

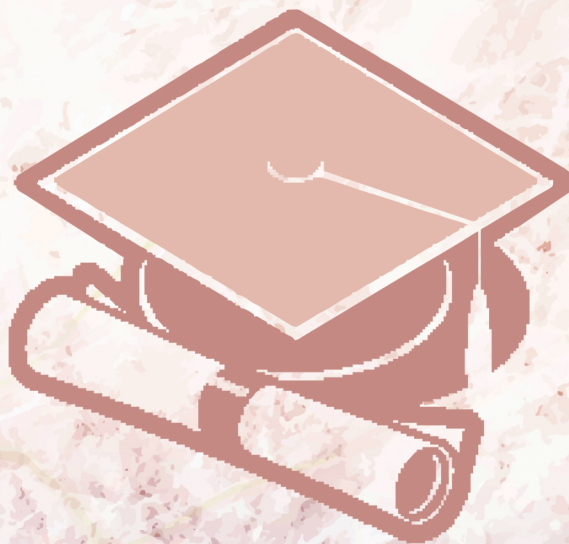
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ON ADDRESSING THREE EMERGING CHALLENGES IN TEACHER EDUCATION

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Abstract

Teacher education is a constantly evolving field, and there are several emerging challenges that need to be addressed to ensure that teachers are prepared for the changing needs of students and society. This paper explores the key emerging challenges in teacher education to find some ways in which they can be effectively addressed.

One of the key emerging challenges in teacher education is digitalization. Teachers need to be trained in the use of digital tools and technologies, and they need to be able to effectively integrate them into their teaching practices. This paper aims to find whether drawbacks of the existing technology itself is hindering its adoption as a tool for the teaching-learning process, by analyzing the views of teacher trainees on issues like privacy, effectiveness of digital tools in education, and how it affected their adoption of such tools for their learning.

The need for inclusive and diverse education is becoming increasingly important. Teachers need to be trained in how to effectively teach students from diverse backgrounds and with diverse learning needs. But much of multiculturalism develops from the ground up and thus this paper tries to understand how exposed the survey participants are to cultural elements different to their own and whether they agree that more innovative additions in teacher training curriculum are needed to promote diversity in education.

Finally, teacher retention is an emerging challenge in teacher education. Many teachers are leaving the profession due to low pay, high workload, and lack of support. To understand this challenge in a more localised context, we study in-depth the opinions of teacher-trainees on these issues.

These emerging challenges in teacher education require innovative solutions. By addressing these challenges, we can create a more effective and inclusive education system that prepares teachers for the challenges of the 21st century.

Keywords: teacher education, emerging challenges, digitalization, inclusion and diversity, teacher retention, scientific analysis, innovative solutions.

INTRODUCTION

Education is a fundamental human right and a key driver of social and economic development. However, the education sector faces many challenges in the 21st century, such as rapid technological changes, increasing need to promote diversity, and high attrition rates among teachers.

The challenges of digitalisation, inclusivity, and teacher retention are not new, but they have become more prominent and complex in the context of the 21st century. Trends such as globalization, urbanization, migration, environmental issues, and social unrest

have profound implications for education, as they create new demands and expectations for learners and educators.

Globalization requires learners to develop intercultural competencies and global citizenship skills. Urbanization requires learners to cope with the challenges and opportunities of living in diverse and dynamic cities. Migration requires learners to adapt to different cultures and languages. Environmental issues require learners to adopt sustainable lifestyles and practices. Social unrest requires learners to engage in civic participation and conflict resolution.

For educators these trends also pose new challenges, as they have to update their knowledge and skills constantly. Educators have to integrate new technologies into their teaching and learning processes. Educators have to cater for the diverse needs and interests of their learners. Educators have to collaborate with other stakeholders in the education community and they have to cope with the stress and pressure of their profession.

DIGITALISATION

Digitalisation refers to the use of digital technologies to transform various aspects of education, such as curriculum, pedagogy, assessment, and administration (Szyszka, M., Tomczyk, Ł., Kochanowicz, A. M., 2022). According to the World Bank (2021), more than half of the world's population has access to the internet, and more than two-thirds of the world's population has a mobile phone (World Bank, 2021). Digital technologies have transformed various aspects of education, for example it has enabled the adoption of new pedagogies that are learner-centered, collaborative, and creative. Digital technologies can support the use of flipped classrooms (where learners access content online before class), blended learning (where learners combine online and offline activities), and gamified learning (where learners engage in game-like scenarios).

