobile internet users in India where 21% of women and 42% of men use mobile internet. Moreover, an assessment on issues faced by adolescents during COVID-19 found that more boys than girls had access to digital infrastructures such as mobile phones, internet services, radio, and media. With such low access to technology, digital schooling has further disengage girls from education and widen the educational inequalities among learners. And what the result is girls are left with domestic responsibilities such as cooking, cleaning, sibling care, collecting water, especially since schools, anganwadi, and child care centers are closed. Another impact is of loss of livelihood to most part of the population due to covid and again who is at curse girl child .

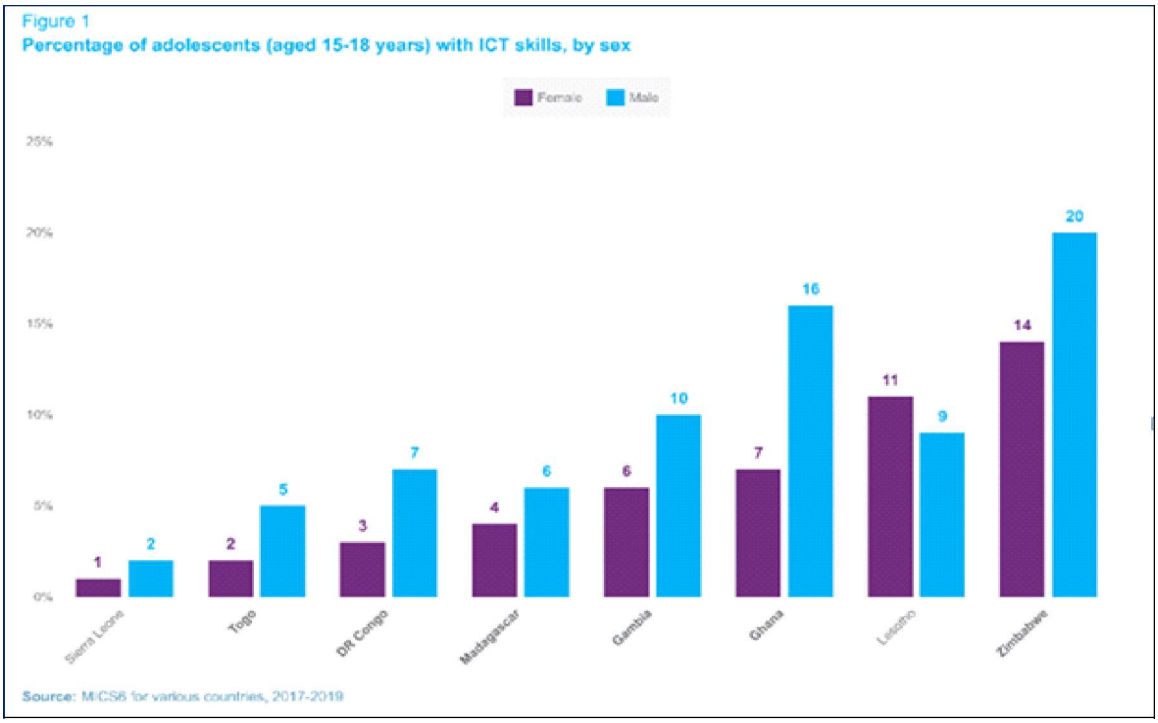
In countries In South Asia, the gender gap in mobile internet use stood at 51 percent in 2019. This gap has translated into lack of access to life-saving information and services for women and individuals with non-normative gender identities. In Bangladesh and Pakistan, 15 percent fewer women than men received necessary information to survive the COVID-19 pandemic. The gap between male and female mobile internet users in the two countries is 52 percent and 49 percent, respectively.

## IMPACT OF COVID 19 ON INCREASING GENDER DISPARITY

The following statistics will clearly indicate how covid 19 as increased gender disparity

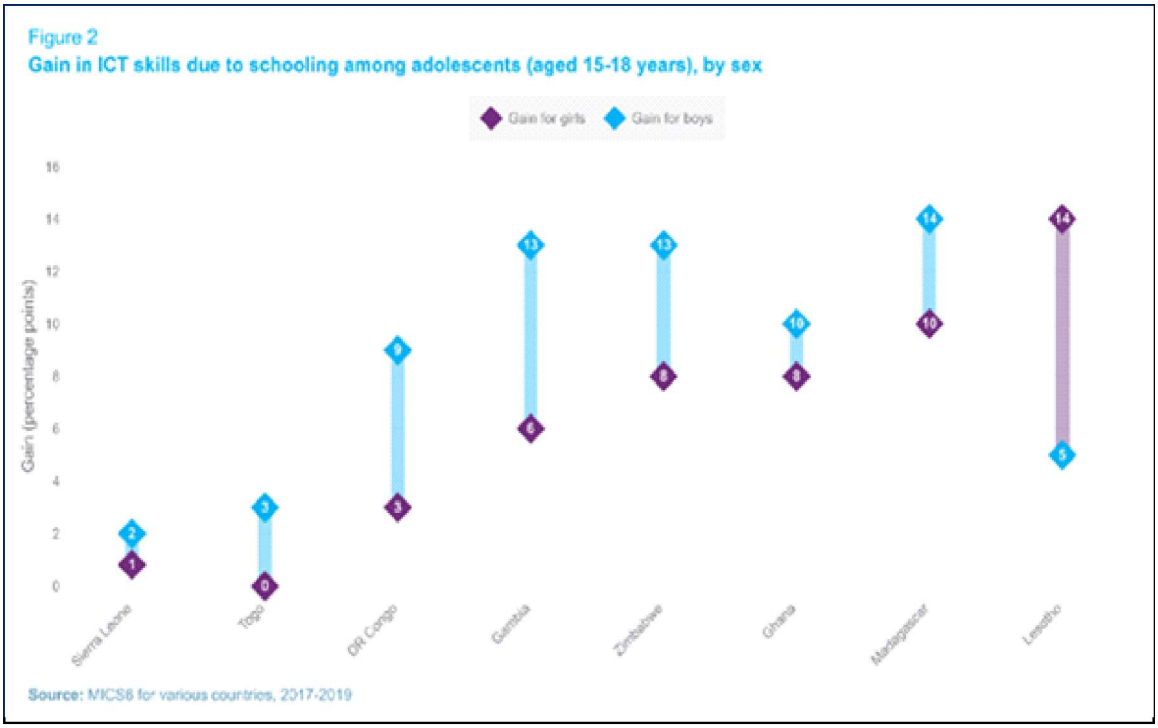
- **Fewer girls than boys possess ICT skills**

  From one of the key finding is that in most of the countries analysed, girls face disadvantages in acquiring ICT skills, whether in school or at home. For example, Figure 1 below shows that in Ghana, 16 per cent of adolescent boys possess ICT skills compared to only 7 per cent of adolescent girls.



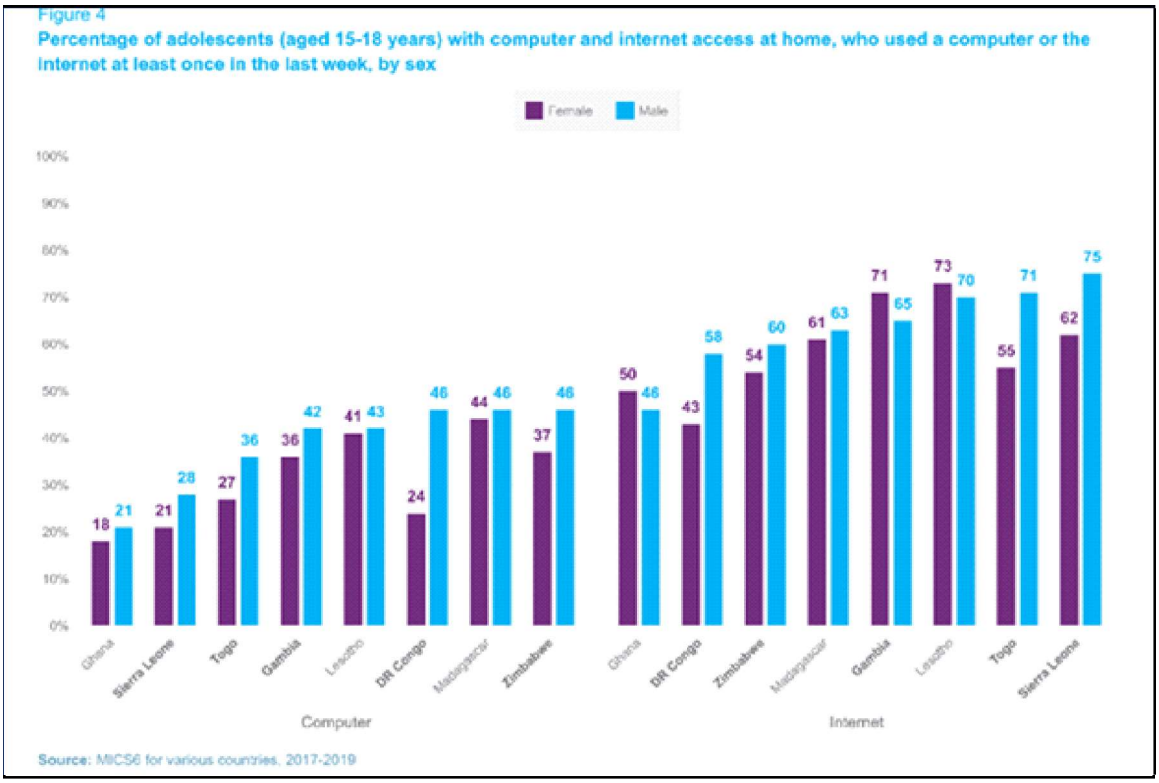

- **ICT skills are associated with attending school – but less so for girls**

In all countries except for Sierra Leone, the prevalence of ICT skills is significantly higher among adolescents who attend school than among those who do not. In Madagascar, for example, 13 per cent of adolescents in school have ICT skills, compared to only 1 per cent of their out-of-school




## GIRLS BENEFIT LESS FROM HAVING A COMPUTER IN THE HOME

In addition to school, the home environment can be a critical space for developing and practicing ICT skills. In all countries analysed, both adolescent girls' and boys' ICT skills are greater among individuals who have computers at home and it was revealed that the presence of a computer in the home doesn't erase the digital gender divide. For example, among households with computers in the Democratic Republic of the Congo and Ghana, girls have lower levels of ICT skills than boys. And the gender gap in ICT skills is wider than among adolescents in households without computers.




It can be concluded that as according to **Mariscal, J., Mayne, G., Aneja, U., & Sorgner, A. (2018).** ***Bridging the gender digital gap,*** "…a stark gender inequality is pervasive in terms of access, ownership of digital devices, digital fluency as well as the capacity to make meaningful use of the access to technology. Even though affordability is a key source of exclusion, there are also significant socio-cultural norms that restrict access for women".

So the absence of gender-sensitive COVID-19 response policies and programs risks aggravating and amplifying structural inequalities and undermining progress towards gender equality, socio-economic progress, and the achievement of the UN SDGs but certain strategies can help to overcome the situation such as **E-mentoring.**

## E- MENTORING AS A TOOL TO REDUCE GENDER DISPARITY IN EDUCATION, POSTCOVID 2019

E-mentoring can be rewarded as away to expand social and professional network (Headlam-Wells, Gosland, & Craig, 2005; Whiting & de Janasz, 2004), their knowledge base, access to resources, and job opportunities (Higgins & Thomas, 2001; de Janasz, Ensher, & Huen, 2008).

