

Adarsh Shikshan Sanstha's
Late. Chhabutai Dahake Women College of Education
Ansing, Dist – Washim



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In collaboration with

**Dr. Babasaheb Ambedkar Chair,
SNDT Women's University, Mumbai.**

**ONE DAY MULTIDISCIPLINARY NATIONAL
CONFERENCE**

On

**“Teacher Education and Professional Development
under NEP 2020”**

22nd March 2025

Director of Conference

**Prof. (Dr.) Sanjay Shedmake
Dr. P. N. Kathole**

Chief Editor

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Prof. (Dr.) Sanjay Shedmake

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Dr. Babasaheb Ambedkar Chair,
SNDT Women's University,
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Dr. P. N. Kathole

*Principal,
Late. Chhabutai Dahake Women
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Ansing, Dist - WASHIM*

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Message from the Management



Shri. Prakash Sawalkar



Sau. Niranjana P. Sawalkar

It is a matter of immense pride and joy for Adarsh Shikshan Sanstha's Late Chhabutai Dahake Women College of Education, Ansing, to organize this One Day Multidisciplinary National Conference on "Teacher Education and Professional Development under NEP 2020" in collaboration with Dr. Ambedkar Chair, SNDT Women's University, Mumbai.

Education is the foundation of a progressive society, and the National Education Policy (NEP) 2020 has provided a transformative roadmap for enhancing the quality of teacher education in India. This conference aims to bring together distinguished academicians, researchers, and policymakers to deliberate on innovative strategies for teacher training, competency-based education, and the role of technology in modern learning environments.

We are especially honored to collaborate with Dr. Ambedkar Chair, SNDT Women's University, which is dedicated to promoting social justice, equity, and excellence in education. The ideals of Dr. B. R. Ambedkar continue to inspire us to work toward an inclusive and empowering education system that benefits all sections of society.

We extend our heartfelt gratitude to all the esteemed speakers, scholars, and participants for contributing their valuable insights. We also appreciate the dedicated efforts of the organizing committee, faculty, and staff in making this event a success. May this conference serve as a meaningful step toward transforming teacher education and ensuring quality learning opportunities for future generations.

Shri. Prakash Sawalkar
President,
Adarsh Shikshan Sanstha's, Wai, Karanja (Lad)

Sau. Niranjana P. Sawalkar
Secretary,
Adarsh Shikshan Sanstha's, Wai, Karanja (Lad)

Message from Director



Prof. (Dr.) Sanjay Shedmake

Message from the Conference Director

It is with great pride and enthusiasm that we present the proceedings of the One Day Multidisciplinary National Conference on “Teacher Education and Professional Development under NEP 2020”, organized by Late Chhabutai Dahake Women College of Education, Ansing, Dist - Washim, in collaboration with Dr. Ambedkar Chair, SNDT Women’s University, Mumbai, on March 22, 2025.

This conference serves as a vital platform for educators, researchers, and policymakers to engage in meaningful discussions on the evolving landscape of teacher education in India. With the National Education Policy (NEP) 2020 emphasizing competency-based learning, professional development, and inclusivity, this event seeks to explore innovative strategies for transforming the education system while upholding the ideals of Dr. B.R. Ambedkar—ensuring social justice, equality, and access to quality education for all.

The sub-themes of this conference cover crucial areas such as continuous professional development, technology in education, leadership training, assessment reforms, and the integration of Indian knowledge systems into teacher training. By addressing these themes, we aim to bridge the gap between policy and practice, fostering an education system that is globally competitive yet deeply rooted in India’s rich traditions and social responsibilities.

I extend my heartfelt gratitude to all the distinguished speakers, researchers, academicians, and participants whose valuable contributions have enriched this academic endeavor. Special thanks to Late Chhabutai Dahake Women College of Education and Dr. Ambedkar Chair, SNDT Women’s University for their unwavering support in making this event a grand success.

May the insights shared in this conference inspire new research, policy initiatives, and collaborative efforts to strengthen teacher education in India.

Dr. Sanjay Shedmake
Director, Dr. Babasaheb Ambedkar Chair,
SNDT Women’s University, Mumbai

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**समाजसमानतेच्या दिशेने शिक्षकांचे सशक्तीकरण: डॉ. बाबासाहेब आंबेडकर यांचे विचार आणि
राष्ट्रीय शिक्षण धोरण 2020 मधील सामाजिक उत्तरदायित्व**

प्रा. (डॉ.) संजय शेडमाके

प्राचार्य (अतिरिक्त कार्यभार)

पी.व्ही.डी.टी. कॉलेज ऑफ एज्युकेशन, मुंबई

प्रस्तावना

शिक्षण हे समाजाच्या परिवर्तनासाठी एक प्रभावी माध्यम आहे. शिक्षणाच्या मदतीने व्यक्तीमध्ये सामाजिक, आर्थिक आणि वैचारिक बदल घडवता येतात. भारतरत्न डॉ. बाबासाहेब आंबेडकर यांनी शिक्षणाला सामाजिक समतेचे मुख्य साधन मानले आणि सर्वसमावेशक शिक्षणावर भर दिला. त्यांचा विश्वास होता की शिक्षणाच्या मदतीने शोषण, अन्याय आणि विषमता दूर करता येते (आंबेडकर, 1945). त्यांनी विशेषतः दलित, मागासवर्गीय आणि महिलांच्या शिक्षणाला महत्त्व दिले.

राष्ट्रीय शिक्षण धोरण 2020 (NEP 2020) हे भारतीय शिक्षण क्षेत्रात व्यापक सुधारणा करणारे धोरण आहे. या धोरणात सामाजिक समता आणि न्याय यांना केंद्रस्थानी ठेवले आहे. शिक्षण सर्वांसाठी खुलं, सर्वसमावेशक आणि गुणवत्तापूर्ण असावं, असा यामधील उद्देश आहे (NEP 2020, MHRD). शिक्षक हे समाजाच्या समताधिष्ठित जडणघडणीमध्ये महत्त्वाची भूमिका बजावतात. त्यामुळे, शिक्षकांना डॉ. बाबासाहेब आंबेडकर यांच्या विचारांनुसार सक्षम बनवणे आणि NEP 2020 च्या उद्दिष्टांनुसार सामाजिक समतेच्या मूल्यांची रुजवणूक करणे आवश्यक आहे.

अभ्यासाची उद्दिष्टे

या अभ्यासाचे प्रमुख उद्दिष्ट शिक्षणाच्या माध्यमातून सामाजिक समतेला चालना देण्याच्या दृष्टीने शिक्षकांची भूमिका स्पष्ट करणे आणि डॉ. आंबेडकर यांच्या विचारांची सांगड NEP 2020 सोबत घालणे आहे. त्यानुसार, खालील उप-उद्दिष्टे ठरवण्यात आली आहेत:

1. डॉ. बाबासाहेब आंबेडकर यांच्या शिक्षणविषयक विचारांचा आणि सामाजिक समतेसाठीच्या योगदानाचा अभ्यास करणे (आंबेडकर, 1936).
2. राष्ट्रीय शिक्षण धोरण 2020 मधील सामाजिक समतेवरील धोरणे आणि त्यांची अंमलबजावणी कशी करता येईल हे विश्लेषण करणे.
3. शिक्षकांना सामाजिक न्याय आणि सर्वसमावेशक शिक्षणासंदर्भात प्रशिक्षण देण्यासाठी प्रभावी उपाययोजना शोधणे.
4. शिक्षण क्षेत्रातील सामाजिक समतेला चालना देण्यासाठी शिक्षकांच्या भूमिकेचा अभ्यास करणे.

अभ्यासाची गरज आणि महत्त्व

समाजात अजूनही जात, लिंग, आर्थिक स्थिती आणि शैक्षणिक स्तरावर असमानता दिसून येते. शिक्षणाच्या माध्यमातून ही असमानता दूर करता येऊ शकते, पण त्यासाठी शिक्षकांना योग्य मार्गदर्शन आणि प्रशिक्षण मिळणे आवश्यक आहे (Sen, 2006). NEP 2020 हे शिक्षणाच्या सर्व पातळ्यांवर परिवर्तन

घडवू पाहते. त्यात शिक्षकांना सक्षम बनवण्यावर विशेष भर दिला आहे, कारण शिक्षक हे समाजात परिवर्तन घडवणारे मुख्य घटक असतात.

डॉ. आंबेडकर यांनी शिक्षणाला मुक्तीचे साधन मानले होते आणि त्यांनी सर्वांना शिक्षण उपलब्ध करून देण्यावर भर दिला. NEP 2020 मध्ये सर्वसमावेशक शिक्षणाला प्राधान्य देण्यात आले आहे, त्यामुळे याची प्रभावी अंमलबजावणी होण्यासाठी शिक्षकांना सामाजिक समतेच्या दृष्टिकोनातून सक्षम करणे आवश्यक आहे.