For assessment, the use of e-portfolios (where learners showcase their work online), e-feedback (where learners receive timely and constructive feedback online), and e-assessment (where learners take online tests that adjust to their level) are a refreshing addition.

Digital technologies can also support the use of learning management systems (where educators manage their courses online), data analytics (where educators monitor their learners' progress online), and quality assurance (where educators evaluate their performance online), making education more efficient, transparent and accountable.

Digitalisation has the potential to enhance learning outcomes, increase access and equity, and foster innovation and creativity. However, digitalisation also poses significant challenges. Digital divide, which refers to the gap between those who have access to digital technologies and those who do not, influenced by various factors, such as income level, geographic location, gender, age, disability, language, or culture, can create inequalities in educational opportunities and outcomes, as well as social and economic exclusion. (Anietie Godswill Ukpabio, 2019)

Cyberbullying in its various forms, such as sending hateful messages, spreading rumors, posting embarrassing photos, or hacking accounts, can have negative effects on the mental and physical health of the victims, such as depression, anxiety, low self-esteem, or suicidal thoughts (Pew Research, 2022)

Protection of personal data and information online can be compromised by various threats, such as malware, phishing, identity theft, or cyber attacks. Privacy and security can have serious consequences for the safety and well-being of the users, such as financial loss, legal liability, or reputational damage. This paper tries to analyze student's perspective on privacy issues and whether they have stopped using a digital learning tool or service because of privacy and security issues.

Teacher education programs include modules on digital literacy and the use of digital tools and technologies in teaching. These modules cover topics such as digital literacy skills, learning theories for the digital age, and the use of web-based modules and blended learning courses. But this paper aims to find out whether it really is an issue of skill that acts as a challenge towards digitalisation in education. Teachers and in-training teachers may consider themselves adept at using digital teaching-learning tools in a classroom environment, but may not consider it effective and conducive to a learning environment.

INCLUSIVITY

Inclusivity is another emerging challenge in education in the 21st century. According to the United Nations (2022), there are more than 7.8 billion people in the world, and they are diverse in terms of race, ethnicity, religion, language, culture, gender, sexuality, ability, or socio-economic status. Inclusivity refers to the principle of ensuring that all learners have equal opportunities to participate and succeed in education, regardless of their backgrounds, abilities, or needs. Inclusivity aims to promote diversity, respect, and social justice in education. Recognition and appreciation of the differences and similarities among learners can enrich the learning environment by providing multiple perspectives, experiences, and resources.

Pursuit of fairness and equity in society can improve the educational outcomes and opportunities of disadvantaged and marginalized groups, such as women, ethnic minorities, refugees, or persons with disabilities. Social justice can also contribute to the social and economic development of individuals and communities (Patterson, B. Q., 2022)

However, inclusivity also faces many barriers in education. Some of these barriers are:

Discrimination: Discrimination refers to the unfair or unequal treatment of others based on their characteristics or identities. Discrimination can take various forms, such as racism, sexism, homophobia, xenophobia, or ableism. Discrimination can limit the access and quality of education for some groups, as well as their participation and achievement in education (Patterson, B. Q., 2022).

Stereotypes: Stereotypes refer to the oversimplified or generalized images or ideas about others based on their characteristics or identities. Stereotypes can be influenced by various sources, such as media, culture, or history. Stereotypes can affect the performance and motivation of learners, as well as their choices and aspirations in education.

Teacher retention

Teacher retention refers to the ability of the education system to attract and retain qualified and motivated teachers. Teacher retention is crucial for ensuring the quality and continuity of education. According to UNESCO (2015), there are more than 63 million teachers in the world, and they are essential for ensuring the quality and continuity of education. Quality of education as a whole improves when teachers are provided with continuous professional development and feedback. Continuity refers to the stability and consistency of teaching and learning processes. By reducing teacher turnover and absenteeism, which can disrupt the learning environment and affect the learners' progress and achievement, a stable environment of learning can be ensured for the students.

