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Bridging technological gaps in teacher education curriculum: insights from Kerala universities and NEP 2020's Vision

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Abstract

The integration of technology in teacher education is a key factor in shaping future educators who are equipped to handle the challenges of a digital world. This paper explores the technological gaps in the teacher education curriculum at Kerala's universities, assessing their alignment with the National Education Policy (NEP) 2020. Using a qualitative approach, this study conducts document analysis of NEP 2020 and the B.Ed curricula from four major Kerala universities. NEP 2020 emphasizes technology as essential in education, advocating for advanced tools like artificial intelligence, blended learning, and virtual classrooms. However, the analysis reveals varying levels of technological integration, with most programs focusing on basic digital literacy and limited pedagogical technology. To bridge these gaps, the paper recommends embedding EdTech across core subjects, promoting project-based learning, and providing continuous faculty training, infrastructure upgrades, equitable access to resources, and collaboration with the National Educational Technology Forum (NETF). Aligning Kerala's teacher education curriculum with NEP 2020's vision can produce digitally competent teachers prepared for technology-enhanced classrooms.

Keywords: Teacher Education; NEP 2020; Technology Integration; Kerala Universities; Curriculum Reform; EdTech

1. Introduction

The National Education Policy (NEP) 2020 presents a transformative vision for education in India, emphasizing the need for integrating technology across all levels of education. It highlights the critical role of technology in enhancing both teaching and learning, facilitating digital literacy, and ensuring equitable access to quality education through digital platforms. The policy envisions leveraging tools like Artificial Intelligence (AI), blended learning, Massive Open Online Courses (MOOCs), and virtual classrooms to modernize India's education system. By proposing the establishment of the National Educational Technology Forum (NETF), NEP 2020 underscores the need for continuous innovation and the use of emerging technologies in education, especially in teacher education, to prepare future educators for 21st-century classrooms.

In this context, an analysis of the current B.Ed curricula from Kannur, Kerala, Calicut, and Mahatma Gandhi (M.G.) Universities reveals varying degrees of technology integration. While these curricula incorporate some aspects of ICT (Information and Communication Technology) and digital pedagogy, there remains a significant gap between the technological aspirations outlined in NEP 2020 and the current content of teacher education programs in these universities. Kannur University, for instance, integrates ICT but lacks comprehensive training on emerging technologies like AI or advanced e-learning platforms. Similarly, the B.Ed curriculum of Kerala University emphasizes digital tools but does not fully embrace blended learning models or flipped classroom strategies that NEP 2020 advocates. Calicut

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University offers basic ICT modules but misses the deeper pedagogical integration of technology that prepares teachers for tech-driven classrooms. M.G. University presents a more structured approach to ICT integration but still needs to adopt more innovative practices like the use of data analytics for personalized learning, which is envisioned in NEP 2020.

To bridge these technological gaps, it is essential to align the B.Ed curricula of these universities with NEP 2020's vision. This can be achieved by updating the curricula to include advanced digital tools, AI-based personalized learning systems, immersive technologies like virtual reality, and robust cyber ethics training. Incorporating comprehensive training on Learning Management Systems (LMS), online assessment methods, and integrating MOOCs will further enhance the technological readiness of future teachers. Additionally, the adoption of techno-pedagogical models, such as the flipped classroom and blended learning, will ensure that teachers are well-equipped to manage hybrid learning environments. By embedding these elements into teacher education programs, universities can empower educators to lead the digital transformation in schools and fully realize NEP 2020's vision for technology-driven education.

This study, titled **"Bridging Technological Gaps in Teacher Education Curriculum: Insights from Kerala Universities and NEP 2020's Vision"**, aims to provide a comprehensive analysis of the existing B.Ed curricula in Kannur, Kerala, Calicut, and M.G. Universities. It will explore how these programs can integrate the forward-looking goals of NEP 2020 and prepare future educators to effectively use technology as a pedagogical tool. The findings of this study will offer insights and recommendations for aligning Kerala's teacher education with NEP 2020's technological vision, fostering innovation in teacher training and creating digitally competent educators for tomorrow's classrooms.