शिक्षकांचे सशक्तीकरण आणि सामाजिक समतेसाठी त्यांची भूमिका

शिक्षक हे केवळ ज्ञानप्रदाते नसून विद्यार्थ्यांच्या नैतिक व सामाजिक विकासाचे मार्गदर्शक असतात. त्यांच्याकडून विद्यार्थ्यांमध्ये सामाजिक समतेच्या मूल्यांची रुजवणूक होणे आवश्यक आहे. शिक्षकांनी पुढील बाबी आत्मसात करणे आवश्यक आहे:

1. समताधिष्ठित शिक्षण: विद्यार्थ्यांना कोणत्याही प्रकारच्या भेदभावाशिवाय समान संधी उपलब्ध करून देणे (Freire, 1970).
2. सर्वसमावेशक शिक्षण: दिव्यांग, आर्थिकदृष्ट्या मागास आणि सामाजिकदृष्ट्या दुर्बल गटातील विद्यार्थ्यांसाठी विशेष प्रयत्न करणे.
3. संविधानिक मूल्यांची शिकवण: भारतीय संविधानातील समता, न्याय आणि बंधुता यासारख्या संकल्पनांना प्राधान्य देणे (Indian Constitution, 1950).
4. डिजिटल तंत्रज्ञानाचा वापर: ग्रामीण आणि शहरी विद्यार्थ्यांना समान शिक्षणसंधी मिळावी यासाठी तंत्रज्ञानाचा प्रभावी उपयोग करणे.
5. लैंगिक समतेचा प्रचार: शिक्षणाच्या माध्यमातून स्त्री-पुरुष समानतेवर भर देणे.
6. विद्यार्थ्यांमध्ये सामाजिक जाणीव निर्माण करणे: त्यांना सामाजिक समस्या, नागरी जबाबदाऱ्या आणि सामाजिक न्याय याबाबत जागरूक करणे.

NEP 2020 अंतर्गत शिक्षक शिक्षण सुधारणा

NEP 2020 मध्ये शिक्षकांच्या व्यावसायिक विकासासाठी खालील सुधारणा प्रस्तावित केल्या आहेत:

1. शिक्षक शिक्षणासाठी चार वर्षांचा एकात्मिक B.Ed. अभ्यासक्रम सुरू करणे.
2. शिक्षकांना सतत व्यावसायिक प्रशिक्षण देण्यासाठी (Continuous Professional Development - CPD) विशेष उपक्रम राबवणे (NEP 2020, MHRD).
3. बहुशाखीय शिक्षण प्रणालीमध्ये शिक्षकांना अधिक महत्त्वाची भूमिका दिली जाणार आहे.
4. डिजिटल शिक्षण आणि आधुनिक तंत्रज्ञानाचा उपयोग करून शिक्षण प्रक्रिया अधिक प्रभावी करणे.

निष्कर्ष

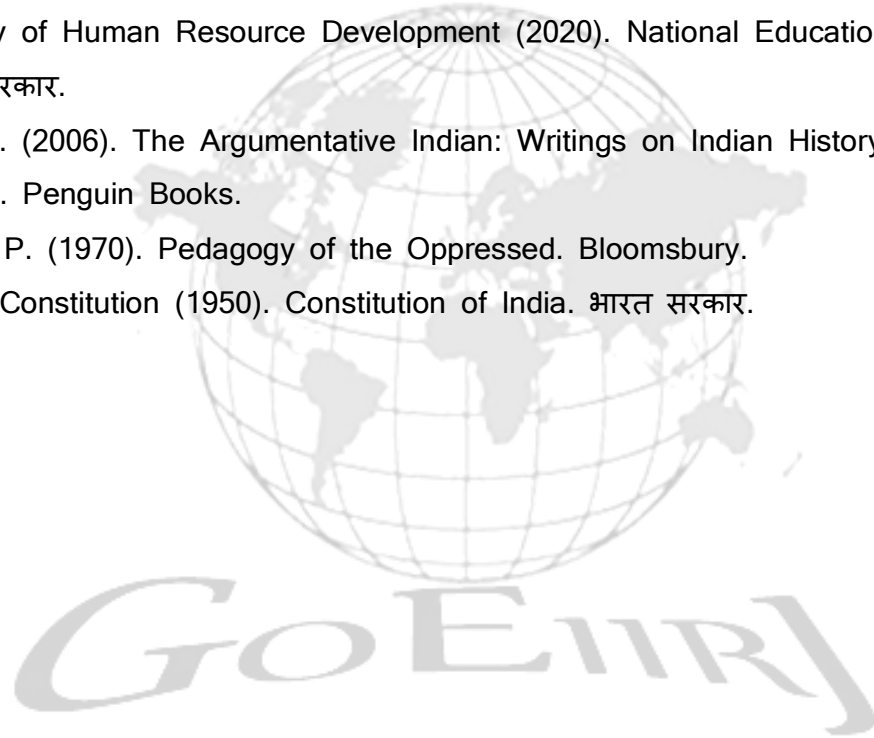
शिक्षण हे सामाजिक समतेच्या दिशेने वाटचाल करण्याचे प्रभावी साधन आहे. डॉ. बाबासाहेब आंबेडकर यांच्या विचारांनुसार शिक्षणाच्या माध्यमातून समाजातील विषमता दूर करता येऊ शकते. NEP 2020 मध्ये शिक्षण प्रणालीच्या सर्वांगीण विकासासाठी महत्त्वाच्या सुधारणा सुचवण्यात आल्या आहेत. शिक्षकांना सक्षम बनवून विद्यार्थ्यांमध्ये समतेची मूल्ये रुजवणे, सर्वसमावेशक शिक्षण प्रणाली विकसित

करणे आणि NEP 2020 मधील धोरणे प्रभावीपणे राबवणे आवश्यक आहे.

समाजसमानतेच्या दिशेने वाटचाल करण्यासाठी शिक्षकांचे सशक्तीकरण करणे गरजेचे आहे. शिक्षकांना केवळ माहिती देणारे व्यक्ती न मानता, ते सामाजिक परिवर्तन घडवणारे मार्गदर्शक म्हणून विकसित करणे आवश्यक आहे. शिक्षण व्यवस्थेने हे उद्दिष्ट साध्य करण्यासाठी आवश्यक पावले उचलल्यास समाजात खरी समता आणि न्याय प्रस्थापित करण्याची प्रक्रिया अधिक वेगवान होईल.

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The Role of Libraries in Teacher Education and Professional Development under NEP 2020

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Abstract:

The National Education Policy (NEP) 2020 envisions a transformative approach to education in India, emphasizing competency-based learning, interdisciplinary methods, and technology integration. Libraries serve as essential institutions that support teacher education and professional development by facilitating access to high-quality educational resources, promoting digital literacy, and fostering collaborative learning environments. They provide teachers with access to digital repositories, academic research, and online courses, enabling them to stay updated with the latest pedagogical advancements.

This paper examines the evolving role of libraries in equipping teachers with the necessary skills to enhance their professional growth in alignment with NEP 2020. It highlights how libraries contribute to research-driven pedagogy, continuous professional development (CPD), and interdisciplinary learning. Additionally, the study explores the challenges that hinder the optimal utilization of libraries, such as infrastructure limitations and budgetary constraints, and proposes strategic recommendations, including investment in digital infrastructure and stronger collaboration between educators and librarians.

By harnessing the full potential of libraries as dynamic learning spaces, NEP 2020 can enhance teacher education and training, contributing to a more research-oriented and technologically advanced education system that prepares educators and students for a knowledge-driven future.

Introduction:

Libraries have historically been the backbone of academic and professional development, providing access to knowledge and fostering a culture of research and continuous learning. With the implementation of NEP 2020, the role of libraries in teacher education has expanded beyond their conventional functions. Libraries are no longer passive repositories of books; instead, they are evolving into interactive spaces that support digital learning, research-driven education, and professional development. As NEP 2020 emphasizes competency-based education, experiential learning, and interdisciplinary studies, libraries must adapt to provide teachers with the necessary resources and training to meet these evolving educational demands.

NEP 2020 highlights the need for rigorous teacher training and continuous professional development (CPD) to improve the quality of education in India. Libraries play a crucial role in this transformation by offering print and digital resources, access to research journals, and digital

learning platforms that enhance pedagogical practices. By integrating technology into education, libraries enable teachers to access e-learning modules, virtual labs, and multimedia content that support blended and experiential learning approaches. Additionally, libraries serve as collaborative spaces where educators engage in research, innovation, and peer learning, aligning with NEP's vision of holistic and interdisciplinary education.

Despite their significant role in teacher education, libraries face multiple challenges that hinder their full potential. Limited digital infrastructure, inadequate funding, and a lack of librarian training on modern educational tools pose obstacles to their effective utilization. Many educators are unaware of the vast resources available in libraries, leading to underutilization of research materials, digital archives, and professional development programs. Addressing these challenges is critical to ensuring that libraries can effectively support the goals of NEP 2020.

This paper explores the evolving role of libraries in teacher education and professional development under NEP 2020. It examines how libraries facilitate teacher training, CPD, digital literacy, and research while identifying the challenges they face. The study also proposes strategic measures to enhance the effectiveness of libraries, ensuring they serve as essential pillars in the education system. By strengthening library services, NEP 2020 can create a more resource-rich and technologically advanced learning ecosystem that empowers educators and enhances the overall quality of education.

