

A mixed method study of strategies adopted by postgraduate teachers to mitigate the impact of the digital divide

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Abstract

The digital divide, which refers to disparities in accessing and utilising digital technologies, has emerged as a noteworthy issue in education, especially in the context of postgraduate studies. The research, employing a mixed-method approach, investigates the methods employed by postgraduate educators to address the challenges posed by the digital divide in their teaching approaches. The study utilised a concurrent triangulation design, allowing for the simultaneous collection and analysis of qualitative and quantitative data. Initial data collection and analysis occurred in tandem with conducting in-depth interviews with postgraduate teachers, followed by thematic analysis. The data was collected and analysed from 25 postgraduate teachers who work in diverse educational settings. Findings revealed that postgraduate teachers adopted various pedagogical, technological, and socio-cultural strategies to address the challenges of the digital divide. Pedagogical strategies included using diverse instructional strategies, adapting teaching methods, and leveraging prior knowledge of students. Technological strategies encompassed utilising available digital resources online platforms and promoting digital literacy along with Free Open Source Software and Open Educational Resources among students. Socio-cultural strategies included building collaborative networks, creating inclusive classroom environments, and fostering a positive teacher-student relationship. The findings of this study contribute to the understanding of how postgraduate teachers address the digital divide in their teaching practices and highlight the importance of innovative strategies to ensure equitable access to digital technologies in education.

KEYWORDS: Digital Divide, Postgraduate Teachers, Pedagogical Strategies, Technological Strategies, Socio-Cultural Strategies.

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1. Introduction

Digital technologies in education have transformed teaching and learning practices, offering new opportunities for accessing information, engaging in collaborative learning, and fostering critical thinking skills. However, the digital divide, which refers to the gap in access to and use of digital technologies, has become a significant challenge in education, particularly in the context of postgraduate education. Postgraduate teachers play a crucial role in mitigating the impact of the digital divide, as they are responsible for preparing

the next generation of professionals and researchers who will thrive in a digital society.

India is a rapidly developing country with significant technological and digitalisation strides. However, despite these advancements, the country has a significant digital divide, with many individuals and communities needing access to digital devices and reliable internet connections. This digital divide has become even more apparent in higher education in India, where students from lower-income households and rural areas face significant challenges in accessing and utilising digital resources.

The digital divide in higher education has been worsened by the COVID-19 pandemic, mainly due to the widespread adoption of online learning by universities and colleges. This shift has created a situation where students who lack access to digital devices or a stable internet connection are disproportionately disadvantaged, with their educational prospects significantly constrained. This digital divide has significant implications for the quality of higher education in India. With equal access to digital

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resources, students may be able to keep up with the latest developments in their field, and their job prospects may be limited. Furthermore, the digital divide can exacerbate existing social and economic inequalities in the country, creating a divide between those who have access to education and those who do not.

To address this issue, policymakers and the academic fraternity must work together to bridge the digital divide in higher education. This could involve increasing access to digital devices and internet connectivity, providing training and support for students and teachers in utilising digital resources effectively and implementing policies and programs that promote equal access to education for all. Ultimately, bridging the digital divide in higher education will ensure that all individuals in India have access to high-quality education and equal opportunities for success.

The digital divide can manifest in various forms, including lack of access to reliable internet connectivity, limited availability of digital resources, inadequate digital literacy skills, and socio-cultural barriers. These challenges can impact postgraduate teachers' ability to effectively integrate digital technologies into their teaching practices and create equitable learning opportunities for all students. Therefore, understanding the strategies postgraduate teachers adopt to mitigate the impact of the digital divide is essential for promoting inclusive and effective postgraduate education.