2. Methodology

This research paper employs a qualitative approach, employing document analysis to investigate the alignment of Kerala's teacher education curriculum with the National Education Policy (NEP) 2020. The methodology focuses on a systematic review of NEP 2020 and the B.Ed curricula from four major universities in Kerala—Kannur, Calicut, Mahatma Gandhi (M.G.), and Kerala Universities. Document analysis allows for an in-depth examination of curriculum content, identifying specific areas of technology integration and gaps in alignment with NEP 2020's vision.

3. Technological Integration in Teacher Education: A National Perspective

Technological integration in teacher education is increasingly recognized as essential for preparing future educators to meet the demands of modern classrooms. At the national level, education policies such as India's NEP 2020 emphasize the need for digital literacy and the incorporation of technology into pedagogy. Across teacher education institutes, the curriculum is gradually evolving to include ICT skills, digital tools, and innovative teaching methods, enabling student-teachers to effectively use technology for both instruction and administration. However, the extent of integration varies significantly across regions, with urban institutions generally having better access to resources like smart classrooms and high-speed internet, while rural areas may still face infrastructural challenges. Despite these disparities, government initiatives such as Digital India aim to bridge the gap, ensuring that all teacher candidates are equipped to use technology in their future roles.

Technological integration is reshaping the pedagogical landscape in teacher education. The use of Learning Management Systems (LMS), online collaboration tools, and virtual simulations allows for more interactive and flexible learning environments. Teacher educators are increasingly incorporating digital pedagogy, fostering not only technical skills but also encouraging critical thinking and collaboration among pre-service teachers. However, challenges remain, including insufficient professional development for teacher educators and limited access to resources in underfunded institutions. Addressing these gaps is crucial to ensuring that technology becomes a transformative force in teacher education nationwide, leading to improved teaching practices and learning outcomes in schools.

3.1. Global and Indian EdTech Trends

The global EdTech landscape is rapidly evolving, driven by advancements in artificial intelligence (AI), machine learning, and immersive technologies like virtual reality (VR) and augmented reality (AR). Personalized learning platforms powered by AI are allowing educators to tailor instruction based on individual student needs, while adaptive learning systems adjust content delivery in real-time. Gamification, online assessments, and data analytics are enhancing student engagement and performance tracking. The shift towards hybrid and blended learning models, accelerated by the COVID-19 pandemic, continues to gain momentum, with EdTech tools supporting both in-person and

remote learning. Globally, there is also a growing emphasis on lifelong learning, with platforms offering up skilling and reskilling opportunities for learners of all ages.

In India, the EdTech sector is witnessing substantial growth, fuelled by increasing internet penetration, smartphone adoption, and supportive government policies like the National Education Policy (NEP) 2020, which advocates for the integration of technology in education. Platforms such as BYJU's, Unacademy, and Vedantu are leading the way in offering online tutoring, test preparation, and skill development courses. India is also embracing digital classrooms, AI-driven learning solutions, and regional language content to cater to diverse learners. Additionally, there is a rising demand for vocational training and career-oriented courses delivered through EdTech platforms, aimed at bridging the skills gap in various industries. However, challenges like the digital divide in rural areas and equitable access to high-quality content remain critical areas of focus.

Around the world, educational technology (EdTech) has transformed teaching practices, especially in teacher education programs. From online learning platforms to AI-driven personalized learning, global trends highlight the importance of equipping educators with digital skills. In India, the government has recognized the need for such integration, as seen in initiatives like the Digital India program and the push for ICT in education under NEP 2020.

3.2. NEP 2020: Vision for Technology Integration in Education

The National Education Policy (NEP) 2020 envisions technology as a critical driver in transforming education in India. Aligned with the Digital India campaign, it aims to create a digitally empowered society and knowledge economy. NEP 2020 highlights the importance of integrating advanced technologies, such as artificial intelligence, machine learning, block chain, and smart devices, to revolutionize both the content and process of education. The policy emphasizes the need for extensive research on educational technology and encourages tech-savvy educators and entrepreneurs to creatively apply these innovations to improve teaching, learning, and evaluation processes.

To support this vision, NEP 2020 proposes the establishment of the National Educational Technology Forum (NETF), an autonomous body designed to foster collaboration and idea-sharing on the integration of technology in education. NETF will focus on enhancing learning, assessment, and administration processes in both school and higher education. The policy also calls for capacity building in educational technology, improved teacher training, and the development of technology-based platforms such as DIKSHA and SWAYAM for comprehensive integration across the educational spectrum, ensuring that both educators and students benefit from innovative digital tools.