The Role of Libraries in Teacher Education:

Libraries serve as vital institutions that support teacher education by providing access to diverse resources, facilitating research, and integrating digital learning tools into pedagogy. Under NEP 2020, libraries are expected to evolve beyond their traditional role of book repositories and become hubs of knowledge dissemination, collaborative learning, and professional development for educators. Libraries contribute to teacher education by offering quality resources, promoting research and innovation, enhancing digital literacy, and facilitating experiential and blended learning.

- Libraries provide educators with comprehensive learning materials that enhance their pedagogical skills, including textbooks, reference materials, and research publications on pedagogy, psychology, and curriculum development. Digital resources such as e-books, academic journals, and open educational resources (OERs) through platforms like INFLIBNET and Shodhganga have revolutionized access to knowledge, enabling teachers to retrieve relevant information instantly. The ease of access to digital archives and well-structured library collections promotes interdisciplinary learning, ensuring that teachers can explore resources from multiple academic fields. This interdisciplinary approach, encouraged by NEP 2020, fosters a more comprehensive understanding of various subjects, ultimately enhancing teaching effectiveness.
- NEP 2020 emphasizes the importance of research in shaping effective teaching strategies. Libraries play a crucial role in fostering research and innovation in pedagogy by providing

access to scholarly articles, peer-reviewed journals, and case studies that help educators develop evidence-based teaching methodologies. They organize workshops on research methodology, academic writing, and citation management to enhance teachers' research skills and offer plagiarism detection and reference management tools to support educators in producing high-quality academic work. Libraries also assist in action research, where teachers evaluate and refine their teaching practices based on empirical evidence. By encouraging data-driven decision-making and innovation, libraries help educators continually improve their teaching methods, ensuring that education remains relevant and effective in a rapidly changing world.

- In today's rapidly evolving digital landscape, NEP 2020 calls for the integration of technology in education. Libraries facilitate this shift by providing training programs on digital literacy, helping teachers navigate online databases, e-learning platforms, and digital teaching tools. They offer access to online learning management systems (LMS) like SWAYAM and DIKSHA and equip teachers with knowledge of multimedia content creation, including the use of video lectures, podcasts, and interactive educational apps. By improving digital literacy, libraries enable teachers to effectively integrate technology into their classrooms, making learning more interactive, engaging, and accessible. Furthermore, libraries provide workshops on cybersecurity and ethical digital practices, ensuring that educators and students engage responsibly in the digital learning environment. These initiatives support a seamless transition to digital education, making teachers more confident in using technology to enhance their instructional methods.
- NEP 2020 promotes experiential and blended learning as key components of modern education. Libraries contribute to these pedagogical approaches by hosting smart classrooms and maker spaces where teachers can experiment with interactive teaching methodologies. They provide access to multimedia resources such as educational videos, simulations, and gamified learning platforms while supporting flipped classroom models that allow for deeper discussions during face-to-face sessions. Encouraging collaborative learning through discussion rooms, group study spaces, and online forums further enables teachers to explore alternative teaching techniques and adapt to evolving educational trends. Libraries also facilitate cross-disciplinary collaboration by providing spaces where educators from various fields can engage in discussions, workshops, and joint research projects. This fosters an environment of collective learning and innovation, ultimately enriching the teaching-learning process and preparing educators for the challenges of modern pedagogy.

Challenges in Optimizing Library Services for Teacher Development:

Despite their critical role in teacher education and professional development, libraries face several challenges in fully realizing their potential under NEP 2020. Many libraries, particularly in rural and underfunded institutions, lack modern digital infrastructure, including high-speed

internet, digital databases, and adequate physical spaces for collaborative learning. Limited awareness among educators leads to underutilization of digital learning platforms, research support services, and professional training workshops. Additionally, insufficient training for librarians in digital pedagogy and research support restricts their ability to assist educators effectively. Funding constraints impact the acquisition of new resources, maintenance of library infrastructure, and organization of educational programs. Resistance to digital transformation, particularly among educators hesitant to adopt technology-driven learning models, further slows the integration of innovative library services into teacher education.

Recommendations for Strengthening Library Support in Teacher Education:

- Libraries need investment in digital infrastructure to support digital learning and blended education models. Expanding digital repositories, upgrading library management systems, and improving internet connectivity are essential steps in modernizing library services. Incorporating assistive technologies can also enhance accessibility for educators with disabilities.
- Strengthening collaboration between librarians and educators can maximize the value of educational resources. Establishing teacher-librarian partnerships, developing library-centric teaching modules, and facilitating interdisciplinary research groups can improve the integration of library services into teacher education.
- Librarians must be equipped with advanced skills to support teacher education effectively. Training programs should focus on digital pedagogy, research methodology, technological literacy, and personalized learning assistance to enhance the role of librarians as facilitators of education.
- Governments and educational institutions must recognize libraries as a central pillar in education and provide adequate funding and policy support. National and institutional policies should explicitly define the role of libraries in teacher education, while increased financial investment will enable sustainable growth and modernization.
- Promoting information literacy and research skills among educators can improve research quality and resource utilization. Workshops on evaluating online information, ethical research practices, and AI-based research assistance can help teachers develop strong research competencies. Encouraging teacher-led research publication through institutional repositories and open-access platforms will further enhance professional development.
- Libraries can extend their impact beyond academic institutions by fostering community engagement initiatives. Outreach programs, mobile library services for rural communities, and student-teacher-librarian collaborations in social research projects can promote lifelong learning and inclusive access to educational resources.

Conclusion:

Libraries play an indispensable role in achieving the objectives of NEP 2020, particularly in enhancing teacher education and professional development. They are no longer limited to being

book repositories but have evolved into knowledge hubs that support digital literacy, innovative teaching methodologies, and lifelong learning. By providing access to a wealth of resources, fostering research-driven education, and promoting interdisciplinary collaboration, libraries empower teachers to refine their instructional methods and remain updated with the latest educational advancements.

Despite their significance, libraries face several obstacles, including infrastructure deficiencies, financial constraints, and resistance to digital transformation among educators. Addressing these challenges requires a strategic approach that includes investments in digital infrastructure, enhanced librarian training, and stronger collaboration between libraries and educators. Additionally, policies must be implemented to recognize libraries as essential institutions in teacher education and professional development.

By implementing these recommendations, libraries can become dynamic centers for learning, ensuring that educators have access to high-quality resources, training, and professional networking opportunities. Strengthening library services will not only improve the quality of teacher education but also contribute to a research-oriented and technologically enriched education system. A well-equipped and efficiently managed library system can help teachers develop innovative pedagogical strategies, improve student engagement, and contribute to an education system that prepares future generations for the demands of an evolving global landscape.

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A Study of Technology in Teacher Education under NEP 2020**Dr. K. C. Rathod***I/c Principal,**JSM College of Education, Shivle*

Abstract

The National Education Policy (NEP) 2020 emphasizes the need for integrating technology into all aspects of education, including teacher education. Technology plays a significant role in transforming teacher preparation, development, and ongoing learning.

computer and other technological tools also play an important role in the accessing of information, creating rich learning environments, responding to different learning styles of students, transferring the learned, supporting high-level thinking skills, offering students the opportunity to compare with the real-life problems, by solving problems steering students to learn science based on inquiry, cooperation, communication and support lifelong learning.

While there are many struggles to appropriately incorporate technology into the classroom, research has shown benefits of technology integration when implemented effectively.

Key Words: Technology, NEP 2020, instructional technology, teacher education, educational technology

Introduction:

Instructional technology continues to become more prevalent in classrooms around the globe. However, it is unclear whether teachers are prepared and have the self-efficacy to incorporate instructional technology into the classroom. This study reviews an instructional technology course for pre-service teachers and whether student comfort increased with instructional technology throughout the course. In addition, data were collected regarding preferences pertaining to instructional technology.

1. Enhancing Teacher Training Programs

Blended Learning: Technology facilitates a blend of online and offline learning modes, enabling teachers to access high-quality resources, courses, and training modules from anywhere.

2. Access to Continuous Professional Development

Online Workshops and Webinars: Teachers can participate in online workshops, webinars, and courses on new teaching methods, pedagogies, and technology integration, which align with the NEP's goal of lifelong learning.

3. Improving Pedagogical Skills

Innovative Teaching Techniques: NEP 2020 encourages the use of digital tools for

creating interactive lessons, virtual simulations, and multimedia resources, helping teachers develop innovative teaching strategies.

4. Support for Inclusive Education

Special Needs Education: Technology can offer tools for teachers to better understand and support students with disabilities, providing specialized learning aids and resources.

5. Research and Data-Driven Insights

Data Analytics: Technology enables the collection of data on students' learning patterns, which teachers can use to improve their teaching methods. It also helps identify gaps in teaching and learning.

6. Integration of EdTech Tools

E-Assessment: Digital assessments help in evaluating student learning more efficiently, providing instant feedback and more diverse forms of assessment.

7. Promoting Digital Literacy

Teaching Digital Literacy: NEP 2020 emphasizes the importance of digital literacy for both students and teachers. Integrating technology into teacher education ensures that teachers are proficient in using digital tools and are prepared to teach digital skills to students.

8. Encouraging Innovation and Creativity

Creative Tools: Technology promotes creativity by allowing teachers to use various digital tools for lesson planning, multimedia creation, and interactive activities.