This mixed method study aims to explore the strategies postgraduate teachers adopt to mitigate the impact of the digital divide on their teaching practices. By examining the perspectives and experiences of postgraduate teachers, this study seeks to contribute to the existing literature on strategies for addressing the digital divide in postgraduate education and inform educational policymakers and practitioners on practical approaches for promoting equitable access to digital technologies in education. The present research represents an attempt to examine the impact of specific interventions aimed at addressing the digital divide, investigate the role of social and cultural factors in shaping access to and utilisation of digital technologies, and explore the implications of emerging technologies such as artificial intelligence and virtual reality on the digital divide. The research aimed to explore the strategies adopted by postgraduate teachers to mitigate the impact of the digital divide on their teaching practices in the context of the Indian postgraduate education affiliated with Shivaji University in various educational settings.

2. The digital divide and Education

The digital divide, the gap in access to and use of digital technologies has emerged as a significant issue in higher education, affecting students, faculty, and staff. Existing research has provided insights into the scope and impact of the digital divide in higher education and implications for practice and future research directions.

Access to digital technologies is uneven among higher education students, faculty, and staff. Students from low-income backgrounds, rural areas, underrepresented minority groups, and developing countries are more likely to face challenges accessing and using digital technologies (Van Dijk, 2012; Warschauer, 2003). Faculty and staff from marginalised groups may also face barriers to accessing and effectively utilising digital resources and tools for their professional activities (Bartolic, 2021; Howard et al., 2016).

Digital literacy skills, encompassing the ability to critically evaluate, navigate, and create digital content, are also significant factors in the digital divide in higher education. Individuals with lower digital literacy skills are more likely to need help using digital technologies for academic and professional purposes (Hargittai & Hinnant, 2008; Selwyn, 2006). This can affect their ability to participate fully in online learning, engage in digital research, and collaborate effectively using digital tools.

The impact of the digital divide on higher education outcomes is significant. Students who need access to digital resources and tools may need help completing assignments, participating in online discussions, accessing online course materials, and communicating with instructors and peers (Di Maggio et al., 2004; Johnson et al., 2014). Faculty and staff needing access to digital technologies may need help delivering online instruction, conducting digital research, and engaging in administrative tasks efficiently (Linder, 2016; Reinders et al., 2019).

Implications for practice include the need for higher education institutions to prioritise strategies to bridge the digital divide. This may involve providing financial support for students to acquire devices and internet connectivity, offering digital literacy training for students, faculty, and staff, and creating inclusive online environments that accommodate diverse learning needs (Fryer et al., 2020; Wimmer & Lewis, 2010). Institutions can also work towards reducing barriers related to cost, location, and identity to ensure that all academic community members have the opportunity to participate fully in the digital age.

In previous studies, researchers have highlighted disparities related to digital access and its various dimensions, including knowledge, economic factors, social resources, technology attributes like performance and reliability, and the realisation of utility (DiMaggio et al., 2004; Van Dijk, 2006; Van Deursen & Helsper 2015). While in technologically and economically advanced regions, access-related digital gaps are narrowing, inequalities persist that affect individuals' effective utilisation of digital resources (Lameijer et al., 2017; Hsieh et al. 2011; Bucea et al. 2020). As digitalisation becomes increasingly prevalent in work and daily life, concerns are growing regarding ongoing disparities within societies at the forefront of the digital revolution.

Simultaneously, in areas with limited resources, significant access challenges persist. For example, in the least developed countries, as classified by the United Nations, only 19 per cent of individuals had online access in 2019. In contrast, in developed countries, nearly 87 per cent of individuals can access the internet (International et al., 2019). Moreover, low-resource settings grapple with unique political, economic, and social conditions exacerbating digital disparities (Venkatesh et al., 2014; Srivastava and Shainesh 2015; Luo and Chea 2018). In summary, previous research has emphasised that the nature of digital inequalities varies based on the specific context, and it is crucial to explicitly consider the context when studying the digital divide (Barzilai-Nahon, 2006). This study researches the digital divide within settings characterised by advanced technological infrastructure and robust economies. The digital divide in higher education should be addressed immediately, continuing to explore the issue's complexities and investigate innovative solutions to bridge the gap. India has the most prominent young population, and the demographic dividend should not be a burden but rather an asset.