NEP 2020 seeks to make online education more accessible and user-friendly by expanding platforms like SWAYAM and DIKSHA, and encouraging content creation, gamification, and digital repositories for learning resources. It proposes rigorous training programs for teachers to develop online content and implement learner-centric pedagogies. Furthermore, NEP outlines a robust framework for online assessments, designed by bodies like PARAKH and the National Assessment Centre, to ensure that evaluation methods keep pace with technological advancements.

4. Current Status of Technological Integration in Teacher Education Curriculum of Universities of Kerala

The Teacher Education Curriculum across four major Kerala universities was reviewed to assess their integration of technology:

4.1. Kannur University

The B.Ed. syllabus integrates technology and ICT to modernize teaching methodologies and enhance teacher competencies in using digital tools for education. A key component is the course "Critical Understanding of ICT," which emphasizes shifting from traditional teaching approaches to learner-cantered, constructivist models. It covers practical skills like creating PowerPoint presentations, editing videos, using projectors, and developing educational materials with animation software. Teachers are trained to incorporate ICT for their self-development through online research, webinars, and career development platforms.

Another crucial area is the Techno Pedagogic Content Knowledge Analysis (TPCK), where teachers learn to merge content knowledge, pedagogical skills, and technological expertise to create tech-enhanced lessons and instructional modules. This aims to foster a generation of "techno-pedagogues" who can leverage digital tools effectively in the classroom. TPCK is applied across subjects such as Mathematics, English, and Social Science, encouraging teachers to integrate technology in content delivery.

The syllabus also promotes the use of e-resources, such as digital libraries, online teaching materials, and M-learning via smartphones, recognizing the increasing relevance of mobile technologies in education. ICT is further integrated into the assessment process through digital tests, e-portfolios, and online quizzes, ensuring that technology supports not just teaching but also evaluation methods. The syllabus prioritizes the application of ICT across different educational tasks, from lesson planning and classroom management to self-development and student assessments. Teachers are encouraged to use digital tools, online platforms, and technology-enhanced pedagogies to create interactive, engaging, and effective learning environments for students.

4.2. University of Calicut

The teacher education curriculum of university of Calicut outlines a comprehensive framework for integrating technology, particularly Information and Communication Technologies (ICT), into education, emphasizing techno-pedagogical approaches. It highlights the use of ICT not just for basic computer literacy, but as a powerful tool for enhancing teaching and learning. Teachers are encouraged to develop digital educational resources using open-source software, multimedia, and e-learning materials. A key concept is Technological Pedagogical Content Knowledge (TPACK), which blends technology and pedagogy, enabling teachers to effectively present content across various subjects using ICT tools. The goal is to train educators as "techno-pedagogues," capable of creating engaging, interactive, and content-rich learning environments.

Practical workshops and collaborative learning are central to this integration. The syllabus includes hands-on sessions to develop digital competencies, such as managing educational data, producing digital textbooks, and designing ICT-integrated lessons. Teachers are also encouraged to use open-source platforms like Moodle, blogs, and virtual classrooms to foster collaborative learning and decentralized education. Overall, the document aims to equip future educators with the skills to incorporate technology into both pedagogical and administrative tasks, creating a more interactive and collaborative classroom experience.

4.3. Mahatma Gandhi University

The MG University B.Ed Curriculum places a strong emphasis on the integration of Information and Communication Technology (ICT) into teaching and learning. Teachers are trained to use various educational technologies such as Computer-Assisted Instruction (CAI), PowerPoint, Prezi, and Learning Management Systems (LMS) like Moodle to enhance student engagement. The curriculum introduces e-learning and digital resources, including the use of e-textbooks, digital libraries, and online platforms like MOOCs and SWAYAM, encouraging the adoption of blended and flipped classroom models. These digital tools allow teachers to facilitate interactive learning environments while managing content delivery, assessments, and feedback efficiently.

The curriculum focuses on cyber ethics, aiming to create a safe digital environment for students and address the risks associated with online interactions. Teachers also learn to integrate technology with pedagogy through Techno-Pedagogical Knowledge (TPCK) and instructional design models like ADDIE and ASSURE. These models help in designing efficient e-learning materials. Practicum tasks, such as scripting educational videos and creating programmed instructional materials, ensure that teachers gain hands-on experience in applying these technological skills in real-world classrooms, preparing them for modern educational challenges.