9. Equity and Access

Reaching Remote Areas: Digital platforms make teacher education more accessible to individuals in remote areas, ensuring that geographic location does not limit access to quality teacher training.

10. Alignment with NEP 2020 Vision

The NEP 2020 envisions a 'holistic and integrated approach' to education, where technology acts as a key enabler in making teaching more effective, inclusive, and accessible.

In conclusion, the role of technology in teacher education under (NEP 2020) is fundamental to creating a modern, dynamic, and equitable educational system. By incorporating digital tools and resources, it not only improves the quality of teacher training but also ensures that teachers are better equipped to handle the challenges of modern classrooms.

"Role of Technology in Teacher Education"

Technology plays a pivotal role in modern teacher education, enhancing both teaching methodologies and learning outcomes. Its integration offers several key benefits:

1. Enhanced Teaching Methods: Digital tools enable educators to create interactive and engaging learning experiences. For instance, multimedia presentations and educational

software can make complex concepts more accessible and interesting.

2. Improved Accessibility: Technology facilitates access to a wealth of information and resources, allowing teachers to stay updated with the latest educational trends and research. Online platforms and digital libraries provide a vast array of materials that can be incorporated into teaching.
3. Professional Development: Educators can engage in online workshops, webinars, and courses to enhance their skills and knowledge. This continuous professional development is crucial for adapting to evolving educational landscapes. University of Nebraska Pressbooks
4. Personalized Learning: Technology allows for the customization of learning experiences to meet individual student needs, promoting a more inclusive and effective educational environment. Scientia Tutorials

The Human Capital Hub

In summary, integrating technology into teacher education enriches the teaching and learning process, making it more dynamic, accessible, and responsive to the needs of all learners.

Teacher Education under NEP 2020

The National Education Policy (NEP) 2020 introduces significant reforms in teacher education in India, aiming to enhance the quality and effectiveness of educators. Key aspects include:

1. Revised Teacher Education Programs:
2. Emphasis on Practical Training:
3. Professional Standards and Continuous Development:
4. Multilingual Education:
5. Use of Technology:

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Transforming Assessment Practices in Teacher Education

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Abstract

Transforming assessment practices in teacher education is essential to align with the evolving demands of 21st-century education. Traditional assessment methods often prioritize knowledge recall over practical application and critical reflection, limiting the development of essential teaching competencies. This paper explores innovative approaches to assessment that emphasize formative feedback, authentic and competency-based evaluations, and the integration of digital tools. By fostering reflective practices, encouraging self and peer assessments, and designing tasks that mirror real-world teaching challenges, these transformed practices prepare teacher trainees for dynamic classroom environments. The shift requires overcoming challenges such as resistance to change and limited resources, but the long-term benefits include producing adaptive, skilled, and reflective educators capable of meeting diverse learner needs. Transforming assessment practices is not just a pedagogical imperative—it is a vital step toward improving the quality and impact of teacher education globally.

Key Words : Transforming Assessment, Teacher Education

Introduction

Traditional assessment methods often focus on evaluating knowledge rather than fostering growth and development in teacher education. However, as educational philosophies shift toward more holistic, learner-centered approaches, assessment practices must evolve to reflect these changes. This transformation is essential for preparing future educators to meet the diverse needs of 21st-century learners. The assessment landscape in teacher education is undergoing a significant transformation to address the evolving demands of modern classrooms and diverse learner needs. Traditional assessment practices, often centered on standardized tests and rote learning, are increasingly being replaced by innovative, learner-centered approaches that emphasize practical application, critical thinking, and reflective practice. This shift aims to better prepare teacher trainees for the complexities of 21st-century education by aligning assessment methods with the skills and competencies required in real-world teaching. This paper examines the need for transforming assessment practices in teacher education, explores innovative strategies such as formative and authentic assessments, and highlights the challenges and opportunities associated with this transformation. By adopting these modern approaches, teacher education programs can empower future educators to create meaningful, inclusive, and impactful learning experiences.

Key Strategies for Transforming Assessment Practices**1. Adopt Formative Assessment Approaches**

Formative assessments, such as reflective journals, peer feedback, and in-class discussions, provide continuous opportunities for growth. They emphasize progress over time and allow teacher trainees to refine their skills through constructive feedback.

2. Incorporate Authentic Assessments

Designing tasks that mirror real-world teaching challenges, such as lesson planning, classroom simulations, and case studies, ensures assessments are meaningful and practical. Authentic assessments help trainees develop skills directly applicable to their future classrooms.

3. Utilize Digital Tools and Technology

Digital platforms can transform how assessments are designed and delivered. Tools like e-portfolios, video-based reflections, and online quizzes allow for personalized, engaging, and accessible evaluations.

4. Focus on Competency-Based Assessment

Shift the focus from theoretical knowledge to practical teaching competencies. Assessments should evaluate skills like classroom management, differentiated instruction, and inclusive practices.

5. Promote Self and Peer Assessments

Encouraging teacher trainees to assess themselves and their peers fosters critical reflection, collaborative learning, and a deeper understanding of their own teaching practices.

6. Emphasize Reflective Practices

Assessments that require trainees to analyze their teaching methods, identify strengths, and plan for improvement are essential for fostering lifelong learning and self-awareness.

7. Align Assessments with Modern Educational Goals

Align assessments with 21st-century educational goals, such as fostering creativity, collaboration, communication, and critical thinking.

Challenges in Transforming Assessment Practices

- Resistance to change due to ingrained traditional methods.
- Limited resources and infrastructure in teacher education institutions.
- Lack of training for educators in implementing innovative assessment strategies.

Conclusion

Transforming assessment practices in teacher education is critical to preparing future educators for the complexities of modern classrooms. By prioritizing authentic, reflective, and competency-based approaches, teacher education programs can equip trainees with the skills and mindset necessary to thrive in dynamic educational environments.

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India in the world

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Introduction

India stands at a pivotal moment in history, poised to shape the future of the global order. With a rapidly growing economy, technological advancements, and a young, dynamic population, the country is on a trajectory to become a major global power. As the world's largest democracy and a nation rich in culture, innovation, and resilience, India is steadily strengthening its position in various fields, from economics and geopolitics to technology and sustainability.

Looking ahead, India's influence will expand across multiple dimensions—emerging as a leader in economic growth, a powerhouse in digital transformation, and a key player in international diplomacy. However, challenges such as income disparity, environmental sustainability, and social infrastructure must be addressed to fully realize its potential.

Changes in Different Sectors in India's Future

India is undergoing rapid transformation across various sectors, driving its emergence as a global power. Here's a look at how key sectors are expected to evolve:

1. Economy & Trade
2. Technology & Innovation
3. Infrastructure & Urban Development
4. Agriculture & Rural Development
5. Healthcare & Biotechnology
6. Education & Skill Development
7. Defence & Space
8. Renewable Energy & Environment
9. Entertainment & Cultural Influence
10. Governance & Digital Transformation

Challenges India Faces in Its Future Growth

While India is on a strong growth trajectory, it faces several challenges that need to be addressed for sustainable and inclusive development. These challenges span economic, social, technological, and environmental sectors.

1. Economic Challenges

Unemployment & Job Creation: Despite economic growth, job creation has not kept pace with the rising population. There is a need for more employment opportunities in both rural and urban areas.

2. Infrastructure & Urbanization Challenges

Inadequate Infrastructure: Despite progress, India still faces challenges in roads, public transport, and digital connectivity, especially in rural areas.

3. Education & Skill Development Challenges

Quality of Education: While India has a vast education system, the quality of education in many institutions remains low, affecting employability.

4. Healthcare & Public Health Challenges

Healthcare Infrastructure: Despite improvements, access to quality healthcare is still limited in many rural and semi-urban areas.

5. Environmental & Climate Change Challenges

Pollution & Air Quality: Many Indian cities rank among the most polluted in the world, affecting public health. Strict pollution control measures are necessary.

6. Governance & Political Challenges

Corruption & Bureaucracy: Corruption at various levels of governance affects efficiency and transparency. Stronger anti-corruption measures are needed.

7. Security & Geopolitical Challenges

Border Conflicts & National Security: Ongoing tensions with neighbouring countries like China and Pakistan pose security risks. Strengthening defence and diplomacy is crucial.

8. Social Challenges

Population Growth & Resource Strain: India's large population puts pressure on resources like land, water, and food. Sustainable planning is essential.

Results of India's Growth and Development

As India progresses across various sectors while addressing its challenges, the country is expected to achieve several significant results in the coming decades. These outcomes will shape its global standing, economic stability, and social development.

1. Economic Growth & Global Influence

Third-Largest Economy: India is projected to surpass Japan and Germany to become the world's third-largest economy by 2030. Manufacturing & Export Hub: "Make in India" and "Atmanirbhar Bharat" will strengthen domestic industries and increase exports, making India a key player in global trade.

2. Technological Advancements & Digital Transformation

Global IT & AI Leader: India will continue to be a major hub for software, AI, and emerging technologies. Expansion of Digital Economy: More businesses and services will shift online, increasing financial inclusion and efficiency.