Research can examine the impact of specific interventions aimed at addressing the digital divide, investigate the role of social and cultural factors in shaping access to and utilisation of digital technologies, and explore the implications of emerging technologies, such as artificial intelligence and virtual reality, on the digital divide (Graham, 2018; Warschauer & Matuchniak, 2010). Additionally, research can focus on the experiences of underrepresented groups, including students of colour, first-generation students, and individuals with disabilities, to better understand their unique challenges and develop targeted strategies to promote equity and inclusion (Morris et al., 2019; Wang et al., 2018).

Furthermore, the digital divide can perpetuate existing social and economic inequalities, as those already marginalised may face additional barriers to accessing and utilising digital resources and tools in higher education (Cotten et al., 2014). Selwyn (2017) argued that students from low-income backgrounds and rural areas often need help accessing reliable internet connectivity and adequate devices, which can hinder their ability to engage in online learning. Similarly, research by Cruickshank and colleagues (2019) found that students from underrepresented minority groups may have limited access to digital technologies, which can impact their participation in online courses and academic success. Due to the pandemic, a similar situation has been traced in India. Teachers must be trained and educated in online learning and other digital tools. Furthermore, digital literacy skills, or the ability to effectively navigate and evaluate digital content, have also been found to vary among students, faculty, and staff in higher education. A study by Van Dijk (2019) highlighted that individuals with lower digital literacy skills may need help using digital technologies for academic purposes, affecting their ability to participate

fully in online learning and engage in digital research.

The impact of the digital divide on higher education outcomes has also been well-documented. For example, a study by Johnson and Adams (2018) found that students who lack access to digital resources may face challenges completing assignments and accessing course materials, which can negatively impact their academic performance. Similarly, research by Anderson and colleagues (2020) showed that faculty and staff lacking access to digital technologies may need help delivering access online instruction and conducting digital research, which can hinder their productivity and effectiveness.

Regarding implications for practice, higher education institutions can implement various strategies to bridge the digital divide. For instance, providing financial support for students to acquire devices and internet connectivity, offering digital literacy training programs, and creating inclusive online environments can help promote equitable access to digital resources and tools (Alexander et al., 2021). Institutions can also work towards reducing barriers related to cost, location, and identity to ensure that all members of the academic community have equal opportunities to participate in the digital age by adopting various Open Educational Resources (OER), Learning Objective Repositories (LOR) and Free Open Source Software (FOSS).

3. Government of India initiatives for digital divide and higher education

The Indian government has launched several initiatives to address the digital divide in higher education. One of these initiatives are, National Programme on Technology Enhanced Learning (NPTEL): NPTEL is a joint initiative of the Indian Institutes of Technology (IITs) and the Indian Institute of Science (IISc) that provides free online courses and resources to students in engineering, science, and technology. The programme aims to improve the quality of education by providing access to high-quality learning resources to all students, regardless of their geographical location or economic background. e-ShodhSindhu: The e-ShodhSindhu programme is a consortium of higher education institutions in India that provides access to electronic resources such as e-journals, e-books, and databases. The programme aims to provide equitable access to research resources to all students and researchers in India. National Digital Library of India (NDLI) is a digital library that provides access to e-books, e-journals, and other digital learning resources to students and researchers in India. The library has a vast collection of resources, including textbooks, academic journals, and other learning resources, making it an essential tool for students and researchers in India.

Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) is an online learning platform that provides free courses and resources to students in India.

The programme aims to provide high-quality education to all students, particularly those in remote and rural areas who may need access to traditional classrooms. National Knowledge Network (NKN) is a high-speed network that connects all higher education institutions in India. The network provides access to high-speed internet, online collaboration tools, and other digital learning resources, making it an essential tool for students and faculty members in India.