Poor working conditions can affect teacher retention by increasing teacher stress and burnout, as well as their health and safety risks. Poor working conditions can also impact teacher retention by decreasing teacher performance and productivity, as well as their morale and enthusiasm (UNESCO, 2015). The excessive or unreasonable amount or complexity of tasks that teachers have to perform in their work can affect teacher retention by increasing teacher pressure and fatigue, as well as their work-life balance issues. High workload can also affect teacher retention by decreasing teacher quality and effectiveness, as well as their creativity, enjoyment, morale and enthusiasm

Low salaries is among the most cited factors affecting teacher retention in the 21st century. Low salaries can affect teacher retention by lowering teacher motivation and satisfaction, as well as their living standards and well-being, it can also influence teacher retention by increasing teacher attrition and migration, as teachers seek better opportunities elsewhere (UNESCO, 2015). This paper tries to seek out to what extent higher salaries can be an incentive for teacher migration when considered in isolation, i.e other factors like poor working conditions and high workload are not a concern.

OBJECTIVES OF THE STUDY

- To study the attitude of trainee teachers towards the challenges of digitalisation, inclusivity, and teacher retention in education using different categorical variables.
- To find some prominent yet overlooked factors that affect the trainee teachers' attitude towards adoption of new technologies.
- To analyze personal experiences of the trainees regarding these issues with relation to their views on adoption of novel training curriculum.

HYPOTHESIS

H₀1: The drawbacks of technology available at present, such as data leaks and terrible user interfaces, are hindering its adoption among would-be teachers as educational tools.

H₀2: Participants are already well experienced and trained in using digital tools for teaching-learning, and consider it effective in classroom environments.

H₀3: Phones are the most commonly used device used for learning and for information consumption, education needs to adapt to smaller screens as reading difficulty on screens is a prominent hindrance when using a digital learning tool.

H₀4: While most students may not have had enough exposure to different cultural elements, they would agree that more innovative curriculum elements are required to promote diversity and multiculturalism.

H₀5: Trainees are very likely to be dissatisfied at the possibility of high workload as a teacher, however higher salaries as a sole factor won't be enough for them to think about leaving their teaching position.

METHOD OF RESEARCH

Sample

All trainee teachers were the population of the study. The sample of the study consists of B.Ed students who participated in the survey.

Tools

Participants were asked to fill a survey form. Answers were of multiple choice, checklists, rating scales, and short-essay types.

The rating scales were four point and three point based and the categories of responses ranged from Disappointed to Interested/Excited and Not Confident to Very Confident. For checklist questions where the participant may want to add something more, the option to write a short-essay was provided.

Limitations

- Participants may give answers they feel are better suited for the study rather than their honest opinions.
- Due to the localized nature of the population for this study, the sample may not be diverse enough to express all views and perspectives.

DATA COLLECTION

For conducting the study, data had been collected in one phase. 25 participants answered the survey, all of whom were students of B. Ed course from various colleges of Baba Saheb

Ambedkar Education University. They were asked to answer according to their own beliefs and thoughts without any consultation with their classmates.

ANALYSIS AND INTERPRETATION

Testing of hypothesis (Findings)

H₀1: The drawbacks of technology available at present, such as data leaks and terrible user interfaces, are hindering its adoption among would-be teachers as educational tools.

All of the participants agreed that they were aware about privacy issues surrounding the uses of the most prominent digital tools used for teaching learning, however only 12% of the participants considered it a severe enough factor to be negatively affecting their use of the particular service or tool. With 88% being on the opposite end, possible reasons could be the fact that students don't always have the choice to pick their own tools.

40% of the participants stated that they have had problems with poorly designed interfaces, with the third most prominent reason being difficulty when reading on screen.

Apart from the checklist given, participants had the option to suggest problems they have faced themselves, one participant suggested that digital tools and the ecosystem around them often lead to misunderstandings considering what a user wants to do and what is presented, another user pointed out the lack of a push to talk feature in Google Meet, making it difficult to focus on conversations when someone's background noise causes distraction in the meeting. Only 12% of the participants have faced cyberbullying while using a digital learning tool. While it is a rather low percentage, it is still significant as a drawback to adoption of digital tools in education.