E-mentoring can increase interpersonal communication skills (Adams & Crews, 2004), written communication skills (Brown & Dexter, 2002; Fodeman, 2002; Haas, Tully, & Blair, 2002),

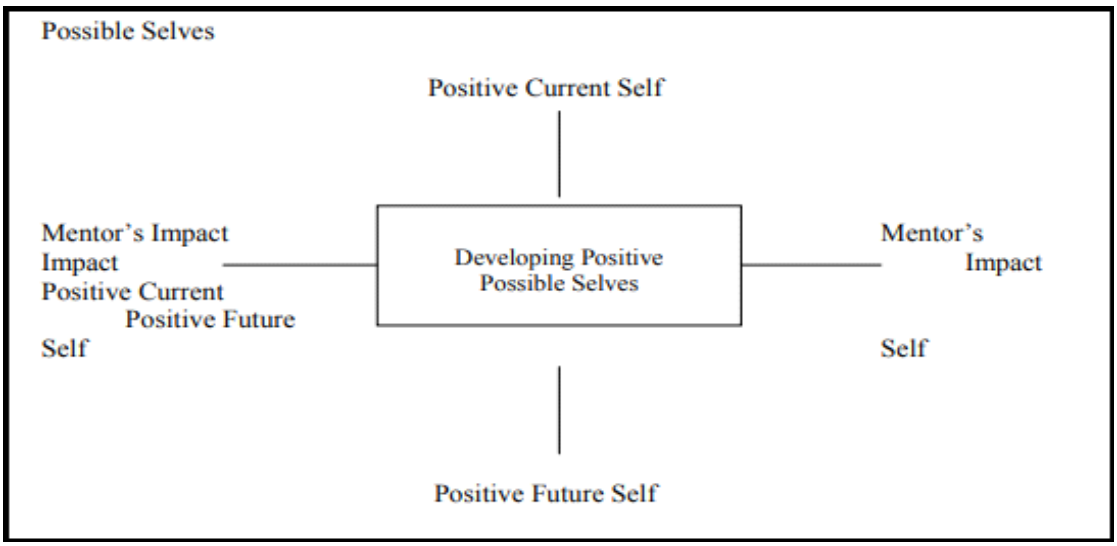
and teamwork skills (Fodeman, 2002). So this seems to be a vital to reduce gender disparity as When asked to participate in an e-mentoring program, stated there can be gained in personal and career development, greater clarity of career goals, and greater confidence (Headlam-Wells, Gosland, & Craig, 2006). E-mentoring relationships can also increase self-esteem and self-efficacy as it provides platform to adolescent girls to cope up with their problem (Adams & Crews, 2004). In their study of underprivileged youth protégés and their e-mentors, DiRenzo, Weer, and Linnehan (2013) found that e-mentoring relationship quality was positively related to general and caree based self-efficacy, which, in turn, was positively related to enhanced career aspirations.

When during covid peak time girls were being most vulnerable E- mentoring can be a platform where they can cope up with psychological stress. As researches has also demonstrated that mentoring is most effective for women when they are mentored by women. Female mentors can act as role models and have experienced the difficulties and challenges their mentees face (Cooper & Hingley, 1983; Tharenou, 2005). Female mentees have less difficulty mirroring "female behaviors" than the "male behaviors" exhibited by their mentors (Cooper & Hingley, 1983). Women mentored by women report greater interpersonal comfort than do women with male mentors (Allen, Day, & Lentz, 2005; Maccoby, 1990) and receive more psychosocial support and career-development support than do women mentored by men (Fowler, Gudmundsson, & O'Gorman, 2007; Okurame, 2007; Ragins & McFarlin, 1990; Scandura, 1992; Scandura & Williams, 2001; Tharenou, 2005; Thomas, 1990).

Further it has been examined the impact of young girls indicates mentoring relationships yielded enhanced feelings toward the relationship, a greater valuing of the relationship, enhanced identification with the other, and the building of affection (Lucas, 1999) and positive self concept (Ryan & Olasov, 2000). As a select population, the impact of mentorship with adolescent girls has yet to be explored as related to the building of the self-concepts that attribute to a positive future self.

As adolescents girls are at greater risk related to the health and education, depression, delinquency, substance abuse, and pregnancy and especially during pandemic when they have no one to help out where they are facing so many disparities at this time E- mentoring can be a useful intervention. If we look at the goal of mentorship is to build positive relationships with adult role models in an effort to foster social competencies, promote academic motivation, and build a positive image of self (Lee & Cramond, 1999; Tierney, et al., 1995).

Hence it can be concluded that E- Mentoring Therefore, it is necessary to provide information on the mentoring process and outline the characteristics of children who most benefit from the program and foster up relationship and boost up confidence of adolescent girls.




Structural Description of Mentee Major: Developing Positive Self

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# Preparing Teachers and Educators for Blended and Experiential Learning through Technology: A Vision of NEP-2020

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## ABSTRACT

*This paper is an attempt to understand the vision of NEP 2020 for technology-based learning and how it envisions to ensure equitable use of technology. The paper raises relevant questions like how technology can create solutions at local level but at the same time keeping abreast with the rapid global changes; eliminate digital divide and address concerns of equity and affordable computing devices. Another concern which is highlighted is the teacher preparation to integrate the use of technology for experiential, value added and child- centred pedagogy.*

*The paper is divided into relevant themes which presents the intent of NEP 2020 along with a critical view of the areas of improvement in order to strengthen the policy. The themes include:*

- *Understanding NEP 2020, Technology Use and its Integration*
- *Initiatives taken and Roadmap Ahead*
- *Experiential Learning and Technology*
- *Equitable Use of Technology*
- *Teacher Preparation and Role of Teachers*
- *Conclusion and Suggestions: Educator's Perspective*

*The National Education Policy 2020, envisages to provide universal access to quality education, social justice and equality, scientific advancement, national integration and cultural preservation. It caters to the demands of rapid changes and technological advancements in the global economies. At the same time, it values rootedness and takes pride in indigenous knowledge of India.*

*Given the explosive pace of technological advancement, it is certain that technology will impact education in multiple ways which will not only change what students learn but also how they learn. Teachers would require suitable training and development to be effective online educators and online assessments would also require a different approach.*

*NEP 2020 envisages to transform education through blended and experiential learning with a focus on learner- centerd pedagogy by integrating technology in school and higher education.*

*The paper also focuses on what we expect from teacher educators and teacher education programmes. An educator's perspective has also been included which talks about the issues that need to be addressed for the success of NEP 2020. Few areas of concern include:*

- *Contextual and Engaging Learning*
- *Preparing Teachers for Embracing the Change*
- *Learning Space for Individual Child*
- *Experiential and Blended Learning*
- *Adding Value to Classroom Situations/ Interactions*
- *Community Collaborations*
- *Accessibility and Reducing the Digital Divide*
- *Encouraging New Vistas of Research especially blending Technology and Education*

**Keywords:** NEP-2020, Technology, Teacher Education, Blended and Experiential Learning, Digital Divide, Equal Access, Teacher Preparation.

## INTRODUCTION

An education policy of any country would lay emphasis on holistic development of each individual while focusing on nurturing the creative potential and developing cognitive capacities of every individual. It would lay its foundation on the premise that education is fundamental for achieving full human potential, developing an equitable and justice society, and promoting national development. With this vision, the National Education Policy 2020, envisages to provide universal access to quality education, social justice and equality, scientific advancement, national integration and cultural preservation. It seeks to ensure inclusive and equitable quality education and promote lifelong learning opportunities, an agenda echoed in the goal 4 of the 2030 Agenda for Sustainable Development.

NEP 2020 presents itself as a holistic policy catering to the needs and demands of rapid changes and technological advancements in the global economies. At the same time, it values rootedness and takes pride in indigenous knowledge of India and it's rich and diverse culture, traditional and modern knowledge systems. This has emerged as the biggest strength of NEP 2020. It also emphasizes on providing workforce for quickly changing employment landscape and global ecosystem by recognising the importance of not only learning but also on how to learn. It envisions education to move towards less content and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary and how to innovate and adapt in a novel and changing fields.

NEP 2020 does not restrict itself only in presenting the goals it seeks to achieve but to achieve its vision, it also shows the path to be followed. A lot of emphasis has been given to foundational literacy and numeracy (FLN), school education at all levels and higher education with equal importance to both vocational and academic streams. By 2040, it seeks to achieve the aim for India to have an education system that is second to none with equitable access to highest quality education for all learners regardless of their socio-economic background. This could be achieved by fulfilling all the aims of education including the utilitarian aim of employment, i.e., education must build character, enable learners to be ethical, rational, compassionate and caring while at the same time prepare them for gainful, fulfilling employment.

Keeping itself in line with the rich heritage of ancient and eternal Indian knowledge, NEP also does not restrict itself to acquisition of knowledge but expands its vision by providing opportunities for the complete realization and liberation of the self even for the marginalised. It ensures to provide to all students, a quality education system, with particular focus on historically marginalised, disadvantaged and underrepresented groups. It believes that education is a great leveller and is the best tool for achieving economic and social mobility, inclusion and equality.

NEP 2020 at the same time incorporates all these elements by taking into account the local and global needs of the country and with a respect for and deference to its rich diversity and culture. It considers knowledge of India and its varied social, cultural and technological needs, its inimitable artistic, language and knowledge traditions as critical for purposes of national pride, self- confidence, self- knowledge, cooperation and integration.

The policy has also invited criticism and debates from public domain indicating a little disagreement with its effectiveness and proposed reforms in ensuring an equitable education system and technology integration while cutting across the digital divide along with fulfilling the global and local needs. The major areas of debate and disagreement are:-

- The use of technology and its integration at all levels of education, right from the foundational till higher education.
- Effective teacher preparation in line with the expectations and vision of NEP- 2020.

To understand the concerns and challenges along with the critical perspective it is important to first know about what policy envisions about the use of technology in teaching and learning and what is the road map it proposes to achieve its goals and aims.

## TECHNOLOGY INTEGRATION, ITS USE AND NEP 2020: MAKING IT HAPPEN

The world is undergoing rapid changes in the knowledge landscape. With various dramatic scientific and technological advances such as the rise of big data, machine learning and artificial intelligence, many unskilled jobs worldwide may be taken over by machines, while the need for a skilled workforce, particularly involving mathematics, computer science and data science in conjunction with multidisciplinary abilities across the sciences, social sciences

and humanities will be in greater demand. Extensive use of technology in teaching and learning, removing language barriers, increasing access for Divyang students and educational planning and management is one of the guiding and fundamental principles of NEP- 2020. Given the explosive pace of technological advancement, it is certain that technology will impact education in multiple ways. New technologies involving artificial intelligence, machine learning, block chains, smart boards, computing devices etc. will not only change what students learn in classrooms but also how they learn. India is a global leader in information and communication technology. While education will play a critical role in this transformation, technology itself will play an important role in the improvement of educational processes and outcomes, thus, the relationship between technology and education at all levels is bi-directional.

The policy shows the path to achieve this aim of technology integration while overcoming the challenges, ensuring equitable distribution of resources and reducing the digital divide. The Digital India campaign is helping to transform the entire nation into digitally empowered society and knowledge economy. The policy suggests that the use and integration of technology to improve multiple aspects of education will be supported and adopted, provided these interventions are rigorously and transparently evaluated in relevant contexts before they are scaled up. For this, it suggests,

- Creating an autonomous body, the National Educational Technology Forum (NETF), to provide a platform for the free exchange of ideas on the use of technology to enhance learning, assessment, planning, administration and so on both for school and higher education.
- Facilitating decision making on the induction, deployment and use of technology by providing to the leadership of education institutions, State and Central governments and other stakeholders, the latest knowledge and research as well as the opportunity to consult and share best practices.
- NETF will have the following functions:
  (a) provide independent evidence-based advice to Central and State Government agencies on technology-based interventions;
  (b) build intellectual and institutional capacities in educational technology;
  (c) envision strategic thrust areas in this domain; and
  (d) articulate new directions for research and innovation.