This review discusses the digital divide in higher education, highlighting the uneven distribution of access to digital technologies and the significance of digital literacy skills. The impact of the digital divide on academic outcomes for students, faculty, and staff is significant. Strategies to bridge the digital divide include providing financial support for students to acquire devices and internet connectivity, offering digital literacy training, and creating inclusive online environments. Research can investigate the impact of specific interventions, the role of social and cultural factors, and emerging technologies. The review concludes by calling for the immediate need to address the digital divide in higher education and exploring innovative solutions to bridge the gap. The review also highlights India's most prominent young population and the need to turn it into an asset by not making the demographic dividend a burden. Hence, the researcher attempted to find the post graduate teachers' strategies to mitigate the impact of the digital divide in higher education.

4. Material and methods

This research employed a concurrent triangulation design to investigate how postgraduate educators address the challenges of the digital divide. The concurrent triangulation mixed method is a research approach that involves gathering and analysing qualitative and quantitative data, with the ultimate goal of combining the results to achieve a more comprehensive understanding of the research problem. This methodology enables an examination of various aspects of a research question, resulting in a more robust and all-encompassing analysis. In this design, researchers collect and analyse data using qualitative and quantitative methods, subsequently merging the findings through comparison, integration, or expansion approaches.

The concurrent triangulation mixed method seeks to enhance the credibility and dependability of research findings by offering multiple viewpoints on the research question. The study involved the distribution of questionnaires and conducting semi-structured interviews with 25 postgraduate educators representing diverse educational settings, including universities, colleges, and professional training institutes affiliated with Shivaji University, Kolhapur. Participants were purposefully selected based on their experience

integrating digital technologies into their teaching methods and their encounters with digital divide-related challenges. The Data was collected through in-depth interviews, audio-recorded, and transcribed verbatim for analysis.

The semi-structured questions were formed and attached to Appendix 1.

5. Results: Mix method analysis of the digital divide mitigation among postgraduate teachers

5.1 Quantitative analysis findings

The surveyed data revealed that the most frequently employed strategies by postgraduate teachers to mitigate the impact of the digital divide were diverse instructional strategies (89%), followed by utilizing available digital resources (78%) and promoting digital literacy skills (81%).

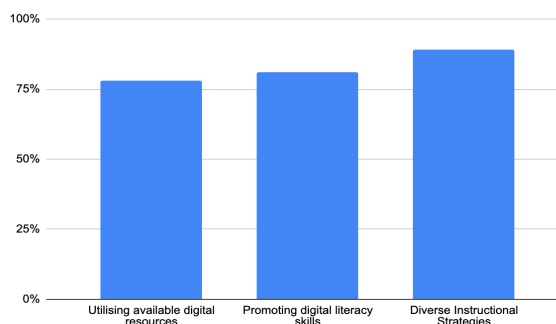


Figure 1 - Strategies adopted by Indian postgraduate teachers to mitigate the impact of the digital divide.

Concurrently, an in-depth interview was conducted and subjected to a thematic analysis. The data underwent coding and organisation into themes and sub-themes using a combined deductive and inductive approach. Deductive coding was rooted in the research questions and pertinent literature regarding the digital divide and strategies for its resolution. In contrast, inductive coding was applied to capture emerging themes evident in the data. Subsequently, the identified themes and sub-themes were subjected to analysis and interpretation to extract significant insights regarding the approaches employed by postgraduate educators to alleviate the effects of the digital divide.

5.2 Qualitative analysis findings: pedagogical strategies, technological strategies and Social Cultural strategies

The thematic examination of data obtained from in-depth interviews with postgraduate instructors unveiled a range of tactics employed to lessen the influence of the digital divide on their teaching methodologies.