3. Improved Infrastructure & Urban Development

Smart Cities & Better Transport: Metro expansions, bullet trains, and better roads

will enhance urban living. Renewable Energy Growth: Solar, wind, and green hydrogen projects will help India become a global leader in clean energy.

4. **Enhanced Social & Human Development**

Better Education System: The New Education Policy (NEP) will promote skill-based learning, critical thinking, and global collaborations. Universal Healthcare Access: Government schemes like Ayushman Bharat will improve healthcare facilities and affordability.

5. **Environmental & Climate Progress**

Reduction in Pollution Levels: Stricter regulations and green policies will lead to cleaner air and water. Climate Resilience & Sustainability: Investment in renewable energy, a forestation, and water conservation will help combat climate change.

6. **Stronger Global Position & Geopolitical Influence**

Greater Diplomatic Influence: India will play a crucial role in global organizations like the UN, G20, QUAD, and BRICS. Defence & Space Leadership: Advancements in military strength and space exploration (such as ISRO's deep space missions) will boost India's global standing.

As India progresses across various sectors while addressing its challenges, the country is expected to achieve several significant results in the coming decades. These outcomes will shape its global standing, economic stability, and social development.

1. **Economic Growth & Global Influence**

- ✓ Third-Largest Economy: India is projected to surpass Japan and Germany to become the world's third-largest economy by 2030.
- ✓ Manufacturing & Export Hub: "Make in India" and "Atmanirbhar Bharat" will strengthen domestic industries and increase exports, making India a key player in global trade.
- ✓ Rise in Foreign Investments: Favorable policies and economic reforms will attract multinational corporations, boosting employment and GDP.

2. **Technological Advancements & Digital Transformation**

- ✓ Global IT & AI Leader: India will continue to be a major hub for software, AI, and emerging technologies.
- ✓ Expansion of Digital Economy: More businesses and services will shift online, increasing financial inclusion and efficiency.
- ✓ Growth of Startups & Innovation: India will see a rise in unicorn startups in fintech, edtech, healthtech, and deep tech sectors.

3. **Improved Infrastructure & Urban Development**

- ✓ Smart Cities & Better Transport: Metro expansions, bullet trains, and better roads will enhance urban living.
- ✓ Renewable Energy Growth: Solar, wind, and green hydrogen projects will help India

become a global leader in clean energy.

- ✓ Sustainable Urbanization: Improved city planning and housing will lead to better living conditions.

4. Enhanced Social & Human Development

- ✓ Better Education System: The New Education Policy (NEP) will promote skill-based learning, critical thinking, and global collaborations.
- ✓ Universal Healthcare Access: Government schemes like Ayushman Bharat will improve healthcare facilities and affordability.
- ✓ Gender Equality & Social Inclusion: Increased women's participation in the workforce and improved social reforms will lead to a more inclusive society.

5. Environmental & Climate Progress

- ✓ Reduction in Pollution Levels: Stricter regulations and green policies will lead to cleaner air and water.
- ✓ Climate Resilience & Sustainability: Investment in renewable energy, forestation, and water conservation will help combat climate change.
- ✓ Electric Vehicle (EV) Revolution: India will see a major transition toward electric mobility, reducing carbon emissions.

6. Stronger Global Position & Geopolitical Influence

- ✓ Greater Diplomatic Influence: India will play a crucial role in global organizations like the UN, G20, QUAD, and BRICS.
- ✓ Defence & Space Leadership: Advancements in military strength and space exploration (such as ISRO's deep space missions) will boost India's global standing.
- ✓ Stronger Cyber security & Digital Governance: Investments in cyber security will protect India's digital infrastructure and economy.

Conclusion

India's future is bright, with significant progress expected in economic growth, technology, infrastructure, healthcare, and global influence. While challenges remain, strategic reforms and innovation will enable India to emerge as a global powerhouse. India is set to experience a paradigm shift in multiple sectors, positioning itself as a leader in innovation, economy, and global influence. While challenges remain, strategic reforms and technological advancements will shape a stronger and more developed India in the future. While India has immense potential for growth, addressing these challenges is crucial for a sustainable and prosperous future. With the right policies, innovation, and collective effort, India can overcome these hurdles and emerge as a global leader in the coming decades. India's future is bright, with significant progress expected in economic growth, technology, infrastructure, healthcare, and global influence. While challenges remain, strategic reforms and innovation will enable India to emerge as a global powerhouse.

Subalterns And New Education Policy 2020**Dr. Kirtikumar R. Pimpliskar***Associate Professor,**Department of English**Anjuman– I-Islam's Akbar Peerbhoy College of Comm. & Eco.,**M. S. Ali Road, Grant Road, Mumbai – 400 008.*

The National Education Policy (NEP) 2020 is sort of, a really big deal for India, okay? It's all about attempting to completely overhaul the way education is done in the country to make it fairer and available to all, particularly those who don't typically get the same opportunities as others. It's like to say, "Hey, let's get back to making sure that everyone has a chance, you know, particularly from lower social groups and folks who've been left behind." It's all about changing the broken things that have been going on in education for quite some time now, such as how some individuals simply don't receive the same breaks because of where they are from or who they are. This policy is essentially saying, "Hey, education is sort of the key to making things better for everybody in society, so we need to ensure everybody can access it!" It's trying to assist those who've been struggling, such as Dalits, tribal people, and other groups that haven't been treated so well. It's trying to make schools and learning things more equal for everybody, particularly for those who are typically overlooked.

One of the biggest objectives of NEP 2020 is to eliminate all the obstacles that prevent some children from receiving a proper education. It's like, let's demolish the barriers that prevent girls, poor children, and those who do not speak the dominant languages from learning as much as they can. It wants to ensure that no child is left behind, regardless of where they're from or what their background's like.

Dr. Bhimrao Ramji Ambedkar had some remarkable ideas about education. His vision is prominently reflected in the National Education Policy that was introduced in 2020. He believed that a good education serves as a powerful tool to combat societal injustices and discrimination based on identity. Moreover, he saw education as a means to foster moral development and facilitate social mobility. The essence of Dr. Ambedkar's educational philosophy revolves around transforming society and ensuring equitable treatment for all. He established the People's Education Society, which aimed to create schools that challenged the existing norms and empowered individuals to become better citizens. Additionally, he authored numerous works that delve into these profound concepts.

NEP is also advocating for vocational education, i.e., learning cool things that you can use to get employed. This is really crucial for children from underprivileged backgrounds or those who grow up in rural areas and may not have equal opportunities as everyone else. It's like saying,

So, in short, NEP 2020 is sort of a huge educational makeover for India, and it's all about providing opportunities for everyone to learn and prosper, regardless of their background. It's attempting to make education more about equality and fairness, which is what we all wish for, right? The policy is just about being just and providing money to the communities that truly deserve it, you know, the ones that get neglected or overlooked. NEP 2020 is really mindful of the problem of children leaving school, particularly those belonging to groups that are not always given equal treatment. The likes of lacking sufficient money, having to work, or lacking the proper support may make it very difficult for these students to continue learning.

That policy is like, "Hey, we should have some programs to catch these kids up and keep them in school!" They want to implement things like offering free food at school and providing activities in the community to ensure kids don't just drop out of school altogether. And they're going to prioritize getting those who needed to drop out of school back and rejoin. That's cool, right?

But the thing is, teachers are important! NEP 2020 is telling us we need to train them to learn and appreciate all the various kids they teach. Like, don't be nasty to someone just because they're lower caste or don't speak the same language as you. Teachers need to realize that everyone's different and that's alright. They need to make school a place where all students feel good about themselves.

And now, NEP 2020 is like this huge, wonderful plan for ensuring that everyone gets an opportunity to have a good education, regardless of where they come from. It mentions teaching in mom and dad's language, which is a huge thing for some children, particularly those from tribal regions. But, there are still some potholes along the way.

Some schools simply don't have the resources they require to make this a reality. Like, no computers, substandard buildings, or insufficient qualified teachers. And then there are these outdated ways of thinking that are difficult to shift.

Even though the whole caste system is, like, not allowed anymore according to the big book of rules (the constitution), the social hangover is still there. Dalits and others are still getting the short end of the stick in a lot of places in India. Getting a good education is like a superhero cape for them to fight back against all this discrimination. And Ambedkar's message regarding employing education to kick casteism's butt is something we all must never forget and keep demanding. Now, during the time of fake news and everyone glued to their mobiles, what Ambedkar has to say about the significance of rational and secular education is, like, super-duper critical. He didn't simply want individuals to memorize things; he wanted education to get people to think critically and question everything, which is precisely what we must be able to do to get through the quagmire of information we have today.

Dr. Bhimrao Ramji Ambedkar had some remarkable ideas about education. His vision is prominently reflected in the National Education Policy that was introduced in 2020. He believed

that a good education serves as a powerful tool to combat societal injustices and discrimination based on identity. Moreover, he saw education as a means to foster moral development and facilitate social mobility. The essence of Dr. Ambedkar's educational philosophy revolves around transforming society and ensuring equitable treatment for all. He established the People's Education Society, which aimed to create schools that challenged the existing norms and empowered individuals to become better citizens. Additionally, he authored numerous works that delve into these profound concepts.