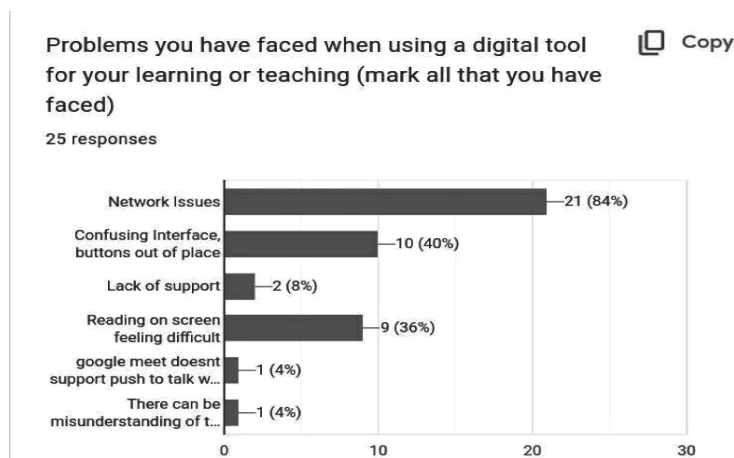


Figure-1

Participants were asked to mark a checklist of most common purposes for which they might have used a digital learning tool. Along with options like "Live Online Meetings", many examples were provided of specific services they might be familiar with, such as Google Meet, Zoom etc.

With live online meetings being the second most prominent reason for students to be using a digital tool (Figure 2.), which service is to be used is decided by the teachers and administration. As more decentralized and open source tools and services become available, this issue won't be much of a hindrance.



Figure 2.

H₀2: Participants are already well experienced and trained in using digital tools for teaching-learning, and consider it effective in classroom environments.

Papers when discussing the challenges of digitalisation in education often emphasis the need for better training for digital literacy skills among teachers (Nachimuthu, 2010). This study tested whether changes in the education system in the last few years have already prepared teacher trainees to be able to utilise digital learning tools in their classroom, and then find their views on effectiveness of the said tools in a classroom environment. For reliability, the survey asked questions such as how many years of experience they have had using some kind of digital teaching-learning tool, and whether or not they have had some kind of training to use such tools.

Only 36% of the participants stated that they have been using digital learning tools for 3 years or less, 44% answered 4-6 years of experience and 20% of the participants are using such tools for 6 years or more with 52% stating to have received some level of training to use such tools.

Just as the sample showed a prominent level of experience with digital learning tools, a significant portion of the participants stated that they feel confident in their ability to use digital tools effectively in the classroom.

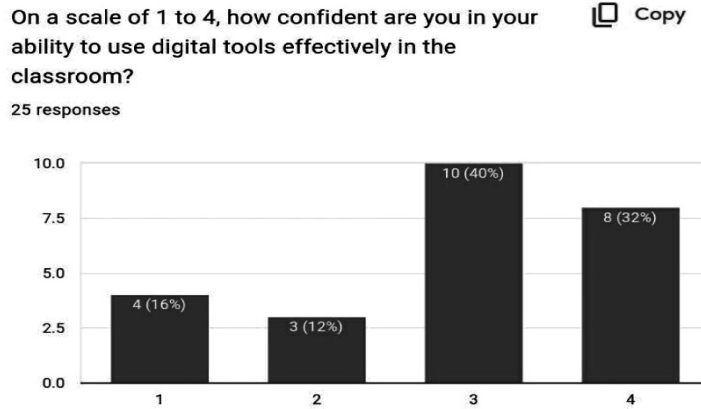


Figure 3.

With the validity of the survey participant's understanding and experience on use of digital tools quantitatively measured, next was to find how they felt about the effectiveness of digital tools and resources in enhancing the teaching-learning process.

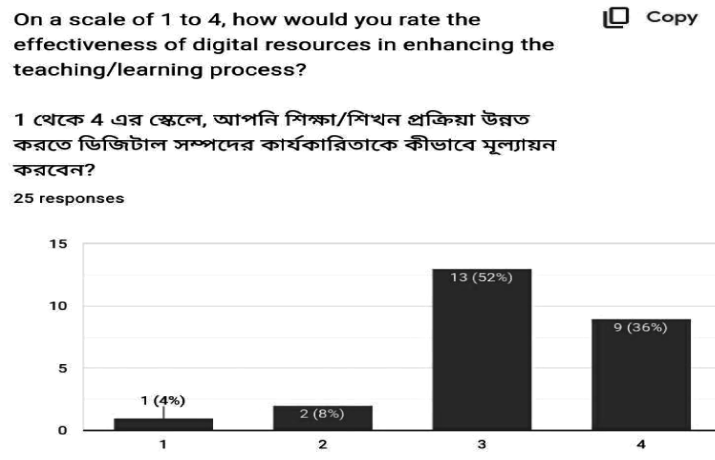


Figure 4.

A proportional majority of the participants agree that despite some of its drawbacks, digital teaching learning tools are effective in the classroom environment. With massive additions to modern day education that technology brings, from more visual examples to providing a means of self-discovery to students, and the popular support of such advancements in the field of education, this finding was rather predictable.