A key sub-theme that emerged from analysing the pedagogical strategies was diverse instructional

strategies. The postgraduate teachers recognised the importance of tailoring their teaching approaches to suit their students' varied learning styles and abilities. They used online and offline methods, such as lectures, discussions, case studies, group activities, hybrid strategies, and uploading study material to facilitate learning. First, postgraduate teachers employed traditional teaching methods such as lectures to deliver course content to their students. These lectures were delivered in person or online via video conferencing, depending on the students' access to digital resources.

Additionally, the teachers conducted discussions on various topics to encourage students to think critically and engage in meaningful dialogue with their peers. To further support their students' learning, postgraduate teachers utilised case studies as a method of instruction. These case studies allowed the students to apply theoretical concepts to real-life scenarios, making the learning experience more practical and engaging. Furthermore, group activities were used to encourage collaboration and teamwork among students. Group activities such as presentations, debates, and simulations enabled students to learn from each other and develop their problem-solving and communication skills. The postgraduate teachers also employed hybrid strategies to cater to their students' different learning styles and preferences. These strategies combined various teaching approaches, such as lectures, discussions, and group activities, to provide a more holistic and integrated learning experience. This approach allowed students to engage with the course material in various ways, increasing their retention and understanding of the content. Finally, postgraduate teachers uploaded study material to online platforms, making it accessible to all students regardless of their physical location or access to digital resources. This ensured that students who could not attend in-person classes or had limited digital access could still access the course material and participate in the learning process.

In the digital age, postgraduate teachers face new challenges in teaching practices. The digital divide is a significant barrier that impacts students' access to technology and digital resources, hindering their learning experience. Therefore, postgraduate teachers have to adapt their teaching methods to suit the available digital resources and the technological abilities of their students. They recognised that traditional teaching methods might not be effective in the digital age. Therefore, they adapted their teaching methods to engage students in meaningful learning experiences. They utilised various approaches, such as flipped classrooms, blended learning, and hybrid models, to enhance their teaching practices. One of the strategies that postgraduate teachers employed was the flipped classroom model. Before the class, this model provides students with study materials, such as pre-recorded lectures, presentations, and readings. This enables students to prepare for the class and engage in meaningful discussions and activities during the class. Postgraduate teachers also utilise the blended learning

approach, which combines online and offline learning methods. In this approach, students participate in online activities, discussions, in-person lectures, and group activities. This method allows for flexibility in learning and caters to different learning styles and abilities.

Moreover, postgraduate teachers adopted the hybrid model of teaching. This model combines both online and offline methods of teaching. It enables students to access the study material online and attend classes in person, which caters to the diverse needs and abilities of students. This model is constructive for students needing access to reliable internet or digital resources. Postgraduate teachers also use free learner engagement tools like Kahoot, Quizlet, Mentimeter, Edupuzzle, and Edmodo to enhance their teaching practices. These tools enable postgraduate teachers to create interactive quizzes, flashcards, and polls, which engage students in the learning process and provide instant feedback on their progress. Overall, postgraduate teachers recognise the importance of their students. They utilised various approaches, such as flipped classrooms, blended learning, hybrid models, and free learner engagement tools to engage students in meaningful learning experiences.

Postgraduate teachers understand that their students come from diverse backgrounds and have varied experiences and prior knowledge. They recognised that leveraging students' prior knowledge is essential in bridging the digital divide and providing effective teaching and learning experiences. To achieve this, they employed various strategies that encouraged students to share their experiences and perspectives and integrated them into the learning process.

One of the strategies postgraduate teachers used was incorporating student-led discussions and presentations into their teaching. They encouraged students to share their experiences related to the course material, which helped provide a more diverse range of perspectives and viewpoints. This approach also created a more interactive learning environment that allowed students to participate in the learning process actively.