The thrust of technological interventions will be for the purposes of improving teaching-learning and evaluation processes, supporting teacher preparation and professional development, enhancing educational access, and streamlining educational planning, management, and administration including processes related to admissions, attendance, assessments, etc. The policy suggests: -

- Developing a rich variety of educational software and made available for students including Divyang students, students in remote areas and teachers at all levels in all major Indian languages.
- Developing teaching-learning e-content by all States in all regional languages, as well as by the NCERT, CIET, CBSE, NIOS, and other bodies/institutions, and will be uploaded onto the DIKSHA platform. This platform may also be utilized for Teacher's Professional Development through e-content.
- Strengthening CIET to promote and expand DIKSHA as well as other education technology initiatives to integrate e-contents into teaching-learning practices.
- Better integration of Technology-based education platforms, such as DIKSHA/ SWAYAM, across school and higher education, and will be improved through constant feedback.
- Paying attention to emerging disruptive technologies like Artificial Intelligence, AI that will necessarily transform the education system.

AI's disruptive potential in the workplace is clear, and the education system must be poised to respond quickly. One of the permanent tasks of the NETF will be to categorize emergent technologies based on their potential and estimated timeframe for disruption, and to periodically present this analysis to MHRD to identify those technologies whose emergence demands responses from the education system.

## ROLE OF HIGHER EDUCATION INSTITUTIONS (HEI) AND UNIVERSITIES

HEIs will play an active role not only in conducting research on disruptive technologies butalso in creating instructional materials and courses including online courses in cutting-edge domains and assessing their impact on specific areas such as professional education.

Disruptive technologies will make certain jobs redundant, and hence approaches to skilling and deskilling that are both efficient and ensure quality will be of increasing importance to create and sustain employment. Institutions will have autonomy to approve institutional and non-institutional partners to deliver such training, which will be integrated with skills and higher education frameworks.

HEI and Universities will aim to: -

- Offer Ph.D. and Masters programmes in core areas such as Machine Learning as well as multidisciplinary fields ("AI + X") and professional areas like health care, agriculture, and law.
- Develop and disseminate courses in these areas via platforms, such as SWAYAM and
- Blend these online courses with traditional teaching in undergraduate and vocational programmes.
- Teach languages to school students with efforts to enhance Natural Language Processing for India's diverse languages.

The policy also talks about the issues of ethics, consent and forming public consensus while advocating the use of technology in the following ways: -

- As disruptive technologies emerge, schooling and continuing education will assist in raising the general populace's awareness of their potential disruptive effects and will also address related issues. This awareness is necessary to have informed public consent on matters related to these technologies.
- In schools, the study of current affairs and ethical issues will include a discussion on disruptive technologies such as those identified by NETF/MHRD.
- Critically raise awareness on issues of data privacy, laws, and standards associated with data handling and data protection, etc.
- Highlight ethical issues surrounding the development and deployment of AI-based technologies.

Education will play a key role in these awareness raising efforts and would help to include issues relating to clean and renewable energy, water conservation, sustainable farming, environmental preservation, and other green initiatives.

## ENSURING EQUITABLE USE OF TECHNOLOGY

New circumstances and realities require new initiatives. The recent rise in epidemics and pandemics necessitates that we are ready with alternative modes of quality education whenever and wherever traditional and in-person modes of education are not possible. In this regard, the National Education Policy 2020 recognizes the importance of leveraging the advantages of technology while acknowledging its potential risks and dangers. The existing digital platforms and ongoing ICT-based educational initiatives must be optimized and expanded to meet the current and future challenges in providing quality education for all. However, the benefits of online/digital education cannot be leveraged unless the digital divide is eliminated through concerted efforts. It is important that the use of technology for online and digital education adequately addresses concerns of equity. The path to achieve this is full of challenges like:-

- Teachers require suitable training and development to be effective online educators. It cannot be assumed that a good teacher in a traditional classroom will automatically be a good teacher in an online classroom.
- Along with pedagogy, online assessments also require a different approach. There are numerous challenges to conduct online examinations at scale, including limitations on the types of questions that can be asked in an online environment, handling network and power disruptions, and preventing unethical practices.
- Certain types of courses/subjects, such as performing arts and science practical have limitations in the online/digital education space, which can be overcome to a partial extent with innovative measures.

- Further, unless online education is blended with experiential and activity-based learning, it will tend to become a screen-based education with limited focus on the social, affective and psychomotor dimensions of learning.

Given the emergence of digital technologies and the emerging importance of leveraging technology for teaching-learning at all levels from school to higher education, this Policy recommends the following key initiatives:-

**(a)** **Pilot studies for online education:** Appropriate agencies, such as the NETF, CIET, NIOS, IGNOU, IITs, NITs, etc. will be identified to conduct a series of pilot studies, to evaluate the benefits of integrating education with online education while mitigating the downsides. The results of these pilot studies will be used for continuous improvement.

**(b)** **Digital infrastructure:** There is a need to invest in creation of open, interoperable, evolvable, public digital infrastructure in the education sector that can be used by multiple platforms to solve India's scale, diversity, complexity and device penetration. This will ensure that the technology-based solutions do not become outdated with the rapid advances in technology.

**(c)** **Online teaching platform and tools:** Appropriate existing e-learning platforms such as SWAYAM, DIKSHA, will be extended to provide teachers with a structured, user-friendly, rich set of assistive tools for monitoring progress of learners.

**(d)** **Content creation, digital repository, and dissemination:** A digital repository of content including creation of coursework, Learning Games & Simulations, fun-based learning student-appropriate tools like apps, gamification of Indian art and culture, in multiple languages, will also be created.

**(e)** **Addressing the digital divide:** Given the fact that there still persists a substantial section of the population whose digital access is highly limited, the existing mass media, such as television, radio, and community radio will be extensively used for telecast and broadcasts. Such educational programmes will be made available 24/7 in different languages to cater to the varying needs of the student population. Digital content will reach the teachers and students in their medium of instruction as far as possible.

**(f)** **Virtual Labs:** Existing e-learning platforms such as DIKSHA, SWAYAM and SWAYAMPRABHA will also be leveraged for creating virtual labs so that all students have equal access to quality practical and hands-on experiment-based learning experiences.

**(g)** **Training and incentives for teachers:** Teachers will undergo rigorous training in learner-centric pedagogy and on how to become high-quality online content creators themselves using online teaching platforms and tools. There will be emphasis on the teacher's role in facilitating active student engagement with the content and with each other.

**(h) Online assessment and examinations:** Appropriate bodies, such as the proposed National Assessment Centre or PARAKH, School Boards, NTA, and other identified bodies will design and implement assessment frameworks encompassing design of competencies, portfolio, rubrics, standardized assessments, and assessment analytics.

**(i) Blended models of learning:** While promoting digital learning and education, the importance of face-to-face in-person learning is fully recognized. Accordingly, different effective models of blended learning will be identified for appropriate replication for different subjects.

**(j) Laying down standards:** NETF and other appropriate bodies shall set up standards of content, technology, and pedagogy for online/digital teaching-learning. These standards will help to formulate guidelines for e-learning by States, Boards, schools and school complexes, HEIs, etc.

## PREPARING TEACHERS AND TEACHER EDUCATORS FOR EMERGING TECHNOLOGIES

The most relevant and emerging question that would come to the mind of any teacher educator, teacher or for any progressive educational policy is how do we make learning interesting and contextual for learners; how to create a learning environment, learning space for an individual child. When we think of blending it with technology, we would first ask ourselves would technology facilitate learning of this kind or it would hamper it. Most of us would start to believe that it would hamper contextual, individual learning for every child. NEP 2020 envisages to transform education through blended and experiential learning with a focus on learner- centerd pedagogy by integrating technology in school and higher education.

The pertinent questions that come as critique to our minds are:

- Would technology replace teachers?
- Would the importance of teacher be reduced in the teaching-learning process with the introduction of AI?
- How NEP would orchestrate the various ecosystem players to implement policy objectives?
- How it would look after the needs of both school and higher education?
- How it would create solutions at local level for challenges like scale, diversity, equity but at the same time keeping abreast with the rapid global changes in technology?
- How it would eliminate digital divide and address concerns of equity and affordable computing devices?
- How it would prepare tech- savvy teachers, teacher educators, administrators and students?

Let us now understand what we expect from teacher educators and teacher education programmes and what are the issues that need to be addressed for the success of NEP 2020 in all spheres of education.

- **Contextual and Engaging Learning:** Every policy document in the past and in the present has given profound importance to making learning interesting, contextual and engaging for learners. Focusing on hands- on activities, fostering continuous feedback, formative assessment techniques are some of the ways to break the monotony of the class. NEP 2020 also talks about the same but at the same time it suggests to use online resources to make the classroom environment and experience of learning more enriching. In this world where we all are experiencing knowledge explosion, after few years teachers would feel the need to use technology to cater the needs of learners in 21st century. NEP 2020 envisions to prepare teachers for the future but we need a more focused and implementable path to achieve the same.
- **Preparing Teachers for Embracing the Change:** The role of teachers will definitely be redefined. There is a sense of urgency in the implementation of NEP 2020. It has been felt that some more time is required for preparing teachers and curriculum for teacher education programmes. It is important that teacher educators embrace the change which would be brought in with the blending of technology in education. The needs of the learners will be redefined and teacher educators as well as future teachers have to be sensitive and prepared for the same.
- **Learning Space for Individual Child:** Every child is different and has some innate talent. The role of education in the Nature Vs Nurture is of both. It can bring out the innate qualities as well as nurture the new talents in children. The curriculum, pedagogy, assessment all should work in unison and holistically should create learning space for individual child, identifying individual differences, strengths and weakness.
- **Learner- Centred Pedagogy:** Right from the inception of National Curriculum Framework 2005, learner centred pedagogy has been the prime focus. NEP 2020 resonates the same emotions but with a flavour of technology added to it to meet the goals and challenges of global society. This vision is incomplete without envisioning how to prepare teachers who can create learning spaces where technology can add value to the teaching- learning process rather than being used in a fragmented manner. A lot has to be done in bringing a change in teacher education programmes running nationwide and simultaneously protecting the existing best practices in such programmes.
- **Experiential and Blended Learning:** NEP 2020 envisages transforming education through blended and experiential learning. Here, the role of teachers becomes even more important. Online resources, videos, tutorials etc. are available for free on internet and students have an easy access to them. The role of teacher here is not only to use these resources but blend them with her/ his pedagogy. Showing a video in a classroom is not blended learning. How that video enhances the entire teaching- learning experience for students is actual blended learning; how it connects to the experiences of the student

outside the school and help her/ him solve daily life problems with what is learnt in the school. The role of teacher can never be underestimated. NEP 2020 needs to bring this to the surface more strongly so that the teachers as well as the teacher educators are not resistant to embrace the technology integrate it in the classroom processes. It needs to highlight that it is the teachers who can make learning engaging, impactful and challenging for learners and technology is a way/ tool to achieve that.

- **Adding Value to Classroom Situations/ Interactions:** Technology can not function in isolation; it is the teacher who adds value to the classroom situations and processes. Now question arises how a teacher can add value to the classroom processes? This can be done by not just focussing on content, by not just selecting or using the most appropriate online educational resource but by locating the resource in the context of learners, by connecting it to the classroom environment, by the art of questioning. NEP 2020 has to still come up with more innovative ideas to implement this and it can be achieved only through open dialogues and academic engagements with teachers and teacher educators.
- **Community Collaborations:** These are one of the most important aspects of any educational policy. These collaborations are the ways in which indigenous knowledge, local culture, folk algorithms can be made part of classroom interactions. These are also the ways to include every child and make hi/ her feel to be an important part of classroom and making them heard in the classroom. This also helps to dismantle power hegemony at multiple levels.
- **Accessibility and Reducing the Digital Divide:** Pandemic has taught us that the digital divide is still wide. NEP suggests ways like making use of broadcasting devices like radio and television in remote areas but still it's like a drop in the ocean. Value can be added only by a teacher so we need more ideas in this field and hence we need more participation and dialogue at various ends.
- **Encouraging New Vistas of Research especially blending Technology and Education:** This yet again is very important aspect as we are not looking at creating only teachers for schools but we are looking at creating researchers for classrooms. Technology enabled classrooms demand different orientation of researches. We need to think of areas of research that involve technology like AI and Science Education; AI and Virtual labs; Blended learning in classrooms; AI and Mathematical Modelling etc. Here again we need collaborations with teachers and teacher educators.