H₀3: Phones are the most commonly used device used for learning and for information consumption, education needs to adapt to smaller screens as reading difficulty on screens is a prominent hindrance when using a digital learning tool.

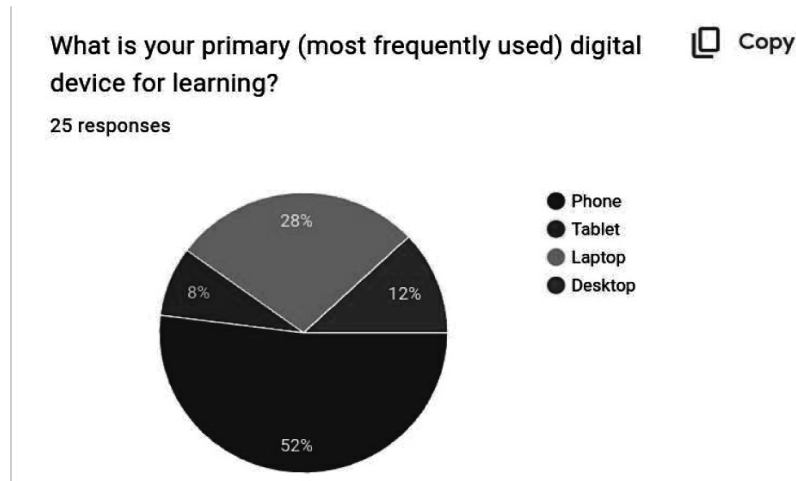


Figure 5.

Phones are indeed the most commonly used devices but online meetings, and as an effect searching might have been the prominent reason they started using it as a learning tool. But while education does need to adapt to smaller screens, reading difficulty(36%) or terrible interface designs(40%) are not the most prominent factors influencing adoption or disuse of learning tools or services. Network issues, as common as they might be, are temporary in urban areas (Figure 1.).

H₀4: While most students may not have had enough exposure to different cultural elements, they would agree that more innovative curriculum elements are required to promote diversity and multiculturalism.

Participants were asked questions regarding whether they have spend an extended amount of time outside their state, or are friends with people who have a different mother tongue than theirs, or how often they consume media like books, magazines, films or tv series in languages other than Hindi, English or their mother tongue, these questions were asked to reliably find out how likely the participants are exposed to cultures different than their own, and thus how it correlates to their views on whether the present curriculum for teacher training needs to be improved to further promote ideas of diversity and multiculturalism, 64% never resided outside their state, but 64% also stated they are friends with someone whose mother tongue is different from their own. 52% of the participants stated that they only very rarely consume media in a language other that Hindi, English or their mother-tongue, while 12% ticked for "Very Often" and 36% stated they are on the middle of the scale.

Majority of the students certainly have not had enough exposure to cultural elements different from their own, but they do think that innovative curriculum elements are required to promote diversity. 64% positively react to cultural phenomenon different from their own when asked with examples such as food preferences and clothing choices, on a scale of 1 to 4 ranging from Dissatisfied to Excited/Interested. And perhaps that translates to 72% of the participants agreeing that they think much improvement is needed in teacher training curriculum to further promote ideas of inclusivity, diversity and multiculturalism.

H₀5: Trainees are very likely to be dissatisfied at the possibility of high workload as a teacher, however higher salaries as a sole factor won't be enough for them to think about leaving their teaching position.

68% of the participant stated that they feel more dissatisfied than interested at the prospect of facing high workload. While this appears very obvious on the surface level, this aims to quantifiably state that teachers are less productive under high workload (Figure 6.). In this sample, 32% had been employed as teachers before, but others have spend some time as teachers during their internship.

While participants don't think they will change teaching positions for higher salaries only, very few of them can confidently answer no to the question. 29.2% of the participants answered no while 25% of them answered yes when asked if they would leave their teaching position for higher salaries even if the atmosphere of their school is well, and the transit time is suitable to them. While this makes it in line with the hypothesis, a staggering 45.8% of the participants were uncertain, and one participant chose not to answer this question.