Another strategy that postgraduate teachers employed was to use case studies and real-life scenarios relevant to their students' experiences and backgrounds. By doing this, they could leverage their students' prior knowledge and make the learning process more meaningful and engaging. This approach also helped to create a more inclusive classroom environment where all students felt valued and respected. They also provided opportunities for students to reflect on their experiences and perspectives through journals, blogs, and other forms of self-expression. This approach helped students develop a deeper understanding of the course material and connect it to their own experiences, which enhanced their learning. Overall, postgraduate teachers recognise that leveraging students' prior knowledge and experiences is essential in bridging the digital divide and providing effective teaching and learning experiences. They created a more inclusive and student-centred

approach to teaching by incorporating diverse perspectives and experiences into the learning process.

Switching to technological strategies, postgraduate teachers recognised the significance of utilising available digital resources and platforms to mitigate the impact of the digital divide. They adopted various technological strategies to promote digital access, literacy, and student engagement.

Utilisation of available digital resources was a critical strategy adopted by postgraduate teachers to mitigate the impact of the digital divide on their teaching practices. With digital resources, postgraduate teachers could provide students with access to relevant and up-to-date information, regardless of their location or access to physical resources.

To do this, postgraduate teachers used various digital resources, such as open educational resources, online databases, university websites and digital libraries. These resources were easily accessible and often free, making them ideal for students with limited financial resources. By providing students access to these resources, postgraduate teachers could ensure that all students have equal access to high-quality educational content.

In addition to open educational resources, postgraduate teachers used educational apps, software, and tools to enhance teaching and learning experiences. These resources included tools for creating interactive multimedia content, such as videos, podcasts, and infographics. They also included tools for facilitating online discussions through discussion forums, conducting quizzes, and providing feedback on student work. By utilising these digital resources, postgraduate teachers were able to create engaging and dynamic learning environments that catered to the diverse needs and abilities of their students. They also fostered a sense of collaboration and community among students, regardless of their physical location. In general, the utilisation of accessible digital resources played a pivotal role in postgraduate educators' efforts to alleviate the effects of the digital divide on their teaching methods. By using these digital tools, postgraduate teachers could provide students with access to relevant and up-to-date information, regardless of their geographic location or the availability of physical learning materials. By utilising these digital resources, postgraduate teachers were able to create engaging and dynamic learning environments that catered to the diverse needs and abilities of their students. They also fostered a sense of collaboration and community among students, regardless of their physical location. Overall, utilising available digital resources was a critical strategy for postgraduate teachers to mitigate the impact of the digital divide on their teaching practices.

Postgraduate teachers have used open-source tools to create virtual learning environments that foster student interaction, collaboration, and engagement. These online platforms include learning management systems like Moodle, virtual classrooms, and social media.

Additionally, postgraduate teachers have utilised email, chat, and discussion forums to communicate with their students and provide support. These open-source tools offer a range of features that enable postgraduate teachers to create engaging and interactive learning experiences, such as uploading course materials, facilitating real-time discussions, and providing student feedback. These tools have been incredibly beneficial in remote learning settings, where students and teachers cannot meet in person. To ensure access to students without unlimited high-speed internet, teachers adopted the Jitsi video conferencing app and wikieducator. Overall, open-source tools have played a critical role in helping postgraduate teachers create effective virtual learning environments that support student learning and success.

Promoting digital literacy and orienting and educating about Free Open Source Software and Open Educational Resources was an essential aspect of mitigating the impact of the digital divide, and postgraduate teachers recognised this need. They provided guidance and training on digital skills, such as using digital tools and software and navigating online platforms. They taught students to use various digital tools and resources, such as online databases, libraries, and open educational resources. They encouraged students to use these resources to find relevant, up-to-date information for their assignments and projects. Postgraduate teachers emphasise the critical evaluation of online information. They taught students how to identify credible sources of information, distinguish between reliable and unreliable information, and evaluate the accuracy and bias of online sources. The teacher-led efforts and practices have helped students develop a discerning approach to online research and prevented them from falling prey to fake news and misinformation. Postgraduate teachers encouraged students to develop digital portfolios like Mahara and engage in online research and communication. They taught students how to create and maintain digital portfolios that showcase their skills, achievements, and learning experiences. This teacher initiative explored the students' development of digital literacy skills and built an online presence that could enhance their employability prospects. Overall, promoting digital literacy among students was an essential strategy adopted by postgraduate teachers to bridge the digital divide. By providing guidance and training on digital skills, critical evaluation of online information, responsible use of digital technologies, and encouraging students to engage in online research and communication, postgraduate teachers were able to equip their students with the necessary skills and knowledge to succeed in a digital world. Teachers orient and train the students about creative commons, copyright and intellectual property rights.