Technology in education is a journey and not a destination and capacity will be needed to orchestrate the various ecosystem players to implement policy objectives. A dedicated unit for the purpose of orchestrating the building of digital infrastructure, digital content and capacity building will be created in the Ministry to look after the e-education needs of both school and higher education. Since technology is rapidly evolving, and needs specialists to deliver high quality e-learning, a vibrant ecosystem must be encouraged to create solutions

that not only solve India's challenges of scale, diversity, equity, but also evolve in keeping with the rapid changes in technology, whose half-life reduces with each passing year. This will, therefore, require experts drawn from the field of administration, education, educational technology, digital pedagogy and assessment, e-governance, etc.

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# Short-Term Loan Facilities and Their Negative Impact on Consumer's Mental Health

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## ABSTRACT

*Short-term lending, characterized by its provision of financial services to low-income individuals and small businesses, has gained popularity worldwide for its potential to alleviate poverty and empower marginalized communities. However, the impact of microfinance on consumer mental health remains a topic of ongoing research and debate. This research paper investigates the adverse effects of short-term loan facilities on the mental health of consumers. The proliferation of payday loans, cash advances, and other short-term lending options has raised concerns about their potential to exacerbate financial stress and mental health issues among borrowers. Through an analysis of existing literature and empirical evidence, this paper aims to shed light on the mechanisms by which short-term loans can contribute to negative mental health outcomes. It also discusses potential policy interventions to mitigate these adverse effects.*

**Keywords:** Short-term lending, Microfinance, Consumer's Mental-health, Policy, Small Loans.

## INTRODUCTION

lnitially conceptualized as a means of improving financial inclusion and self employment opportunities, microfinance institutions (MFIs) have expanded their services worldwide. While the economic impact of microfinance has been studied extensively, the influence of microfinance on the mental health of its beneficiaries has gained prominence in recent years. The accessibility and prevalence of short-term loan facilities, often referred to as payday

loans, cash advances, or quick loans, have grown significantly over the past few decades (Zinman, 2010). While these loans offer immediate financial relief, their high interest rates and short repayment periods have raised concerns about their impact on borrowers' financial stability and mental well-being (Lawrence et al., 2021). This paper explores the negative consequences of short-term loans on consumer mental health and reviews the existing literature on this topic.

## SHORT-TERM LOAN FACILITIES: AN OVERVIEW

Short-term loan facilities are typically characterized by their quick approval process, small loan amounts, and high interest rates (Skiba & Tobacman, 2017). Borrowers often turn to these loans to cover unexpected expenses or bridge gaps between pay checks. However, the convenience of these loans can mask their potential harm to consumers' financial and mental health. In recent time, there is an emergence of short-term loan facilities. There are various platforms like Paytm, Airtel, Navi etc who provide short term loans facilities easily.

These platforms direct transfer the money into consumer's personal account within few minutes without any paper work. There are also some E-commerce platforms like Amazon, Flipkart etc who play an important role by providing short-term loan facilities on purchases from these apps and thus increase their sales also. The commercial banks have also eased their credit card facilities.

## IMPACT ON FINANCIAL STRESS

A growing body of research suggests that short-term loan facilities contribute to increased financial stress among borrowers (Manning, 2013). The high cost of borrowing and short repayment periods can create a cycle of debt, forcing borrowers to take out additional loans to meet their financial obligations. This cycle of debt can lead to chronic financial stress, which is a known precursor to mental health issues (Hastings & Howard, 2018).

## PSYCHOLOGICAL DISTRESS AND ANXIETY

Short-term loan facilities can also contribute to psychological distress and anxiety among borrowers (Lawrence et al., 2021). The pressure of repaying these loans, often accompanied by aggressive collection practices, can lead to feelings of helplessness and anxiety (Manning & Downton, 2018). The fear of falling into a debt trap can have a lasting impact on mental well-being.

## RELATIONSHIP BETWEEN DEBT AND MENTAL HEALTH

Numerous studies have established a strong association between debt and mental health problems (Richardson et al., 2013). Debt-related stressors, such as those induced by short-term loans, can lead to depression, anxiety disorders, and other mental health issues. The negative impact on mental health can persist even after the debt is repaid, as the psychological scars may linger (Sweet et al., 2013).

## POLICY IMPLICATIONS

To address the negative impact of short-term loan facilities on consumer mental health, policymakers should consider implementing various measures (Fletcher, 2015). These may include:

- Implementing interest rate caps to prevent excessive fees and interest charges.
- Providing financial literacy education to borrowers to help them make informed decisions.
- Regulating advertising and marketing practices of short-term lenders to reduce predatory behavior.
- Promoting alternative financial products and services that are less harmful to consumers.

## CONCLUSION

Short-term loan facilities have become a prominent financial option for many consumers in need of quick cash. However, the convenience of these loans can mask their potential to exacerbate financial stress and mental health problems. This research paper has highlighted the negative impact of short-term loans on consumer mental health and discussed potential policy interventions to mitigate these adverse effects. It is imperative that both policymakers and financial institutions take proactive steps to protect vulnerable borrowers from the mental health consequences of short-term lending.

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# Cyber Frauds: Understanding the Threat Landscape and Mitigation Strategies

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## ABSTRACT

*Cyber frauds have become a pervasive and ever-evolving threat in our increasingly digital world. This research paper delves into the intricacies of cyber frauds, shedding light on the rapidly changing threat landscape, the profound impact they have on individuals and organizations, and the strategies imperative for mitigating and combatting these fraudulent activities. It explores an array of cyber fraud types, encompassing identity theft, phishing attacks, malware incursions, and financial scams. By comprehending the tactics employed by cybercriminals and implementing robust preventive measures, individuals and organizations can not only shield themselves against cyber frauds but also fortify the defences guarding sensitive information.*

**Keywords:** Cyber Frauds, Mitigation Strategies, Cyber security, Identity Theft, Phishing Attacks.

## INTRODUCTION

The digital age has ushered in remarkable advancements in technology, enabling unprecedented connectivity and convenience across all facets of society. The benefits of this digital transformation are indisputable, but they come hand-in-hand with a shadowy underbelly of criminal activities. Among these, cyber frauds have emerged as a pervasive and formidable threat, disrupting the digital landscape and impacting individuals, businesses, and governments alike. Cyber frauds encompass a spectrum of malicious activities, ranging from identity theft and phishing to financial scams and data breaches. Perpetrated by

sophisticated cybercriminals, these crimes exploit vulnerabilities in technology and human behaviour.

Understanding the complex and ever-evolving threat landscape of cyber frauds is essential in today's interconnected world. The economic and societal consequences of these crimes are staggering, with losses estimated to reach hundreds of billions of dollars annually (McAfee, 2021). The victims of cyber frauds not only suffer financial losses but also endure emotional distress and the erosion of trust in digital systems. Mitigation strategies are critical to curbing these threats and safeguarding individuals and organizations from falling victim to cybercriminals.

The staggering financial losses attributed to cyber frauds, estimated at approximately $1 trillion globally, highlight the urgency of addressing this issue (McAfee, 2021).

Recent scholarship has emphasized the need for interdisciplinary collaboration in tackling cyber frauds (Smith et al., 2022; Johnson & Patel, 2023). This multi-disciplinary approach integrates insights from cyber-security, criminology, and behavioural sciences to unravel the complexity of these digital crimes.

A survey conducted by the Federal Trade Commission (FTC) in 2020 revealed a substantial increase in reported cases of identity theft and phishing attacks, underscoring the growing prevalence of cyber frauds (FTC, 2020).

Government agencies and law enforcement bodies worldwide have recognized the urgency of addressing cyber frauds, leading to the development of policies and regulations aimed at enhancing cyber-security and prosecuting cybercriminals (U.S. Department of Justice, 2022; European Commission, 2021).

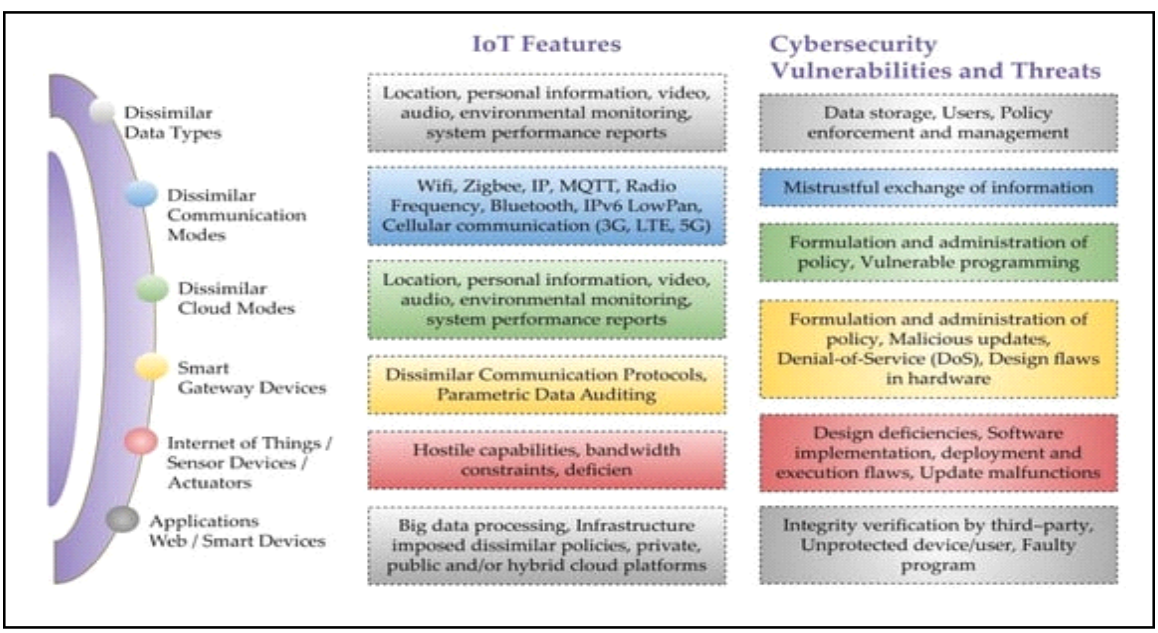

Figure 1. IoT Security Considerations (Inspiration for Figure 1 was inherited from: Building trust in IoT devices with powerful IoT security solutions. (Telit-Cinterion). Thales Group. https://www.thalesgroup.com/en/markets/digital-identity-and-security/iot/iot-security (accessed on 26 December 2022).

## THE EVOLVING THREAT LANDSCAPE

### Types of Cyber Frauds

Cyber frauds encompass a wide range of activities, including phishing, identity theft, ransomware attacks, and financial fraud. Understanding the diversity of cyber threats is crucial for devising tailored prevention and response strategies (Smith, 2020).

### Motivations Behind Cyber Frauds

To effectively combat cyber frauds, it is essential to delve into the motivations that drive cybercriminals. Some seek financial gain, while others engage in cyber espionage or hacktivism. A thorough comprehension of these motives can aid in threat assessment and risk management (Anderson, 2018).