Ambedkar envisioned schools as institutions where students would not only learn subjects like math and science but also develop character and critically examine societal norms. His commitment to education was so strong that he enshrined it as a fundamental right in the Indian Constitution, advocating for universal access to education, particularly for marginalized communities. His educational vision focused on empowering the underprivileged and ensuring that everyone has an equal opportunity to succeed. It's inspiring to see how his ideas continue to influence India's educational landscape today.

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भारतीय कुटुंब कल्याण व लैंगिक शिक्षणाचे शिलेदार**प्रा. विजयकुमार पाईकराव****यशवंतराव चव्हाण महाराष्ट्र मुक्त विद्यापीठ, नाशिक****प्रस्तावना :**

शैक्षणिक क्षेत्रात ज्याचा समावेश सहसा केला जात नाही, अगदी एकविसाव्या शतकाकडे जाणाम्या समाजात देखील जो विषय वादाचा ठरतो, त्या कुटुंब कल्याण लैंगिक शिक्षणाचा र. धों. कर्वे यांनी विसाव्या शतकाच्या सुरुवातीलाच मोठ्या धडाडीने प्रचार केला भारतातील संततिनियमनाबाबतच्या चळवळीचे आद्य प्रवर्तक म्हणून ते ओळखले जातात त्यांच्या श्रीम. पत्नी मालतीबाई आणि चुलत बहीण श्री. शकुंतला परांजपे यांचाही त्यांच्या या कार्यात महत्वाचा सहभाग होता.

तत्कालिन परिस्थिती

कुटुंब कल्याण व लैंगिक शिक्षणाबद्दल उघडपणे चर्चा करणे म्हणजे जणू काही फार मोठा गुन्हा अथवा पाप आहे असा दृढ समज भारतीय समाजात होता व अजूनही फार मोठ्या प्रमाणात आहे. लैंगिक व्यवहार, त्याविषयी शास्त्रीय माहिती ह्या बाबत सातत्याने मौन पाळल्यामुळे त्याबाबतची माहिती लपत छपत, चोरून मारून मिळवली जाते. त्यातून ज्ञानाऐवजी गैरसमजच बाढीस लागतात स्वतःच्या शरीराबाबत काहीच माहिती नाही, मुले होणे न होणे ह्याबाबत संपूर्णपणे दैववादावर विसंबणे, ह्या सगळ्यातून लैंगिक अत्याचाराचा बळी स्त्रियांनाच व्हावे लागते. १९ व्या शतकाच्या मध्यास भारतात स्त्रीशिक्षणाच्या चळवळीने जोर धरला होता. विसाव्या शतकाच्या सुरुवातीस स्त्रियांना शिक्षण घेणे ही फारशी कठीण व नवी गोष्ट राहिली नव्हती. बालविवाहविरोधी चळवळी. विधवाविवाह संदर्भातील चळवळी जोर धरू लागलेल्या होत्या. परंतु अजूनही संततिनियमन आणि लैंगिक कुटुंब कल्याण शिक्षण या विषयावर शास्त्रीय ज्ञान देण्याबाबत सर्व समाजसुधारक देखील गप्पच होते. एकोणिसाव्या शतकात इंग्लंड, अमेरिकेत संततिनियमनाची चळवळ जोर धरू लागली होती. पाश्चात्य देशात देखील सुरुवातीच्या काळात संततिनियमनाचा प्रचार करणाऱ्यांना समाजाच्या विरोधास तोंड द्यावे लागले होते. संततिनियमन ह्या शब्दाचा वापर प्रथमतः श्री. र. धों कर्वे यांनीच केलेला आढळतो. १९२० ते २१ च्या दरम्यान त्यांनी कुटुंब कल्याण शिक्षण व संततिनियमना संदर्भात प्रचार कार्य व त्यासाठी लागणारी साधने विकण्यास सुरुवात केली. हे कार्य सुरु करण्यापूर्वी त्यांनी अनेकवर्षे या विषयाचा अभ्यास केला होता.

केवळ संततिनियमनाची नव्हे तर सर्वच लैंगिक व कुटुंब कल्याण शिक्षण प्रश्नाबाबतीत बुद्धिप्रामाण्यवादी भूमिकेतून निकोप चर्चा व्हावी असा त्यांचा आग्रह असे. त्यांच्या या कार्यात त्यांच्या पत्नी श्रीम.मालतीबाई व चुलतबहीण श्रीम. शकुंतला परांजपे ह्यांनी खूपच मोलाची मदत केली. ह्या तिघांनाही कर्मठ सनातनी, धर्माभिमानी लोकांच्या टीकेचे लक्ष्य व्हावे लागले.

श्री.र.धों कर्वे :

र.धों कर्वेचा जन्म १८८२ साली मुरुड जि.रत्नागिरी येथे राधाबाई व धोंडो केशव

कर्वे यांच्या पोटी झाला.त्यांचे बालपण थोडे कोकणात, थोडे मुंबईत गेले. रघुनाथ लहान असतानाच आई राधाबाईंचे निधन झाले वडील महर्षी धोंडो केशव कर्वे सतत कामात व्यग्र असत. त्यामुळे त्यांचे बालपण काहीसे एकाकीच गेले.

र. धों कर्वेना वाचनाची लहानपणापासूनच आवड होती. मॅट्रिकच्या परीक्षेत ते पहिले आले. गणित हा त्यांच्या आवडीचा विषय होता व त्यात त्यांना चांगली गती ही होती. त्यांच्या मनात डॉक्टर व्हायचे होते. पण पैशा अभावी आणि गणितातील त्यांच्या प्रगतीमुळे गणितातच त्यांनी पदवी मिळवली.

सुरुवातीला शाळेत शिक्षक म्हणून, नंतर कॉलेजात गणिताचे प्राध्यापक म्हणून त्यांनी नोकरी केली. त्याच काळात ते फ्रेंच भाषा शिकले. फ्रेंच भाषेतील लैंगिक विषयावरचे विपुल साहित्य त्यांनी वाचले, अभ्यासले १९१९ साली गणितातील उच्च पदवी घेण्यासाठी ते पॅरिसला गेले परदेशात असताना संततिनियमनासंदर्भात त्यांनी खूप अभ्यास केला

प्रत्यक्ष आरोग्य व कुटुंब कल्याण शिक्षण कार्यास सुरुवात :

१९२१ साली राईट एजन्सी या नावाने रघुनाथरावांनी संततिनियमन विषयक सल्ला देण्याचे व साधने विकण्याचे केंद्र सुरू केले. भारतातील या प्रकारचे हे पहिलेच केंद्र होते.

१९२३ साली 'संततिनियमन' विषयावरचे मराठीतील पहिले पुस्तक त्यांनी प्रसिद्ध केले. पुढे त्याच्या अनेक आवृत्या प्रसिद्ध झाल्या . १९२४ च्या जूनपासून त्यांनी विल्सन कॉलेजमध्ये पूर्ण वेळ प्राध्यापक म्हणून नोकरीस सुरुवात केली त्याच सुमारास त्यांनी 'किर्लोस्कर खबर' मध्ये संततिनियमन विषयक लेख लिहिला.

ते करीत असलेल्या संततिनियमनाच्या प्रचाराबद्दल व या लेखाबाबत कॉलेजच्या चालकांना कळल्यावर त्यांनी हे सर्व थांबविण्यास सांगितले तेव्हा ते उद्गारले गणित शिकवायला तुम्हाला पाहिजे तितकी माणसे मिळतील. पण माझा प्रचार मी केला नाही तर तो बंद पडण्याचा संभव आहे आणि मला तो महत्वाचा वाटतो' असे सांगून त्यांनी नोकरीचा राजीनामा दिला. त्यांचे धारदार, स्पष्ट व पुरोगामी विचार प्रसिद्ध करण्याचे धारिष्ट्य सुधारक विचारांच्या नियतकालिका कडेही नव्हते. म्हणूनच त्यांनी १९२७ च्या जुलै महिन्यात 'समाजस्वास्थ्य' हे मासिक स्वतः सुरू केले. त्या मागचा आपला उद्देश 'व्यक्तीच्या व समाजाच्या शारीरिक व मानसिक आरोग्याची व त्या संबंधीच्या उपायांची चर्चा करणे' हाच असल्याचे रघुनाथरावांनी स्पष्ट केले होते. भीती व लाजेमुळे न विचारता येणाऱ्या विषयांवरील अतिशय उपयुक्त माहिती त्यात दिली जाईल, असे ही त्यांनी स्पष्ट केले हे. मासिक त्यांनी आयुष्यभर ताल नियमितपणे चालविले.

कामशास्त्र, कुटुंब कल्याण व आरोग्य विषयक लेखन, वृत्तपत्रात प्रसिद्ध झालेल्या निवडक बातम्या एकत्रित करून त्यावर चुरचुरीत भाष्य असे अंकाचे स्वरूप असे. निरीश्वरवादी विचारसरणीतून ते धर्मा भिमाम्यांवर हल्ला चढवित, वेश्या व्यवसाय व नीती अनीतीबाबतचे त्यांचे विचार, संततिनियमन, समागमस्वातंत्र्य इ. त्यांनी चालवलेला प्रचार ह्यामुळे त्यांच्यावर वारंवार अश्लीलतेच्या आरोपाखाली खटले भरण्यात आले. त्यांना दंडाची शिक्षाही ठोठावण्यात आली.