Postgraduate teachers understood the importance of building collaborative networks to enhance their digital integration in teaching. They recognised the value of working with colleagues, educational institutions, and other stakeholders to share resources, experiences, and

best practices related to digital integration. To this end, they engaged in various collaborative initiatives to improve students' digital literacy and promote digital technologies' use in teaching and learning. One of the critical ways postgraduate teachers built collaborative networks was by working closely with colleagues within their institutions. They collaborated with other faculty members and educational technology specialists to develop digital learning resources, design practical learning activities, and provide training and support to students. They also shared their experiences and best practices through workshops, seminars, and other professional development opportunities. Postgraduate teachers also recognised the value of collaborating with other institutions and organisations to share resources and expertise. They partnered with other universities, research institutions, and educational organisations to share resources, collaborate on research projects, and promote best practices in digital integration. Collaborating with others allows postgraduate teachers to access a broader range of digital resources, share their expertise, and learn from others. In addition to collaborating with other educational institutions, postgraduate teachers also worked with community organisations and technology partners to provide access to digital resources and infrastructure for students in remote or disadvantaged areas. They recognised the importance of addressing the digital divide and worked to provide access to digital technologies for all students, regardless of their location or socio-economic status. They organised free online workshops and webinars to promote using open-source software, Open Educational Resources (OER), and other digital tools that students in remote or disadvantaged areas could use. Overall, postgraduate teachers recognised that building collaborative networks was essential to improving digital integration in teaching. By working with colleagues, educational institutions, community organisations, and technology partners, they could share resources, expertise, and best practices that helped promote digital literacy among students and enhance the use of digital technologies in teaching and learning.

Postgraduate teachers emphasise the need to create inclusive classroom environments that value diversity, respect different cultural backgrounds, and accommodate individual learning needs. They encouraged open discussions, peer learning, and student-led initiatives that fostered students' sense of belonging and inclusivity, regardless of their digital access and abilities. Building a positive teacher-student relationship is crucial for successful learning outcomes; postgraduate teachers recognise this.

Moving to the social-cultural strategy, teachers understood that fostering a positive relationship with their students is vital to bridging the digital divide, especially when students may feel isolated due to their lack of digital access or abilities. To achieve this, postgraduate teachers provided individualised support to their students through one-on-one sessions and regular feedback through offline and Online modes. They tried

to understand each student's unique needs and strengths, using this knowledge to guide their teaching approach. Postgraduate teachers also emphasised the importance of open communication and active listening. They created a safe and supportive learning environment where students felt comfortable sharing their thoughts and concerns. They encouraged students to express their opinions and ideas and incorporated their feedback into the learning process. Overall, postgraduate teachers recognised that building a positive teacher-student relationship is vital to bridging the digital divide. They created a supportive learning environment where students felt valued and motivated to learn by providing individualised support, fostering open communication, and promoting well-being.