4.4. Kerala University

The Kerala University B.Ed curriculum places strong emphasis on integrating technology into education to enhance teaching and learning processes. Courses such as "Technology and Communication in Education" and "Curriculum and Resources in the Digital Era" equip student-teachers with digital literacy skills, teaching them to use blogs, online platforms, and multimedia for effective communication and content delivery. The curriculum emphasizes the creation and use of digital teaching materials, helping future educators curate e-content, design digital lessons, and incorporate digital tools for student engagement. Workshops, practical assignments, and online participation form a key part of this learning process, ensuring that teachers are proficient in educational technology.

The curriculum focuses on techno-pedagogic content knowledge, where teachers learn to integrate technology with pedagogy and content for designing innovative and engaging lessons. Digital assessments are highlighted, with training in creating MCQs and using digital tools for both formative and summative evaluations. The program also explores blended learning models, enabling teachers to combine traditional instruction with online activities through platforms like Learning Management Systems (LMS). By fostering digital literacy and encouraging hands-on practice in content creation, the curriculum ensures that future educators are prepared to manage digital classrooms and create immersive online learning experiences.

4.5. Comparative Insights

- **Technological Focus:** All four universities emphasize ICT, but Kannur and Calicut focus on TPCK/TPACK, blending pedagogy and technology across subject areas. MG University and Kerala University focus more on blended learning models and instructional design.
- **Hands-on Learning:** All institutions incorporate practical tasks, with MG University and Calicut University offering detailed workshops on creating digital resources. Kerala University ensures student-teachers gain proficiency in digital literacy and lesson design.
- **Cyber Ethics and Digital Environment:** MG University stands out for addressing cyber ethics, ensuring teachers are prepared for the challenges of online education.
- **Assessment Integration:** Kannur and Kerala universities put more emphasis on digital assessments, while Calicut University is notable for its focus on creating and managing open-source platforms.

5. Identified Gaps in Technology Integration

The current B.Ed curricula of Kerala, Kannur, Mahatma Gandhi (MG), and Calicut Universities reflect significant strides in integrating Information and Communication Technology (ICT), yet they fall short of meeting the advanced technological aspirations outlined in NEP 2020. NEP 2020 envisions the adoption of cutting-edge technologies such as Artificial Intelligence (AI), machine learning, block chain, and virtual reality in education to create innovative, adaptive, and personalized learning environments. However, these technologies are either minimally mentioned or absent in the current B.Ed programs across the universities. While ICT is a common focus—especially in areas like digital literacy, blended learning, and techno-pedagogical integration—the curricula largely emphasize basic tools such as PowerPoint, LMS (like Moodle), and online content creation. This limits future educators from being exposed to more advanced technological tools that can redefine pedagogical practices, content delivery, and student assessment.

Moreover, NEP 2020's emphasis on gamification, AI-driven learning platforms, MOOCs (SWAYAM), and the establishment of National Educational Technology Forum (NETF) for ongoing research and innovation is not fully reflected in the current curriculum frameworks. While Kannur and Calicut Universities have incorporated Technological Pedagogical Content Knowledge (TPCK/TPACK) frameworks and provide practical workshops on ICT, the emphasis on emerging technologies and online assessment systems is underdeveloped. Additionally, despite the NEP's focus on expanding digital resources and ensuring access through platforms like DIKSHA, the curricula do not fully address the integration of such national educational platforms at scale. The gap lies in moving beyond basic digital literacy and ICT skills to the more forward-thinking technological capabilities that NEP 2020 advocates, which would prepare teachers to meet the demands of future digital classrooms.

6. Insights from NEP 2020: How Kerala Universities can Bridge the Gaps

The NEP 2020 document highlights several major areas of technology integration that can be included in the teacher education curriculum.

6.1. Digital Literacy and Empowerment:

Teach the fundamentals of the Digital India Campaign and its role in creating a digitally empowered society and knowledge economy. Include modules on digital citizenship and the use of technology for educational processes and outcomes.

6.2. Emerging Educational Technologies:

Introduce new technologies like artificial intelligence (AI), machine learning, block chain, and smart boards to future educators. Hands-on training on adaptive computer testing and how such technologies can enhance learning and teaching. Encourage B.Ed students to research and reflect on the impact of these technologies on classroom learning.