## CYBER FRAUD TECHNIQUES

### Social Engineering Attacks

Social engineering remains a prevalent technique used by cybercriminals to manipulate individuals or employees into divulging sensitive information. This section discusses common social engineering tactics and highlights the importance of awareness and education (Jones, 2019).

### Malware and Exploits

The deployment of malicious software (malware) and software vulnerabilities (exploits) are significant threats. This paper examines the mechanisms behind malware propagation and the importance of patch management (Brown, 2021).

## MITIGATION STRATEGIES

### Employee Training and Awareness

Educating employees about cyber threats and promoting a cybersecurity-aware culture is essential. Regular training programs can empower individuals to identify and thwart potential attacks (Garcia, 2022).

### Advanced Threat Detection

Leveraging advanced threat detection tools and techniques, such as anomaly detection and behaviour analysis, can help organizations detect and respond to cyber frauds in real-time (Johnson, 2020).

**Data Encryption and Access Controls**

Protecting data through encryption and implementing robust access controls can minimize the risk of data breaches and unauthorized access (Lee, 2019).

## CASE STUDIES

This section presents real-world case studies of cyber frauds, including the Equifax data breach and the WannaCry ransomware attack. These cases offer valuable insights into the consequences of cyber threats and the lessons learned.

Certainly, here are two case studies that can be included in the research paper on "Cyber Frauds: Understanding the Threat Landscape and Mitigation Strategies."

## CASE STUDY 1: THE EQUIFAX DATA BREACH (2017)

**Background:**

In 2017, Equifax, one of the three major credit reporting agencies in the United States, experienced a massive data breach that exposed sensitive personal information of approximately 147 million individuals. The breach was one of the largest and most significant cyberattacks in history.

**Incident Overview:**

- Attack Vector: The breach occurred through a known vulnerability in Apache Struts, an open-source web application framework.
- Data Compromised: Attackers gained access to names, Social Security numbers, birthdates, addresses, and, in some cases, credit card numbers.
- Impact: Equifax faced severe public backlash, legal repercussions, and substantial financial losses. The breach highlighted the importance of timely patching and vulnerability management.

**Mitigation Strategies:**

- Equifax faced criticism for its delayed response to the vulnerability and patching. Organizations can learn from this incident by implementing a robust patch management system and ensuring timely updates.
- Regularly scanning and monitoring for vulnerabilities in critical software and systems is essential to identify and address weaknesses before they are exploited.

## CASE STUDY 2: THE WANNACRY RANSOMWARE ATTACK (2017)

**Background:**

In May 2017, a global ransomware attack known as WannaCry (or WanaCrypt0r) rapidly spread across over 150 countries, affecting businesses, hospitals, and government organizations. It encrypted data on infected systems and demanded a ransom in Bitcoin for decryption keys.

**Incident Overview:**

- Attack Vector: The ransomware exploited a Windows vulnerability known as Eternal Blue, which had been leaked from the U.S. National Security Agency (NSA).
- Impact: Hospitals experienced disruptions to critical patient care systems, and numerous businesses suffered data loss and financial damages.
- Mitigation: The attack could have been largely prevented through timely application of a Microsoft security patch.

**Mitigation Strategies:**

- Regularly updating and patching operating systems and software is crucial in preventing ransomware attacks. The WannaCry incident underscored the importance of rapid patch deployment.
- Organizations should also maintain up-to-date backups of critical data to recover from ransomware attacks without paying ransoms.

These case studies highlight the real-world consequences of cyber frauds and the importance of proactive cybersecurity measures. They serve as valuable examples of the need for organizations to be vigilant, stay informed about emerging threats, and implement robust mitigation strategies to protect sensitive information and critical infrastructure.

## CONCLUSION

In an increasingly interconnected world, cyber frauds pose a persistent and evolving threat. By comprehending the cyber threat landscape and adopting proactive mitigation strategies, organizations and individuals can bolster their cybersecurity defences. Cyber frauds represent an ever-present and rapidly evolving threat in the digital age.Understanding the threat landscape and implementing effective mitigation strategies areessential for individuals and organizations to protect themselves against these maliciousactivities. As the digital world continues to evolve, staying informed, vigilant, and proactive iscrucial in the ongoing battle against cyber frauds. By taking these measures, we cancollectively strengthen our defences and safeguard sensitive information from the pryingeyes of cybercriminals.

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# A Study on Impact of D.El.Ed Trainees on Teaching Learning Process of School Students during School Experience Programme

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## ABSTRACT

*School experience program is an important part of teaching learning process in which the D.El.Ed Trainees practices and executes the way of skills that they had already learnt in their micro-teaching sessions. In micro-teaching they learnt varied skills like skill of introduction, skill of probing questions, skill of reinforcement and many more which helps them in their actual teaching practice, in real classroom situations. There are four main functions which must be conducted well while D.El.Ed trainees are involve in teaching learning process of students which are assembly management, beautification of the school premises and communication considering these four parameters, this study is to find out the 'impact of D.El.Ed trainees on teaching learning process of school students' for example:- We had collected through questionnaire and 5 linkert scale has been used to overview the result, random sampling technique has been used to gather information from many students of schools in District WEST A and WEST B, to analyse the data percentag.*

**Keywords:** D.El.Ed trainees, SEP, DoE School, MCD School.

## INTRODUCTION

Higher Education in India consists of Diploma, Graduation position at sector which are run by colleges, institutes and universities and in some countries the centra Government as well as private most Institute has fabricate the objective of imparting important both theoretical and practical knowledge and professional growth of students, a part from his/her practical knowledge, it is also important during SEP (in school experience programme) that emphasis

on four areas i.e. assembly management, beautification of classroom and school premises and last but not least communication the day start with assembly school in which daily news readings, om chanting, thought of the day, poem recitation and awareness on various issues like traffic rules&road safety, sanitation, senstisation about good touch and bad touch and environmental awareness were conducted.

After giving orientation to the trainees about SEP, the First, second & third phase of 05 + 20 + 05 days preparing conducted in the month of September and in October November rotation of teacher trainees' supervision will also be done in third phase to maximize the benefit to students and also provide maximum exposure to each expert of their field. Before going to a SEP trainees were orientationed with the aims and objectives, purposes of lesson plan, teaching-learning material, various teaching pedagogies and activities that are meant to be performed with students. There are many assignments also assigned to the trainees in order to acquaint them with both teaching and non-teaching works in Schools and for this they also get orientation lecture by the faculties such as the Textbook analysis, Achievement Test Report, School Profile and Reflective Diary, Action Research etc. Student also prepare Integrated Lesson Plans in which they integrate the lesson with Art Education, Work Education and Physical education.

Effectiveness of SEP for D.El.Ed trainees is assessed and found that-

1. For effectiveness in learning skills to be adopted by teacher it is necessary to update and practice student and give them real life experiences.
2. It is also supervised and monitored work by an expert, who help students to learn effective teaching learning status.
3. Feedback given by supervisors, allows trainees to improve their methods and techniques of teaching according to the individual need of students.
4. It is also important to upgrade instructions, respective productivity of the teacher trainees' lesson plans were made on constructive approach, in which they learn problem solving, activity based learning, discover themesleves, another way of strategies.

As a future teacher, SEP provide them opportunities to explore their role as facilitator is good for the better future of students .For giving his/her goal, the trainee need to use their knowledge & understanding of pedagogical experience to improve the competencies.

*The school experience program of D.El.Ed is in 2 year is completed in 40 days.*

In their SEP programme of 5 +20+15 days objective is to find suitable pedagogy for practice a particular content & also to transmit content matter on the basis of the needs and levels of students by adopting different skills and strategies techniques to fulfill their requirement and to bring change in there behaviors the teacher training is always with the help of content and is appropriate teaching learning material. During SEP these trainees also do some small researches to solve problems of students. They also try to use environment as a resource and community resources in the teaching-learning process.

## DATA COLLECTION

| | Question | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree | Total |
|---|---|---|---|---|---|---|---|
| Teacher | How effectively D.El.Ed trainees perform in your school during the SEP Programme Assembly. | 43 | 35 | 7 | | | 85 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Classroom Teaching. | 33 | 30 | 2 | | | 65 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Management of the school | 27 | 44 | 8 | | | 79 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Beautification of the school . | 41 | 26 | 11 | | | 78 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Co curricular activities . | 45 | 28 | 6 | | | 79 |
| Student | How effectively D.El.Ed trainees perform in your school during the SEP Programme Assembly. | 44 | 26 | 4 | | | 74 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Classroom Teaching. | 29 | 36 | 9 | 1 | | 75 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Management of the school | 36 | 28 | 5 | | | 69 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Beautification of the school . | 33 | 21 | 9 | 2 | | 65 |
| | How effectively D.El.Ed trainees perform in your school during the SEP | 39 | 23 | 8 | | | 70 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Hos | How effectively D.El.Ed trainees perform in your school during the SEP Programme Assembly. | 45 | 30 | 3 | | | 78 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Classroom Teaching. | 31 | 38 | 7 | | | 76 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Management of the school | 42 | 25 | 3 | | | 70 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Beautification of the school . | 35 | 24 | 9 | | | 68 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Co-curricular activities. | 39 | 24 | 4 | 2 | | 69 |
| Teacher | How effectively D.El.Ed trainees perform in your school during the SEP Programme Assembly. | 37 | 30 | 8 | 1 | | 76 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Classroom Teaching. | 31 | 31 | 12 | | | 74 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Management of the school | 28 | 31 | 10 | | | 69 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Beautification of the school . | 30 | 29 | 10 | | | 69 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Co curricular activities . | 35 | 26 | 9 | | | 70 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Student | How effectively D.El.Ed trainees perform in your school during the SEP Programme Assembly. | 35 | 28 | 6 | | | 69 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Classroom Teaching. | 30 | 34 | 7 | 1 | | 72 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Management of the school | 36 | 19 | 12 | 1 | | 68 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Beautification of the school . | 31 | 24 | 14 | | | 69 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Co curricular activities. | 33 | 28 | 8 | 1 | | 70 |
| HoS | How effectively D.El.Ed trainees perform in your school during the SEP Programme Assembly. | 49 | 26 | 2 | | | 77 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Classroom Teaching. | 39 | 30 | 4 | | | 73 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Management of the school | 37 | 23 | 6 | | | 66 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Beautification of the school . | 42 | 22 | 6 | | | 70 |
| | How effectively D.El.Ed trainees perform in your school during the SEP Programme Co curricular activities. | 41 | 24 | 6 | | | 71 |

## DATA ANALYSIS

In this, 85 teachers gave feedback for those activities, which D.El.Ed trainees performed in schools during the SEP programme. Out of which 43 teachers with the work and 7 gave the plan downs for. In total 65 teachers feedback for those activities D.El.Ed trainees performance school during their SEP program classroom teaching out of 33 teachers were happy with the work and to give the total plan answer. In total 79 Teachers day feedback for house performed in school during program management of school out of which 27 teachers were happy with the work and eat gave the plan down. In total 78 teachers gave feedback for how effectively trainees is perform in school during their SEP program notification of the school out of which 41 teachers were happy with the 1 and 11 gave the blind. In total 79 teachers feedback for house activity D.El.Ed trainees is performance school during the recipe program activities out of which 43 teachers were happy with the work and 6 gave the blend answer.

In total 74 student gave feedback satisfactory for D.El.Ed trainees 10 is performed in school during their SEP program assembly out of which 44 were happy and four gave a blind response. In total of 75 student gave feedback for half acrylic D.El.Ed trainees train is performance school during their recipe program school classroom teaching out of which 29 were happy and 9 gave plan response and one give negative answer. In total of 69 students give me how to play train is performed in school during the recipe program class management out of his 365. Give a brilliant answer. In total of 65 student were gave feedback for half yearly daily tennis perform in school during their SEP program class room notification out of waste 33 were happy and 9 gave bland answer. In total of 70 student give feedback for factory D.El.Ed trainees performed in school during their SEP program out of which 39 were happy and 8 gave bland responses.