6. Discussion and Conclusion

The findings from the survey and in-depth interviews demonstrate that postgraduate teachers affiliated with Shivaji University have adopted various strategies to mitigate the impact of the digital divide on their teaching practices. These strategies encompass pedagogical, technological, and socio-cultural approaches, emphasising inclusivity, diversity, and student-centred learning. By employing diverse instructional strategies, utilising available digital resources, promoting digital literacy skills, building collaborative networks, creating inclusive classroom environments, and fostering positive teacher-student relationships, postgraduate teachers have demonstrated their commitment to overcoming the challenges posed by the digital divide. These strategies have enabled them to create effective teaching and learning experiences that accommodate their student's diverse needs and abilities, regardless of their digital access and abilities. The teachers have explored various tools and strategies to mitigate the impact of the digital divide. The teachers from various disciplines interacted and shared the tools /strategies they knew. The Open Educational Resources and Free Open Source Software were adopted and attempted to contextualise and apply for learning purposes. The study finds that postgraduate teachers face significant challenges in addressing the digital divide among their students. The study reveals that many students come from disadvantaged backgrounds and need access to technology and digital resources, leading to difficulties in completing assignments, participating in online discussions, and engaging with digital course materials. The study also finds that teachers need more resources and training to develop effective strategies to address the digital divide.

The postgraduate teachers concluded that, as postgraduate teachers, we need access to resources such as technology tools, software, and applications that can be utilised to support digital learning. We also need training on effectively integrating these tools into our teaching strategies. Support from our institutions in funding and technical assistance is also crucial for

addressing the digital divide and promoting digital equity among our students. Additionally, we must collaborate with other teachers and share best practices to develop further and enhance our strategies.

The other postgraduate teachers looking to develop effective strategies for mitigating the impact of the digital divide and promoting digital equity among their students are Conducting a needs assessment by identifying their students' technology needs and access levels. This information will help tailor strategies to meet their specific needs. Promote digital literacy by Providing opportunities for students to develop digital skills and literacy through training, tutorials, and workshops. Use various teaching strategies to Incorporate various teaching strategies such as online discussion forums, videos, and interactive multimedia to cater to diverse learning needs. Collaborate with other postgraduate teachers to share best practices, resources, and ideas for promoting digital equity and addressing the digital divide. Advocate for change in policies and initiatives that promote digital equity and access to technology for all students, particularly those from disadvantaged backgrounds.

Therefore, postgraduate teachers need to continue to explore and adopt innovative strategies that can mitigate the impact of the digital divide and promote inclusive and equitable education.

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I sincerely thank the postgraduate teachers of Shivaji University, Kolhapur, for sharing their strategies to mitigate the digital divide. Their insights and experiences have been precious in addressing this pressing societal issue.

The postgraduate teachers' willingness to collaborate and share their knowledge has been instrumental in creating a more inclusive and equitable learning environment. The teachers' contributions have not gone unnoticed and will undoubtedly positively impact the lives of many.

Once again, thank you for the dedication and hard work in addressing the digital divide, and inspiring efforts will undoubtedly pave the way for a brighter future.

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Appendix 1 - Open ended Questionnaire

1. What strategies have you adopted to ensure that students from disadvantaged backgrounds have access to the necessary technology and digital resources to participate fully in your academic programs?
2. In what ways have you adapted your teaching methods to ensure that students with varying levels of digital literacy and proficiency can succeed in your academic programs?
3. How have you leveraged emerging technologies and digital tools to enhance the learning experience and promote digital equity among your students?
4. What challenges have you encountered in implementing strategies for mitigating the impact of the digital divide, and how have you addressed them?
5. How have you collaborated with other teachers, staff, and administrators to promote digital equity and ensure that all students have access to digital resources and opportunities?
6. How do you measure the effectiveness of your strategies for promoting digital equity and ensuring that all students have access to digital resources and opportunities?
7. In what ways do you foster digital literacy and digital citizenship among your students and encourage them to be responsible and ethical users of technology?
8. How do you incorporate issues related to the digital divide and digital equity into your academic programs and encourage students to engage with these issues?
9. What resources, training, and support do you need to further develop and enhance your strategies for mitigating the impact of the digital divide and promoting digital equity among your students?
10. Finally, what recommendations do you have for other post-graduate teachers who are looking to develop effective strategies for mitigating the impact of the digital divide and promoting digital equity among their students?