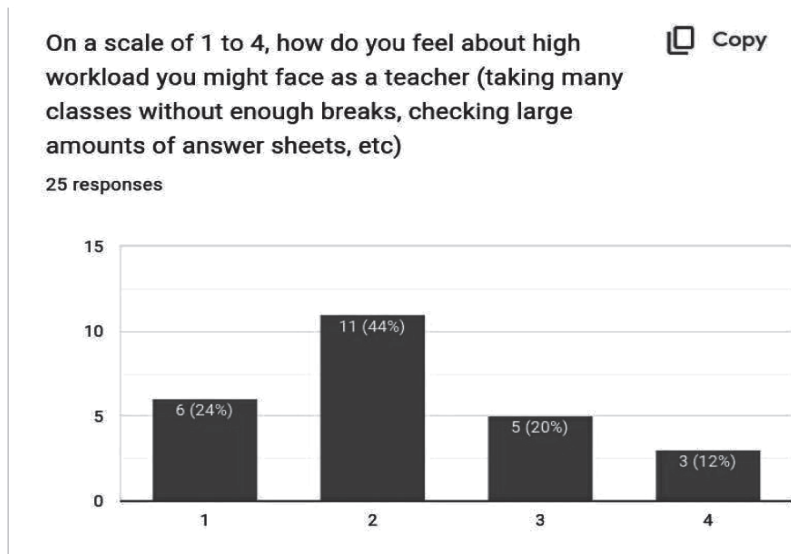


Figure 6.

IMPLICATIONS

The present study can be considered significant in its subject matter and population as it aims to study a new generation of teachers who are about to face some of the most prominent problems in modern education discipline and thus in teacher education itself. This study is an endeavor to understand how the present curriculum needs to have the background of the trainee teachers and their prior skills in focus for effective response to these challenges to the field of education. Policies need to respond to these challenges by developing clear visions, strategies, and frameworks that guide the implementation and evaluation of educational initiatives by allocating adequate resources, incentives, and regulations that facilitate the improvement and sustainability of educational outcomes.

The current policies have established a framework for future policies to build and improve upon. NEP 2020 emphasizes the use of technology in education and aims to provide equitable and inclusive digital education to all students. The policy proposes the creation of a National Educational Technology Forum (NETF) to facilitate the use of technology in education. The NETF will also provide a platform for the exchange of ideas and best practices in the use of technology in education (NEP, 2020).

NEP 2020 also aims to provide equitable and inclusive education to all students, regardless of their socio-economic background. The policy proposes the creation of a Gender Inclusion Fund to support the education of girls and transgender students. The policy also aims to provide education in the mother tongue or local language up to at least Grade 5 to promote inclusivity (NEP, 2020).

For teacher retention, the NEP 2020 recognizes the importance of teacher training and professional development. The policy proposes the establishment of a National Professional Standards for Teachers (NPST) to guide the professional development of teachers. The policy also aims to provide continuous professional development opportunities for teachers to enhance their skills and knowledge (NEP, 2020). Lack of professional development can affect teacher retention by hindering teacher growth and improvement, as well as their adaptability, innovation, confidence and competence, thus such measures are very necessary (UNESCO, 2015).

Other Indian policies, such as the Digital India initiative and the Samagra Shiksha Abhiyan, also aim to address the challenges of digitalization, inclusivity, and teacher retention in the education system. These policies focus on the use of technology in education, the provision of equitable and inclusive education, and the training and professional development of teachers.

CONCLUSION

The challenges of digitalization, inclusivity, and teacher retention in education are complex and multifaceted. While technology has the potential to revolutionize education and make it more accessible to all, it also presents significant challenges that must be addressed.

It has the potential to enhance learning outcomes, increase access and equity, and foster innovation and creativity in students. But at present use of technology for teaching-learning is primarily limited to online live classes and searching. With the environment being the most important concern in the 21st century, promotion of digital tools to slowly replace and reduce the use of paper is an important need of the hour.

Inclusivity aims to promote diversity, respect, and social justice in education. However, inclusivity also faces many barriers, such as discrimination, prejudice, stereotypes, and exclusion. Moreover, technology can be used in a variety of ways to promote inclusivity in education. As we move forward into an increasingly digital world, it is essential that we continue to prioritize inclusivity in education and work to overcome the challenges of digitization. By doing so, we can create a more equitable and just society where everyone has the opportunity to learn, grow, and succeed.

Teacher retention is crucial for ensuring the quality and continuity of education. However, teacher retention is threatened by many factors, such as low salaries, poor working conditions, lack of professional development, and high workload, and this study further confirmed these assertions. It is, therefore, essential for policy makers, educators, learners, and other stakeholders to work together to address these challenges and enhance the quality and effectiveness of education in the 21st century.

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