In total 78 HoS gave feedback for how effectively D.El.Ed Trainees performed in school during their SEP program assembly, out of which 45 were happy with the work and 3 gave the blended responses.

In total of 76 HoS gave feedback for activities performed by D.El.Ed trainees in school during their SEP program in classroom teaching, out of which 31 were happy with the work and 7 gave the blended answer. In total of 70 HoS gave feedback for how effectively D.El.Ed trainees responses.

In school during their SEP program management of school, out of which 42 were happy and 7 give a blended responses.

In total 68 HoS feedback about how effectively D.El.Ed trainees performed in school during school premises' beautification, out of which 35 were happy with the work and 9 gave blended responses.

In total 69 HoS feedback for how effectively D.El.Ed trainees 10 is performed in school during their SEP program Co-curricular activities, out of 69 were happy with work, 4 gave blended responses and 2 gave negative responses.

## STUDENTS

In total 69 student gave feedback for how effectively trainees performed in schools during the SEP program assembly out of which 35 were happy and 6 gave the bland response. In total of 72 Student feedback for house activity D.El.Ed trainees performed in school during their SEP program classroom training out of 31 were happy and 7 gave a bland answer. In total of 60 student were feedback for house activity D.El.Ed trainees performed in school during their SEP program class management out of which 36 were happy and 12 gave bland answer. In total of 69 student gave feedback for house activity D.El.Ed trainees performed in school during SEP program classroom discussion out of 31 were happy and 14 give the bland response. In total of 70 student gave feedback for house activity D.El.Ed trainees 10 is performance school during their SEP program regular out of 33 were happy and it give a blind response.

## TEACHERS

In total 76 teachers gave feedback for how effectively D.El.Ed trainees performed in school during there SEP program, out of which 37 teachers for happy and it give the blended responses.

In total 74 teachers gave feedback for how D.El.Ed trainees performed school during their SEP program classroom teaching, out of 31 teachers were happy with the work and 12 gave the blended responses.

In total 70 Teachers gave feedback for how effectively D.El.Ed trainees performed in school during their SEP program management of the school, out of 30 teachers were happy and 10 give the blended responses.

In total 70 teachers gave feedback for how effectively D.El.Ed Trainees performed in school during their SEP program notification of school, out of which 9 were happy with the work and 35 blended responses.

In total 69 teachers gave feedback for how effectively D.El.Ed trainees performed in school during their SEP program Co-curricular activities, out of his 35 teachers were happy with the work and 6 gave the blended responses.

## HOS

In total 77 HoS gave their valuable feedback for how effectively trainees performed various activities in schools during their SEP program, out of which 49 were happy with the work and others gave blended answers.

In total of 73 HoS feedback for how effectively D.El.Ed trainees D.El.Ed trainees performed various activities in schools during their SEP program classroom teaching out of which 31 were happy 39 with the work for gave the blended answers.

In total 66 HoS, gave their feedback for how effectively D.El.Ed trainees performed in school during the SEP program management of school and which of 37 we happy blended answers.

In total 70 HoS, gave their feedback about how effectively D.El.Ed trainees performed in school during school beautification, out of which 42 and happy and 6 gave blended answer.

In total 71 HoS, gave their feedback for how effectively performed in school during their SEP program in co- curricular activities out of which 41 were happy and 6 blended responses.

## CONCLUSION

From all the above mentioned details, we hereby concluding that the SEP or School Experience Programme plays a prominent role in both theoretical and practical learning of the would be teachers of our beloved nation. During school experience program for D.El.Ed 2nd year trainees, HoS, Teacher these are the three main stakeholders which are involved in the effective progress in the learning of the pupils performed in school. The Hos of the school provides all the required resources that makes the teaching learning process more student centre, to the trainees. The teachers helps the trainees in acquainting with the classroom situations and also share the important information about the children's behaviour and level of learning. Also, the teacher assist the trainees whenever they need guidance in tackling some unexpected situations by day. The trainee teachers not only takes part in curricular activities but also in co-curricular activities such as sports day celebration, plantation drive, awareness programmes like rallies on prevention from dengue, malaria, covid-19, etc. The trainees also gets the chance to interact with the parents of their students in the school's Parents Teachers Meeting. And that's how we considers SEP as an important part of the D.El.Ed curriculum.

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# The Internet's Influence on Assignment Practices: A Comprehensive Study

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## ABSTRACT

*Traditionally books were the only source of information and reference but today in globalized world not only the distance reduced, the flood of resource of information is just a click away. One no longer need to go to the libraries and look for books instead by typing the concerned topic lots of resources become available. Internet has made the life easy in all spheres but also generated certain challenges too. One of such challenge is influence of internet on assignments to be submitted by trainees in a professional course. This study is a comprehensive study reflecting on this challenge. It investigates the plagiarism practices opted by teacher trainees while doing their assignments. It indicates that almost all the trainees refer internet resources and most of them simply copy paste the content directly with going through or understanding the content.*

**Keywords:** Plagiarism, Assignments, Internet.

## INTRODUCTION

Assignment is an important component of any curriculum. In any professional course its role and need are the central part of the curriculum. The main purpose of involving assignments as a part of curriculum is to provide hands on experience to the learners and to get into the field and know the challenges and issues prevalent in the present scenario in the society in the respective area. It also provides an opportunity to explore and think out of the box to the leading and upcoming problems and issues. It prepares the learners before getting in to the field. Assignments also make the learner analytical and foster critical thinking. In a course various types of assignments are involved like project works, research, analyzing the

case studies, observation of a particular scenario in the field, gathering data through interviewing the group of people and submitting a report on it.

On the one hand we can say that assignments paly a vital role in learning process as it makes learner reflective and provide opportunity to think critically. It also provides pre-preparedness for facing challenges in the field. Keeping these roles in mind assignments are framed in each curriculum. But now a days assignments are losing their role and space in a curriculum. They are more of treated as a burden by the learner and treated disinterestedly. They are taken for granted by most of the time thus they simply copy paste the text from the books or from the sources available on internet.

Earlier the source of knowledge was books. The accessibility of electronic devices were very limited. But the pandemic has made the learners techno savvy. In stark contract to traditional classrooms all the information is a click away. Learners have infinite sources available through internet, like google, Wikipedia, apps and many more (Balas, 2015). On the contrary the trainees have started shirking to explore books and libraries and approach to google for any information or assignments. Although this has made their life easy and learning globalized but on the contrary book reading has reduced and screen time too has increased.

## OBJECTIVES OF THE STUDY

- To assess plagiarism in completing assignments.
- To study students' attitude and aptitude towards assignments.
- To assess role of copying directly from sites for completion of assignment.

## DESIGN OF THE STUDY

The design of the study is qualitative in nature as it is descriptive and narrative. It reflects about the trainees' attitude and behavior towards assignments. The subjects were tracked through 3 different assignments.

## SAMPLE OF THE STUDY

The sample of the study was convenient as well as purposive in nature. The research took the sample of D.El.Ed trainees of second year of a DIET. The purpose of opting convenient sampling is to draw sample from the population close to hand. Thus the sample of the study was 100 trainees of D.El.Ed Second year. Trainees were assigned 3 different tasks. On the bases of these tasks the study was conducted.

## TOOLS OF THE STUDY

The tools of the study were 3 tasks given as assignment to the sample group which are as follows:

- Mathematical analysis of Jantar Mantar
- Observation schedule based on visit to monument in Delhi
- Book review

The task given to the sample was reflecting on the visit to monument from mathematical perspective, reflection on your teaching practice and a book review. Here trainees had to express their views in their own words abut their visit and about the monument in the light of mathematical perspective. The main objective of all three tasks were to make them reflective in terms of the experiences they underwent. The tasks were framed considering the intellectual demand of pedagogy of mathematics where the pupil teachers were expected to generate and express their own ideas and experiences for which they need to get into a good brainstorming.

## ANALYSIS

In this internet era where all stage trainees are techno friendly and depend more on internet to overcome their curiosity. And off Course why not, one should opt for it as it saves time and is with in the approach. But where this flood of information has made life easy for mankind, it has also created challenges in the sphere of teaching- learning. In such a situation its use in teaching learning process can't be restricted. A youth spent most of the time on scrolling information on the internet through easily accessible device smart phones. This study talks about the trainees attitude towards assignments and impact of easily available information on learning and role of assignments in curriculum. The data collocated for study was based on e 3 tasks given as assignment to the sample group. The purpose of these tasks was to let the learner think, analyze, generate and express their own ideas and experiences.

- **Report on Mathematical analysis of Jantar Mantar**

  The 3 tasks were provided after a definite interval of time. The first task was a report on "Mathematical analysis of Jantar Mantar" for which a visit to Jantar Mantar was organized. It was given in the beginning of the session. On the bases of the visit trainees had to describe the mathematical facts or concepts they visualized in the artefact of the building. For this a lot of brainstorming was required. Out of the sample of 100, the genuine responses received were hardly 5%. Most of the reports carried the information taken from various sites available on google and preferably Wikipedia. It wasn't easy to reflect a monument mathematically. One needs to go through lots of readings and reviewing facts available on site (Jantar Mantar). Rathe than exploring information from various sources 75% trainees directly copied the facts as it is. In these 75% most of them copied each other's work Whereas 23% of trainees referred various resources and but jot down the information as it is. Only 7 percents made an effort to critically reflect on their observation in the light of facts they have collected from various sources.

- **Observation schedule based on visit to monument in Delhi**

  An observation schedule was to be filled by the trainees after their visit to a monument in Delhi. It was self-made observation schedule. On going through the responses, a pattern was very evidently visible which was followed by the group trainees (who

visited the same monument). So it was evident from the responses that they discussed the responses or took help from internet to complete the responses.

- **Book review**

  The assignment was book review of book "How children fail?" Three major types of responses were evident throughout when analysed the data collected from 100 participants. Trainees hardly tried to even go through the book rather they completed copy pasted from one of the 3 reviews available on 3 different sites. Hardly any of the trainee tried to reflect on their own. In fact around 10% of trainees copied and pasted in word file and submitted the assignment. This reveals that assignment wasn't taken up seriously by them and the objective of it was somewhat lost.

## FINDINGS

After going through the data the findings of the study are:

1. Most of the trainees were using internet for looking solutions. Although refering the content is a good practice until it is blindly copy pasted.
2. Most of the trainees were copy pasting the content directly from the sites rather than reflecting.
3. Copying threatened the objective and purpose of the assignment as it prevented learner from engaging with critical thinking and writing skills. The opportunity of thinking out of the box is merely taken up as a part of process to secure marks.
4. A very few trainees tried to reflect critically and analytically though time was managed while giving the assignment.
5. The attitude of most of the trainees towards assignment was negative. They treated it as a burden. So they worked on it just for the purpose of assessment rather than dwelling in the context.
6. Another factor this indifferent attitude is excessive use of device and readily available information which indirectly affected their ability of expression and creativity.
7. Trainees were predominantly using smart phones as it was handy to them rather than other devices.
8. The assessment of such assignments was very difficult as they do not reflect on what they are made for. This prevented the educator from accurate assessing.

## CONCLUSION

In this globalized world every information is a click away. Blikstad-Balas(2015) stated the role of technology and its instant accessibility due to pandemic. The readily available information through internet no doubt has made the life easier in all spheres of life but parallelly created lots of challenges. The reliance on text books have shifted to internet and other technologies where readily information is available. This further has promoted the culture of blindly coping or cheating b This further has promoted the culture of blindly

coping or cheating (Lapthrop, 2000). Most of the trainees or students imitate the content without understanding properly by which they miss out the opportunity to explore or expand their knowledge and develop a deep understanding of the subject matter. In professional courses this attitude of the subject hinders the development of critical professional skills.