१९३४ च्या खटल्यात डॉ. बाबासाहेब आंबेडकरांनी त्यांचे वकीलपत्र घेतले होते. १९३९ पासून 'समाजस्वास्थ्य' च्या पहिल्या लेखाखाली 'अश्लीलता हा कोणत्याही लेखाचा, चित्राचा किंवा इतर वस्तूचा गुण नसून तो फक्त तसा आरोप करणाऱ्याच्या मनाचा गुण आहे.' असे छापलेले असे 'पातिव्रत्य हे नैसर्गिक नसून ती पुरुषांची अरेरावी आहे. श्रीवर मालकी हक्क गाजवण्याच्या पुरुषांच्या प्रवृत्तीतून पातिव्रत्याच्या कल्पना निर्माण झाल्या आहेत. असे त्यांचे मत होते. विवाह संस्थेला ते उंदराचा पिंजरा म्हणत ज्यास विवाहात सुख मिळत नसेल त्यास तो मोडण्याची परवानगी पाहिजे व मोडल्यास त्यास कमी लेखता कामा नये असे ते म्हणत.

त्यांच्या कार्यात त्यांना सुरुवातीला सातत्याने विरोध सहन करावा. लागला पण स्वतंत्र भारतात हळूहळू संततिनियमनाचे महत्त्व समजू लागल्याने त्यांच्या अखेरच्या वर्षात त्यांना थोडे तरी समाधान मिळाले दि. १० ऑक्टोबर १९५३ रोजी ह्याच विषयावरील प्रश्नोत्तरांच्या एका कार्यक्रमात त्यांची शुध्द हरपली. त्यातच दि. १४ ऑक्टोबर १९५३ रोजी त्यांचा अंत झाला. लैंगिकता ह्या विषयावर परखडपणे सातत्याने २७ वर्षे हा माणूस एकाकीपणे लढला. श्री स्वातंत्र्याचे, शिक्षणाचे पुरस्कर्ते ज्या विषयावर मौन पाळून होते त्या विषयाच्या शिक्षणाला त्यांनी जोरदार सुरुवात करून दिली. त्यांच्या ह्या कामात तन-मन-धन अर्पून त्यांच्या पत्नीने त्यांना खूपच मोलाचे सहकार्य दिले

श्रीम. मालती कर्वे

घरची गरिबी असल्याने अगदी लहानपणापासून आपल्या विधवा बहिणीबरोबर त्या अण्णासाहेब कर्वे ह्यांच्या हिंगण्याच्या आश्रमात रहात असत. तिथेच त्यांचे शिक्षण झाले लहानपणापासून त्यांच्या मनावर महर्षी कर्वे ह्यांच्या कार्याचे संस्कार झाल्यामुळे त्यांना महर्षी काव्यान बदल नितांत आदर होता.

१९११ साली रघुनाथरावांबरोबर त्यांचा विवाह झाला. आता आपल्याला महर्षी कर्वे ह्यांच्या बरोबर काम करता येईल असे त्यांना वाटले. परंतु रघुनाथरावांना मुंबईला नोकरी असल्याने त्या मुंबईला राहू लागल्या व एका अगदी वेगळ्याच प्रकारच्या कामात गुंतत गेल्या र.धों. नी सरकारी नोकरीचा राजीनामा दिल्यानंतर त्यांनी एका उर्दू शाळेत व्यायाम शिक्षिकेची नोकरी पत्करली. १९२१ साली र.धों. नी 'राईट एजन्सी' चे काम सुरू केले संततिनियमन ह्या विषयावर लोकांना माहिती, सल्ला देणे व साधनांची विक्री करणे ही कामे ह्या एजन्सी मार्फत चालत स्त्रियांना तपासून त्यांना सल्ला देण्यासाठी एका स्त्री मदतनीसाची गरज होती.

ते काम आपली नोकरी सांभाळून मालतीबाईंनी चालू केले त्या खूपच चांगल्या प्रकारे माहिती देत, समजावून सांगत स्त्रियांना धीर देत, स्त्रियांना डायफ्रॅमचा नंबर काढून मग तो बसवून देत त्यामुळे येताना भीतभीत आलेल्या स्त्रिया जाताना हसत जात. आपोआपच त्या स्त्रियांना प्रचारक बनत. आपल्या सोबत इतर बायकांना घेऊन येत. मालतीबाई केंद्रात यायला लागल्यापासून साधनांचा खप वाढला त्या काळात डॉक्टर लोक देखील हे काम करत नसत. ह्या विषयाची माहितीच फारशी नव्हती.

राईट एजन्सीबरोबरच संततिनियमन आणि लैंगिकता ह्या कुटुंब कल्याण विषयावर

रघुनाथरावांनी लिखाण सुरू केले. परंतु अशा प्रकारचे लेख किलोस्कर खबर, मनोरंजनसारख्या नवविचाराच्या मासिकांनीही स्वीकारण्याचे नाकारले अशा परिस्थितीत स्वतःचे मासिक सुरू करण्याची कल्पना र.धों. ना सुचली व समाजस्वास्थ्य मासिकाची सुरुवात झाली. लैंगिक, कुटुंब कल्याण विषयाला वाहिलेल्या ह्या मासिकालाच त्या दोघांनी आपले अपत्य मानले र.धों. च्या हाताखाली लेखनाचे काम मालतीबाई करत असत.

समाजस्वास्थातील लेख अश्लील आहेत असे मानून रघुनाथरावांवर अनेकदा खटले भरले गेले. त्यांना अटक करण्यात आली शाळेची नोकरी, राईट एजन्सीचे काम, समाजस्वास्थ्यचे अंक आणि त्यातून रघुनाथरावांवर मरले गेलेले खटले ह्या सगळ्या शारीरिक व मानसिक दगदगीतून मालतीबाईंच्या आजारपणास सुरुवात झाली.

'समाजस्वास्थ्य' च्या अंकात 'संततिनियमनसाठी ऑपरेशन' यावर त्यांनी लेख लिहिले. तेव्हा 'तुम्हाला काय अनुभव ? लोका सांगे ब्रम्हज्ञान स्वतः कोरडे पाषाण' इत्यादी शिरे लोकांनी पत्रातून मारले. म्हणून रघुनाथरावांनी स्वतः निरपत्य असताना ऑपरेशन करून घेतले. मालतीबाईंनी मोठ्या मनाने संगती दिली. कामावरची निष्ठा, प्रामाणिकपणा, त्याग ह्यांचे अनोखे उदाहरण म्हणजे र.धों. व मालती कर्वे हे दाम्पत्य होय.

रघुनाथरावांचा स्वभाव तुसडा, त्यामुळे माणसे तुटत पण मालतीबाईंचा स्वभाव माणसे जोडण्याचा होता. दोघांनीही उदारपणे व निरपेक्ष वृत्तीने, स्वतः जननिंदा व दारिद्र्य सोसत अनेकांना मदत केली. १९४४ साली दिवाळीच्या आदल्याच दिवशी मालतीबाईंचा मृत्यू झाला. ज्या काळात लैंगिकता, कुटुंब कल्याण संततिनियमन ह्या विषयावर नुसते बोलणेदेखील शक्य नव्हते, त्याकाळात स्त्रियांना लैंगिक शिक्षण देऊन स्वतःच्या शरीरावर थोडाफार अधिकार मिळवण्याच्या कामी त्यांनी अनमोल सहाय्य केले. रघुनाथरावांनी केलेला स्त्री-स्वातंत्र्याचा पुरस्कार मात्र स्त्रियांविषयी त्यांना वाटणाऱ्या दयेच्या भावनेतून उद्भवलेला नव्हता "स्त्री हा कोणी पुरुषापेक्षा वेगळ्या जातीचा प्राणी नाही, समाज या नावाला पात्र होणारा कोणताही गट त्रियांचा व पुरुषांचा मिळून होत असतो, आणि त्रियांचे व पुरुषांचे हितसंबंध एकमेकांत गुंतलेले असल्यामुळे पुरुषांप्रमाणेच त्रियांनाही स्वातंत्र्य उपभोगता आले पाहिजे."

श्रीम. शकुंतलाबाई परांजपे

शकुंतलाबाईंचे वडील रँग्लर परांजपे फर्ग्युसन महाविद्यालयाचे प्राचार्य असल्याने त्यांचे सर्व बालपण महाविद्यालयाच्या आवारात गेले. वयाच्या सोळाव्या वर्षी त्या हुजूरपागेतून मॅट्रिक झाल्या. पुढे बी. ए. झाल्यावर १९२६ मध्ये त्या केंब्रिजला गेल्या तेथूनच त्यांनी एम्. ए. ची पदवी घेतली त्यानंतर सुमारे दहा वर्षे त्या परदेशातच रहात होत्या.भारतात परत आल्यावर त्यांनी पाहिले की त्यांचे चुलत बंधू रघुनाथराव कर्वे संततिनियमनाचे काम करत आहेत, परंतु त्यांच्या कामाला म्हणावा तसा प्रतिसाद मिळत नाही. ज्या वेळेस त्यांनी हा प्रश्न रघुनाथरावांस विचारला तेव्हा ते म्हणाले 'मी पडलो पुरुष, ह्या कामासाठी कोणी महिला पुढे आली तर त्याला उठाव येईल. 'ह्या कामाचे महत्व ओळखून त्यांनी ह्या संदर्भात प्रशिक्षण घेतले, अभ्यास केला व र.धो कर्वेच्या मार्गदर्शन खाली १९३८ साली प्रत्यक्ष कार्यान्वयन सुरुवात केली.