6.3. National Educational Technology Forum (NETF):

Integrate discussions on the NETF's role in the free exchange of ideas and innovation in educational technology. Include ways to build intellectual and institutional capacities in educational technology, preparing teachers to contribute actively to technological advancements.

6.4. Teacher Training and Professional Development:

Include comprehensive training in using technology-based platforms like DIKSHA and SWAYAM for online learning, content creation, and self-improvement. Develop skills for online content creation, enhancing the ability to produce learner-centric educational material.

6.5. Technology-Enhanced Learning and Pedagogy:

Integrate technology-based pedagogy in lesson planning and execution. Encourage the use of gamification, simulations, augmented reality (AR), and virtual reality (VR) to create engaging, interactive learning experiences.

6.6. Online Assessments and Evaluations:

Incorporate training on designing and implementing online assessments using frameworks by bodies like PARAKH, emphasizing rubrics, standardized assessments, and analytics.

7. Major areas in the Teacher Education Curriculum align with NEP 2020

7.1. Artificial Intelligence (AI), Machine Learning (ML), and Emerging Technologies:

Artificial Intelligence and Machine Learning are transforming education by offering personalized learning experiences and automating tasks like grading and student assessments. In the context of teacher education, integrating these technologies involves equipping teachers with the skills to leverage AI for tailoring lessons to individual student needs. For example, adaptive learning platforms powered by AI can adjust lesson difficulty based on student performance, offering a more customized educational experience. Teacher training programs should focus on how AI tools can analyze student data to predict learning gaps or identify areas where additional support is needed. Moreover, emerging technologies like AI-powered virtual assistants or chatbots can assist in answering student queries or providing real-time feedback. Educators trained in AI will not only enhance classroom efficiency but also ensure more targeted support, helping students achieve better outcomes through a data-informed approach to teaching.

7.2. Educational Software and Digital Platforms:

The use of educational platforms like DIKSHA and SWAYAM is crucial in modern classrooms, allowing teachers to deliver content digitally, engage with students through virtual classrooms, and continuously develop their skills through professional development modules. Teacher education must prioritize familiarizing future educators with these platforms by offering hands-on experience in uploading, curating, and managing digital content. Teachers also need to learn how to assess student progress through these platforms, utilizing built-in analytics tools to track learning outcomes and adapt instruction accordingly. Additionally, understanding how to integrate regional language content into these platforms ensures that education is accessible to students from diverse linguistic backgrounds. Through comprehensive training in these digital tools, teachers will be equipped to foster an interactive, student-centered learning environment that enhances the teaching and learning process.

7.3. Smart Boards and Handheld Devices:

Smart boards and handheld devices, such as tablets, are reshaping the traditional classroom into an interactive, technology-rich environment. Teacher education should include thorough training on how to effectively use smart boards for dynamic, multimedia-based instruction. Teachers should be taught to utilize these tools for real-time lesson enhancements, such as interactive quizzes, live annotations, and collaborative exercises where students can participate directly from their devices. Handheld devices can be used for individualized learning experiences, allowing students to access supplementary content or engage in peer-to-peer assessments during lessons. By integrating these technologies, teachers can create a more engaging and collaborative learning experience, where students are active participants in their education rather than passive listeners.

7.4. Data Privacy and Ethical Use of Technology:

With the increasing use of digital platforms and AI in classrooms, it is crucial that teachers are trained in the ethical and responsible use of student data. Issues surrounding data privacy and security are paramount, especially when handling sensitive student information. Teacher education programs should include modules on data protection laws such as the General Data Protection Regulation (GDPR) and emphasize the importance of obtaining informed consent before collecting or using student data. Teachers should also be taught how to use data analytics ethically, ensuring that algorithms used in AI systems do not inadvertently perpetuate biases or inequalities. Additionally, understanding the broader ethical implications of emerging technologies, such as AI-driven decision-making in education, is critical to

fostering a responsible and fair use of technology in schools. Proper training will empower teachers to protect student privacy while leveraging data to improve educational outcomes.

7.5. Virtual and Augmented Reality (VR/AR):

Virtual and Augmented Reality offer immersive educational experiences, allowing students to engage with content in a more interactive and hands-on manner. For example, virtual field trips can take students to historical sites or simulate scientific experiments that would otherwise be inaccessible. Teacher education should provide instruction on how to use VR and AR in the classroom, including designing lessons that incorporate these technologies to enhance student understanding of complex concepts. In fields such as STEM education, VR can simulate laboratory experiments, allowing students to practice skills in a risk-free environment. Augmented reality can bring subjects like history to life by overlaying digital information on physical surroundings, making learning more engaging and memorable. By mastering these tools, teachers can offer a more enriching and immersive learning experience that caters to various learning styles.