To overcome such drawbacks, it is important for trainees to understand the significance of academic integrity and the taught should guide them how to maintain this integrity by citing and referencing techniques. They should be motivated to seek help when ever they face difficulties in their assignments rather than blind coping.

The plagiarism or coping hampers the accurate assessment of a student as the copied assessment fails to reflect on the student's understanding of the learner and their ability to apply their ability to apply critical thinking skills.

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# Serverless Computing Efficiency: Investigating Ways to Optimize Serverless Computing Platforms

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## ABSTRACT

*Serverless computing has gained popularity for its simplicity and scalability. However, optimizing serverless computing platforms is crucial to minimize costs and maximize performance. This paper explores various approaches and strategies to enhance the efficiency of serverless computing platforms, focusing on resource allocation, cold starts, and cost optimization. Drawing upon recent research and industry practices, we present recommendations for developers and organizations seeking to harness the full potential of serverless computing.*

**Keywords:** Cloud, Serverless, AWS, Azure, Google.

## INTRODUCTION

Serverless computing platforms, including AWS Lambda, Azure Functions, and Google Cloud Functions, have ushered in a transformative paradigm shift in the realm of cloud application development and deployment (AWS, 2021; Microsoft Azure, 2021; Google Cloud, 2021). These platforms have redefined the traditional approach to building and running applications by abstracting away the complexities of infrastructure management, enabling developers to concentrate exclusively on writing code. This monumental shift in development methodology has yielded numerous advantages, most notably heightened productivity and unparalleled agility for software development teams.

The essence of serverless computing lies in its capacity to free developers from the burdensome tasks of provisioning, scaling, and managing servers, databases, and other

infrastructure components (Baldini et al., 2017). Instead, developers can focus their energies on crafting application logic, thereby accelerating the development lifecycle. This streamlined development process allows teams to iterate quickly, experiment with new ideas, and respond promptly to changing requirements (Goransson et al., 2019). Consequently, serverless platforms facilitate faster time-to-market, an essential competitive advantage in today's rapidly evolving business landscape.

## RESOURCE ALLOCATION OPTIMIZATION

Efficient resource allocation stands as a fundamental concern in the context of serverless computing platforms, as it directly impacts cost, performance, and overall system efficiency. The judicious allocation of resources is paramount in avoiding both over-provisioning and under-provisioning scenarios. Over-provisioning can inflate operational expenses, while under-provisioning can lead to performance bottlenecks and reduced user experience. Recent research in the field, as demonstrated by Smith et al. (2021), introduces innovative machine learning-based models designed to predict resource requirements more accurately. This advancement empowers automatic scaling and optimization of serverless functions by dynamically allocating resources based on real-time workloads and historical data, thus striking a balance between performance and cost-efficiency.

In addition to dynamic resource allocation, optimizing memory configurations for serverless functions is pivotal for achieving efficient execution. Serverless platforms commonly offer a range of memory settings for functions, allowing developers to customize resource allocation for individual functions. Researchers, exemplified by (Johnson et al., 2020), have delved into techniques that ascertain the optimal memory setting for a function. By determining the most suitable memory configuration, developers can streamline both cost management and execution time, tailoring the resource allocation to match the specific requirements of each function. This optimization strategy is particularly relevant in scenarios where functions exhibit varying resource demands, enabling organizations to harness the full potential of serverless computing while controlling expenses.

## MITIGATING COLD STARTS

Cold starts in serverless computing refer to the delay experienced when serverless functions are initiated, which can have a significant impact on application responsiveness. This section delves into various techniques proposed to mitigate the challenges posed by cold starts and provides insights from recent research studies.

Cold starts introduce latency as the platform provisions resources to handle the incoming request (McGrath et al., 2020). This latency can be a critical issue for applications with strict response time requirements, such as real-time data processing or online gaming. One effective approach to address the cold start issue is the utilization of provisioned concurrency, as highlighted by (Brown et al., 2019). Provisioned concurrency is a feature available in serverless platforms like AWS Lambda. It allows users to pre-warm a specified number of function instances, ensuring that there are readily available resources when a function is invoked. By

proactively warming up instances, this technique significantly reduces cold start latency, resulting in faster execution times and improved application responsiveness. Brown et al. (2019) research emphasizes the strategic use of provisioned concurrency as a means to enhance the overall performance of serverless applications.

Another promising approach, as outlined by Lee and Kim (2021), involves optimizing the code and dependencies of serverless functions to minimize the size of deployment packages. A smaller deployment package translates to reduced cold start times since there is less data to transfer and initialize during function invocation. Lee and Kim's study underscores the critical role of efficient packaging practices in mitigating cold starts and suggests the adoption of serverless-specific deployment tools to streamline the process further. By optimizing the code and dependencies and adopting best practices in packaging, organizations can significantly enhance the efficiency and responsiveness of their serverless applications.

These approaches, exemplified by the research conducted by Brown et al. (2019) and Lee and Kim (2021), demonstrate the importance of proactive measures to mitigate the impact of cold starts in serverless computing. By incorporating techniques like provisioned concurrency and efficient packaging practices, developers can ensure that their serverless functions are responsive and performant, even in the face of cold start challenges.

## COST OPTIMIZATION STRATEGIES

Cost management is a paramount concern for organizations that have adopted serverless computing. Managing costs efficiently while ensuring optimal performance is essential in the serverless paradigm. Researchers, such as Chen et al. (2022) have developed sophisticated algorithms in their study to tackle this challenge. Their work revolves around optimizing the allocation of serverless workloads, aiming to minimize costs while concurrently meeting stringent performance objectives. Their findings reveal the considerable potential for cost savings that can be achieved through intelligent workload distribution and resource allocation strategies (Chen et al., 2022).

Furthermore, an effective strategy for striking a balance between cost and performance in serverless environments involves the utilization of auto-scaling policies. These policies are designed to dynamically adjust the allocation of resources based on traffic patterns and function resource usage. In the comprehensive survey by Garcia and Rodriguez (2020), the authors delve into the various aspects of serverless computing, including the deployment of auto-scaling policies. Their research underscores the significance of aligning resource provisioning with actual workload demands to optimize costs while maintaining acceptable levels of performance (Garcia & Rodriguez, 2020).

## CONCLUSION

Serverless computing platforms offer unparalleled ease of use and scalability, but their efficiency must be optimized to realize their full potential. This paper has explored various strategies and approaches to enhance the efficiency of serverless computing platforms, including resource allocation optimization, cold start mitigation, and cost optimization. By implementing these

recommendations, developers and organizations can maximize the benefits of serverless computing while minimizing operational costs. However, developers and organizations must proactively tackle efficiency concerns, including resource allocation, cold starts, and cost optimization, to harness the full potential of serverless architecture. By addressing these challenges, businesses can fully capitalize on the benefits of serverless computing and deliver innovative solutions more rapidly and cost-effectively to meet the demands of today's dynamic digital landscape.

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# Challenges to Teacher Education in Context of NEP-2020

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## ABSTRACT

*The NEP 2020 is a policy document focusing on the growth of education system qualitatively with the prime thought of focusing on equity, sustainability, affordability, access and accountability in education system. It beams light on all most every sector of education along with teacher education. It was a much awaited document as with the advancement of thoughts and technology society has changed a lot and so its demand too. Now the teachers are expected to be more apt and quick along with experiential thought process.*

*The present paper focuses on some of the major recommendations given by NEP-2020 alongwith the opportunities and challenges faced by teacher education system at global level. It also discusses suggestions in order to meet the challenges so as to formulate education in its most practical and handy form. Change in Teacher education system is much needed as the contemporary teaching learning strategy is somewhere partially able meet out the needs of the society resulting into unemployment. In this paper major issues in teacher education is described with a vision to make Indian teachers globally competitive.*

**Keywords:** NEP-2020, Teacher Education, Opportunities and Challenges.

## INTRODUCTION

From Takshashila to Nalanda, glory of Indian education system needs no introduction on any platform. After independence various education commission came up with recommendations and it was followed but not fully achieved. In order to achieve the unachieved goals of the past Commissions and the need of changed society compelled the educationists to bring a new policy document and hence came NEP -2020 after 34 years of

the last policy document NPE-1986. Regarding teacher education the policy says that all the teacher education programs will be changed in integrated teacher education program. It means that most of the courses in higher education will be having a teacher education program included so that every individual must know how to transfer the content they have leant successfully to another group of students in the most expressive way and the best possible manner. Moreover the quality of education depends upon the teacher teaching in the classrooms. If the teacher is competent enough to develop critical thinking in students, surely the nation is to see manifold success and glory on global platform.

## MAJOR RECOMMENDATIONS OF NEP 2020 FOR TEACHER EDUCATION

1. Teacher education needs to improve qualitatively in each and every aspect.
2. Most of the courses at higher level will have teacher education programs.
3. Even Ph.D scholars belonging to any discipline will be supposed to do a teacher education course.
4. After school level Integrated Teacher Education Program (ITEP) is to be initiated for teacher education and it is proposed to be started from 2022 and it is compulsorily to be adopted by every teacher education department by 2030.
5. The higher education institutions offering 4 year integrated teacher education course may also run 2 year B.Ed. for those who are graduates and 1 year integrated course for those who have done masters.
6. Special attention will be paid on in- service courses and it will mandatory for school and college teachers to attend such courses.
7. To maintain high quality in teacher education it's urgently required to focus on its multidisciplinary aspect and NEP 2020 talks of the same fact.
8. To maintain quality in teacher education courses entrance exam is announced compulsory in NEP -2020.
9. Commercialization of the field of education is urgently required to be stopped if we really want to improve quality of education.

After concluding the major recommendations it can be analyzed that it is going to be a real boon for teacher education as the major focus is on quality improvement. Multidisciplinary aspect will also bring new dimensions of critical analysis and presentation in candid form.

## CHALLENGES IN TEACHER EDUCATION ACCORDING TO NEP-2020

**Teaching learning style**: NEP 2020 talks of holistic method of teaching learning that means every student must be delt according to his/her on mental standard psychological setup and the environment in which the child lives. It sounds very nice but in a highly populated country like India where every classroom is packed with more than 40 students, it will be very difficult for a teacher to teach every student will Holistic aspect and hence, it may lead to several other challenges in teaching learning process.

**Trained teacher educators:** NEP 2020 stresses a lot on hiring of educators who are really qualified and skilled to teach in a particular discipline. In India there is shortage of qualified teachers in most of the disciplines as till now there is no multidisciplinary aspect of teacher education. It would be really tough to get qualified teachers in such short period of time.

**Courses duration** Up till now teacher education courses was mostly of 2 years which included both practical and theoretical aspects. Any problem has some of its basic criteria. In B.Ed. program internship is one of the most important aspect. How the whole teacher education syllabus maybe completed in one year or it can be stretched to four years if the internship days are well defined by NCFTE.These are some major doubts which are not cleared in NEP-2020.

**less emphasize on innovations** : NEP 2020 tasks to improve quality of teacher education but has not come up with measure innovative ideas to improve teacher education innovations cannot be anywhere seen and its totally a vague picture of teacher education program.

**Quality maintain issues: NEP** 2020 focuses on quality enhancement of teachers but how the teachers can connect themselves more to content , to methodology ,to practical classroom is not discussed at all. There are no request site standard or parameters on the basis of which quality of teacher can be measured or defined.

## LACK OF ULTIMATE GOALS

NEP 2020 has taken into consideration very vast goals for teacher education but the ultimate goal of a teacher is always to flourish healthy society is no wear formally included in the document. For example there is a lot of talk on value education happiness index but how and when a teacher is provided time and training to achieve these things and to impart these concepts is not discussed anywhere.