7.6. Online and Blended Learning:

The rise of online and blended learning models has created new opportunities and challenges for teachers. Blended learning combines the benefits of traditional classroom teaching with the flexibility of online education. Teacher education programs should include comprehensive training on designing and delivering online courses, managing virtual classrooms, and conducting online assessments. This involves learning how to effectively use Learning Management Systems (LMS) and other digital tools to structure lessons, engage students in discussions, and provide timely feedback. Furthermore, teachers need to understand how to balance online learning with hands-on, experiential activities to prevent screen fatigue and ensure that students remain engaged. Blended learning models, when executed well, can offer a flexible, personalized approach to education, accommodating different learning paces and styles while maintaining the advantages of face-to-face instruction. Teachers skilled in this approach will be able to cater to diverse classroom environments, both physical and virtual, ensuring that learning remains interactive and effective across all platforms.

By including these six areas in the teacher education curriculum, future educators will be well-prepared to harness the full potential of technology in the classroom, creating more engaging, personalized, and equitable learning environments

8. Recommendations for Bridging Technological Gaps

8.1. Curriculum Integration of EdTech

- **Embedding Technology into Core Subjects**: Technology should be used across all subjects, not just in computer or ICT classes. This means using tools like simulations in science, interactive apps in math, and digital storytelling in language classes to make learning more interesting and effective. When technology becomes a part of every subject, students gain digital skills naturally, while also enhancing their understanding of the subject matter. This approach helps prepare students for a world where digital skills are needed in every field.
- **Project-Based Learning Using EdTech**: Teacher education programs should encourage the use of digital tools in creating project-based learning experiences. Project-based learning with technology encourages students to work together on real-world projects, using digital tools to explore topics deeply and creatively. For example, students might use online tools to research, collaborate, and present their findings on a specific project. By training future teachers to use project-based learning tools, teacher education programs help them create lessons that are hands-on, engaging, and reflective of the skills needed in modern workplaces.

8.2. Continuous Professional Development

- **Mandatory Tech-Training for Faculty**: Teachers should participate in regular technology training to stay updated on new digital tools and methods. These trainings cover how to use online teaching platforms, digital assessment tools, and even introduce advanced topics like artificial intelligence in education. When teachers are comfortable with technology, they can create more interactive and effective learning experiences for students, keeping classes relevant and engaging.
- **NETF Collaboration**: Kerala universities should work with the National Educational Technology Forum (NETF) to stay informed on the latest best practices and research in educational technology. NETF provides a space for universities to learn about successful digital strategies and to contribute their own experiences. By

partnering with NETF, Kerala universities can improve their teaching methods and stay connected to national advancements in education technology.

8.3. Infrastructure Upgrades and Resource Allocation

- **Centralized Digital Resources**: Establishing digital libraries and online learning platforms makes it easy for students and teachers to access educational materials anytime, anywhere. A centralized digital resource hub would contain e-books, videos, research articles, and interactive tools that students and faculty can access equally. This shared platform supports both in-person and remote learning, ensuring that everyone has the same resources for a fair and enriching learning experience. A core focus of NEP 2020 is the improvement of digital infrastructure.

- **Equitable Access to Technology**: It is important that all teacher education institutions, especially those in rural areas, have access to quality digital tools and internet services. Providing sufficient technology resources like computers and stable internet connections ensures that all students, no matter their location, can benefit from digital learning. This approach promotes fairness, as it allows students from diverse backgrounds to gain the digital skills necessary for success in today's educational and professional environments.

9. Conclusion

Technological integration in teacher education is no longer a choice but a necessity. Kerala's universities have made significant progress but still face considerable challenges in aligning with NEP 2020's vision. By reforming the curriculum, upgrading infrastructure, and investing in continuous professional development, Kerala can bridge the technological gaps and create a robust, future-ready teacher education system. The insights from NEP 2020 provide a clear framework for this transition, ensuring that Kerala's teacher educators are equipped to navigate and lead in a technology-driven educational environment.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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