**Facility issues**: Teacher education program need a lot of financial assistance along with good physical setup but practically It is seen that most of the teacher education colleges are in grim conditions due to lack of maintenance and fund.

## SUGGESTIONS TO IMPROVE TEACHER EDUCATION

Government is founding a lot on the quality and multi-disciplinary aspects of teachers. Hence, every individuals inducting the courses must have a mental clarity to have good command over content before entering in class 2 teach.

Teachers must teach students basic life mechanism so that they must learn to cope with the challenges of life. The real success of a teacher lies in providing equality life to student rather than providing mere content.

Teacher education programs must be well equipped with new technologies as a classroom only make a doctor, a scientist and an engineer and a businessman and every man who later contribute in the society.

New and innovative techniques are much for teacher education program teaching learning should be such that it must improve self-learning in students.

Invention of new strategies are much needed in teaching learning process. Monotonous and conventional ways of teaching cannot bear fruits of quality and content in broader aspect.

**Multiple roles and responsibilities of teachers**: Everywhere ,it is a matter of discussion to have a check on the quality of teachers but hardly anyone analysis the multiple task and rolls given to teachers which consume a lot of time and creative energy leading to boring and unenergetic classes, which makes the teaching learning process sick.

Privatization is nothing but curse to education system as the negligible pay to teachers make them stand nowhere in the society and the teachers keeps on struggling.

## CONCLUSION

Teacher education program is the base of nation as it frames the future. NEP 2020 tasks about the teacher education program in a very positive not with some of the fantastic changes which will certainly turn milestones, if rightly implemented much has been done and a lot is required to be done. Government needs to minutely look into the suggestions given by NEP and follow them with a clear reason along with strict NCTE, guidelines, rules and regulation, them only very clear picture of good teachers education programme will be on the frame to glorify our nation in future.

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# Role of Information and Communications Technology (ICT) in Education

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## ABSTRACT

*In the present era, Information and Communications Technology (ICT) has become prominent not only in education but also in other fields. The main goal of this research document is to gain an understanding of the importance of ICT for education. ICT is used in all levels of educational systems to enrich the educational system. When people are using ICT, their job duties can be done in a more efficient way. ICT has made teaching more efficient and meaningful by allowing students to learn at their own pace through different tools like assignments, computers, etc. ICT also helps keep teachers and students up-to-date by keeping them informed and improving their skills. Edusat technology has become a powerful way for experts and learners to interact, and it's reaching out to people who may not be able to access it. New learning technologies like bogging, integrated learning modules, a pod cast, browser enhancements are all making huge strides in teaching.*

**Keywords:** Information and Communications Technology, Blog, Podcast, Web browser, Integrated Learning Modules.

## INTRODUCTION

ICT facilitates the exchange of information between producers and users, by keeping students informed and improving the teacher's capabilities and ability to foster a live connection between the teacher and student through email, chat, etc. This encourages active learning, exchange of ideas, discussion, and immediate feedback. It also facilitates paced learning and facilitates the mapping of learning paths. This necessitates the provision of high-quality, meaningful digital content to both teachers and students. Teachers must possess up-to-date knowledge and skills to utilize the new digital resources and tools to assist students in

achieving high academic standards. It is essential to have a vision to equip students with the necessary skills to keep up with the ever-evolving trends. ICT is capable of storing, retrieving, and processing electronic content quickly and accurately. ICT is one of the modern applications of technology for teaching-learning processes.

The utilization of Information and Communication Technologies (ICT) can revolutionize the entire teaching-learning process, resulting in a shift in both the content and teaching methods. ICTs have the potential to break down barriers and boundaries, and their integration into education has had a significant effect on the quality of the educational system. It is widely accepted that ICT integration can help to make education more accessible and cost-effective, and the increasing role of ICTs in education has made it more democratic, thus increasing the accessibility of quality education services to those living in remote areas.

The new world of ICT, with its interactive learner approach, has totally changed the way we deliver and spread education. Technology can help us share knowledge to do things better and keep up with the fast pace of change, but what was cool a few years ago is now outdated. We need to make sure we don't let the ICT opportunities slip away. We need to give our youth access to the latest tech to unlock the skills and potential of our youth. There's a lot of potential for technology to help us improve education at all levels, with a focus on design, content, delivery, assessment, and feedback.

ICT, including radio and television, and other high technology digital devices, such as computers and the Internet, have been widely accepted as powerful tools for educational transformation and reform. Interactive learning environments are referred to as Intelligent Testing System (ITS) due to their interactive capabilities. ITS can be tailored to the individual needs of the learner, taking into account their varied background and abilities, and can include the use of Word, Excel, PowerPoint, animations, and graphics to facilitate learning. ITS is not a substitute for technology, but rather a complement to it, as it can be used to teach, solve problems, and make decisions.

**Use of Emerging Learning Technologies (ELT):** It is likely that we have encountered the following terms without comprehending them. Here are some of the most commonly used ELTs

**Blog:** A blog, which is a combination of the terms web log and website, is a website or component of a website that is regularly maintained by an individual. Blogs typically consist of regular entries of comments, descriptions of occurrences, or other multimedia content such as graphics or videos. The majority of blogs are interactive in nature, enabling readers to leave comments, which is an essential element for many blogs. Generally, blogs are primarily textual in nature, although some blogs focus on art photography, video content, music, and audio.

**Podcast:** Podcasting is a form of media distribution that involves the release of a series of audio or video files over the Internet. This is distinct from other forms of media distribution such as direct download or streaming web casting. The list of all audio or video files related to a given series is stored centrally on a web feed hosted by the distributor and can be

accessed by the listener or viewer through a special client application software called a pod catcher. This software can be used to check the web feed for updates and to download any new files associated with the series.

**Enhancement for browsers:** These are all plug-ins that are being added to web browsers for their use cases. For example, Del.icio is a program that allows you to like online content and then access that content in another machine instead of on your own computer.

**Integrated Learning Modules:** The development of content management systems and learning management systems, such as Integrated Learning Modules (ILMs), has been facilitated by the availability of open-source software. These classes are thematically focused and are primarily delivered online. The content is integrated and comprehensive, providing a distinct perspective on course topics without the need for separate courses that may be repetitive. Content and Language Integrated Learning (CLI) is an approach to learning content through the use of an additional language, such as a foreign or second language, in order to teach both the subject and the language.

## CONCLUSION

In India, the use of Information and Communication Technology (ICT) has progressed significantly from the single channel transmission of 1962 to approximately one hundred channels. The use of the Satellite Instructional Television Experiment in 1974-75 to broadcast to the entire country has led to the implementation of the Countrywide Classroom (CWCR). Additionally, educational channels such as 'Gyan Darshan', 'Vyas Higher Education Channel', 'Eklavaya Technological Channel' and 'World Wide Internet Communication' are providing interactive multilayered, on-line learning experiences. IGNOU is developing a nationwide radio network known as 'Gyan-Vani' to ensure that all those who wish to learn does so. Edusat's technology has an in-built mechanism to address many of the issues that arise during teleconferencing, eliminating the need for offline access to telelectures. Through this interactive participation, India is able to reach out to the remote corners of the country and to remote areas.

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# NIPUN Bharat: A National Initiative for Foundational Literacy and Numeracy in India

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## ABSTRACT

*The National Initiative for Proficiency in Reading with Understanding and Numeracy (NIPUN Bharat) is a Government of India initiative that aims to ensure that all children in India attain foundational literacy and numeracy skills by grade 3. The mission was launched in 2021 and is being implemented by the Ministry of Education.*

*NIPUN Bharat focuses on providing quality foundational school education to all children, regardless of their background or socioeconomic status. The mission also emphasises the importance of retaining children in schools and providing them with quality resource materials and teacher training.*

*This research paper will provide a comprehensive overview of the NIPUN Bharat mission, including its objectives, strategies, and challenges. It will also discuss the potential benefits of the mission for children and the Indian education system as a whole.*

**Keywords:** *NIPUN Bharat, Literacy, Foundational Literacy and Numeracy.*

## INTRODUCTION

Foundational literacy and numeracy skills are essential for all children's future success. However, many children in India do not acquire these skills at an early age. According to the World Bank's Learning Poverty Index, around 55 percent of students in India are unable to read and understand age-appropriate material by class 5.

The NIPUN Bharat mission was launched in response to this challenge. The mission aims to ensure that all children in India attain foundational literacy and numeracy skills by grade 3. This will enable them to succeed in their subsequent education and training, and to reach their full potential. The mission is being implemented through a variety of strategies,

including curriculum and pedagogy reform, teacher training, the provision of learning materials, and assessment.

**Curriculum and pedagogy reform:** The NIPUN Bharat Mission is supporting the development of a new, more aligned FLN curriculum. The curriculum will be based on the latest research in FLN instruction, and will focus on developing children's skills in reading, writing, and mathematics. The new curriculum will also emphasise the importance of play-based learning and experiential learning.

**Teacher training:** The NIPUN Bharat Mission is providing training to teachers on how to effectively teach FLN skills. The training will cover topics such as evidence-based FLN instruction, assessment, and differentiated instruction. The mission is also providing training to teachers on how to create a supportive and inclusive learning environment for all children.

**Learning materials**:- The NIPUN Bharat Mission is providing schools with high-quality FLN learning materials. These materials will be in the local language, and will be aligned with the new FLN curriculum. The materials will include a variety of resources, such as textbooks, workbooks, and educational games.

**Assessment**:-The NIPUN Bharat Mission is developing standardised assessments to measure children's FLN skills. These assessments will be used to track children's progress and to identify students who need additional support. The assessments will also be used to evaluate the effectiveness of the mission's interventions.

## COMPREHENSIVE REVIEW OF METHODS

The NIPUN Bharat mission is being implemented through a variety of strategies, including;

- **Teacher training**- Teachers are being trained on effective pedagogical practices for teaching foundational literacy and numeracy.
- **Curriculum development**- New curriculum materials are being developed that are aligned with the goals of the mission.

## POTENTIAL BENEFITS AND CHALLENGES OF THE NIPUN BHARAT MISSION

The NIPUN Bharat Mission has the potential to make a significant impact on the quality of education in India. By ensuring that all children have access to quality FLN instruction and support, the mission can help to reduce learning poverty and improve educational outcomes for all children.

However, there are also some challenges that the mission needs to overcome. One challenge is the lack of qualified teachers. India has a large shortage of teachers, and many teachers are not adequately trained to teach FLN skills. Another challenge is the lack of high-quality FLN learning materials. Many schools in India do not have access to the resources they need to effectively teach FLN skills.

## OVERCOMING THE CHALLENGES

The Government of India is taking a number of steps to address the challenges facing the NIPUN Bharat Mission. For example, the government is providing scholarships to teacher

trainees who specialise in FLN instruction. The government is also investing in the development of high-quality FLN learning materials.

In addition to the government's efforts, there are a number of things that teachers, parents, and community members can do to support the NIPUN Bharat Mission. Teachers can work to improve their FLN instruction skills by attending professional development workshops and reading research on FLN instruction. Parents can help their children develop FLN skills by reading to them regularly and providing them with access to educational games and activities. Community members can support the mission by donating books and other learning materials to schools.The NIPUN Bharat mission has the potential to revolutionise Education in India. By ensuring that all children have access to quality foundational education, the mission can help to create a more equitable and prosperous society.

## CONCLUSION

The NIPUN Bharat mission is a bold and ambitious initiative. It has the potential to transform the lives of millions of children in India. However, its success will depend on the effective implementation of the mission's strategies and the sustained commitment of all stakeholders. The mission is being implemented through a variety of strategies, including curriculum and pedagogy reform, teacher training, the provision of learning materials, and assessment. The mission has the potential to make a significant impact on the quality of education in India. However, it will be important to continue to monitor the mission's implementation and to conduct research on its effectiveness. It will also be important to identify and address any challenges that arise during the course of implementation.

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