‘पुणेकरांची सोय’ हा शीर्षकाची जाहिरात देऊन त्यांनी दुपारी ३ ते ५ ह्या वेळात स्वतःच्या घरी केंद्र चालू केले. पण प्रतिसाद फारसा मिळाला नाही उन्हाळ्याच्या किंवा दिवाळीच्या सुटीत परगावाहून बायका येत पुढे त्यांच्या लक्षात आले की भर रस्त्यावर घर आणि दुपारची वेळ त्यामुळे स्रिया येण्यास बिचकतात म्हणून त्यांनी केंद्राची वेळ बदलून ती संध्याकाळी ६ ते ८ अशी केली त्यामुळे प्रतिसाद थोडा वाढला.

त्याकाळी संततिनियमनाची साधने प्रामुख्याने स्रियांसाठी होती. तरीही घरोघरी जाऊन शकुंतलाबाई पुरुषांशी बोलत. माहिती देत. पुण्यातच नाही तर खेड्यापाड्यातून हिंडत ग्रामीण भागात चावडीवर सभा घेत. स्त्री पुरुषांना एकत्र बसवून त्या संततिनियमनावर माहिती देत तर सल्ला व साधने पुरवत असत.

‘समाजस्वास्थ्य’ व ‘ज्ञान प्रकाश’ मध्ये त्यांनी या विषयावर लेखन केले. ते वाचून परगावहून लोक सल्ला घेण्यासाठी येत. प्रचाराच्या कामात त्यांनी कधीही एकसुरीपणा येऊ दिला नाही. संवादातून, प्रश्न उत्तरातून अतिशय रंजक व सोप्या भाषेत त्या विषय समजावून देत त्यामुळे त्यांना चांगला प्रतिसाद मिळत असे.

खेड्यापाड्यातील महिलांकडून त्यांना समजेल अशी सोपी भाषा त्यांनी अवगत केली नुसतेच व्याख्यान न देता गावातील एखाद्या स्रिया केंद्र चालवण्याचे प्रशिक्षण त्या देत असत. त्याचा फारच चांगला उपयोग होई. आपले काम हिंदू समाजापुरते मर्यादित होत आहे हे लक्षात आल्यावर त्यांनी एक वर्ष औरंगाबाद मराठवाडा विभागात मुस्लिम महिलांच्या साहाय्याने मुस्लिम समाजात काम केले.

संततिनियमनाच्या लोक शस्त्रक्रियेला तयार होत भाषणाकरिता त्यांना अनेक ठिकाणी बोलावणी येत. पण लोकांना ‘संततिनियमन’ असा विषय नको असे अशा वेळी नाव वेगळे देऊन त्या विषय मांडत असत. सभांना फक्त पुरुषांची गर्दी असे अशा वेळी महिला आल्या तरच मी बोलेन, नाहीतर परत जाईन असा दम त्या संयोजकांस देत. त्यामुळे संयोजक महिलांनाही आवर्जून बोलवत सुरुवातीला ह्या कामासाठी नातेवाईकांसह समाजातील अनेकांची नाराजी त्यांना सोसावी लागली. १९६४ साली पंतप्रधान पं. नेहरू यांनी त्यांची ६ वर्षासाठी राज्यसभेवर नियुक्ती केली दिल्लीमधील कापडगिरण्या, वीटकारखाने यातील कामगारांमध्ये संततिनियमनाचा प्रसार करण्यासाठी त्यांनी विशेष प्रयत्न केले. कथा, कादंबरी, नाटिका असे विविध प्रकारचे विपुल लेखन त्यांनी केलेले आहे.

समारोप :

र. धों कर्वे व मालतीबाई कर्वे आणि शकुंतला परांजपे यांनी संततिनियमन कुटुंब कल्याण आणि लैंगिकता ह्या विषयांवर वैचारिक मंथनाची प्रक्रिया सुरू केली. या मंथनातून स्त्रियांचा स्वतःच्या शरीरावरील हक्क, लैंगिक संबंधातील पुरुषी वर्चस्व, वेश्याव्यवसाय इत्यादी अनेक विषयांना तोंड फुटले पुढे सरकारने संततिनियमनाचे काम हाती घेतले मात्र या सरकारीकरणामुळे कुटुंब कल्याण लैंगिकतेसंबंधी निकोप दृष्टिकोन निर्माण करण्याचा मूळ हेतू बाजूलाच राहून केवळ ‘लोकसंख्या नियंत्रण’ हाच मर्यादित उद्देश राहिला आहे.

संदर्भ :

- १) महाराष्ट्राचे शिल्पकार महर्षी धोंडो केशव कर्वे, डॉ. न. म. जोशी. महाराष्ट्र राज्य साहित्यिक आणि सांस्कृतिक मंडळ मुंबई, २ री आवृत्ती २००६
- २) हिंगण्याच्या संथेत मी भा. धो. कर्वे, हिंगणे स्त्री शिक्षण संस्था, पुणे
- ३) मुलखावेगळा डॉ. मनोहर नेने महर्षी कर्वे स्त्री शिक्षण संस्था, पुणे
- ४) प्रकाशवाटा महाराष्ट्रातील स्त्रीशिक्षणाची वाटचाल, आलोचना स्त्री विषयक संशोधन व संग्रहण केंद्र, पुणे



राष्ट्रीय शैक्षणिक धोरणतील मध्ये शिक्षक शिक्षणात तंत्रज्ञानाची भूमिका 2020 अपेक्षित बदल व येणाऱ्या अडचणीचा अभ्यास

डॉ. दिपक विजय जयस्वाल

सहाय्यक प्राध्यापक

यशवंतराव चव्हाण शिक्षण महाविद्यालय, मंगरूळपीर जि. वाशिम

सारांश-

राष्ट्रीय शैक्षणिक धोरण (एनईपी) 2020 हा भारतातील एक महत्त्वाचा शैक्षणिक सुधारणा उपक्रम आहे, ज्यामध्ये पूर्व शिक्षणापासून ते उच्च शिक्षणापर्यंत शिक्षणाच्या सर्व स्तरांमध्ये परिवर्तनात्मक बदलांची कल्पना आहे. शैक्षणिक सुधारणांच्या यशस्वी अंमलबजावणीमध्ये शिक्षक शिक्षण महत्त्वाची भूमिका बजावते, धोरणांना प्रभावी वर्ग पद्धतींमध्ये रूपांतरित करण्यासाठी एक आधारस्तंभ म्हणून शिक्षक शिक्षण महत्वाचे काम करते. एनईपी 2020 ची तत्त्वे आणि उद्दिष्टांशी जुळवून घेण्यासाठी, डिजिटल साक्षरता, शैक्षणिक नवकल्पना आणि वर्धित शिक्षण परिणामांवर भर देण्यासाठी शिक्षक शिक्षण कार्यक्रमांमध्ये तंत्रज्ञानाचे एकीकरण करणे महत्त्वाचे आहे. या या लेखात, संशोधकाने शिक्षकशिक्षण क्षेत्रामधील तंत्रज्ञानाच्या एकीकरणाशी संबंधित आव्हानांचा समावेश आहे. शिक्षण आणि तंत्रज्ञानस्नेही शिक्षक प्रशिक्षणातील सर्वोत्तम पद्धतींवर प्रकाश टाकणे. तंत्रज्ञानाच्या एकीकरणाच्या निरंतर देखरेख आणि मूल्यांकनासाठी धोरणात्मक चौकट स्थापन करण्याची गरजतसेच चालू असलेल्या सुधारणांसाठी अभिप्राय व गरज देखील अधोरेखित करण्यात आली आहे.

परिचय-

राष्ट्रीय शैक्षणिक धोरण (एनईपी) 2020 हा भारतातील एक महत्त्वाचा शैक्षणिक सुधारणा उपक्रम आहे, ज्यामध्ये पूर्व प्राथमिक शिक्षणा पासून ते उच्च शिक्षणापर्यंत शिक्षणाच्या सर्व स्तरांमध्ये परिवर्तनात्मक बदलांची कल्पना आहे. केंद्रीय मंत्रिमंडळाने 29 जुलै 2020 रोजी मंजूर केलेल्या एनईपी 2020 चे उद्दिष्ट 21 व्या शतकातील बदलत्या गरजा पूर्ण करणे आणि भारतीय शिक्षण प्रणाली अधिक समग्र, लवचिक आणि संबंधित बनवणे हे आहे. शिक्षक शिक्षण वर लक्ष ठेवताना तंत्रज्ञानाचा उपयोग अधोरेखित करण्यात आला आहे (शिक्षण मंत्रालय, 2020) एनईपी 2020 मध्ये शिकण्याचा अनुभव वाढवण्यासाठी, डिजिटल साधने आणि संसाधने स्वीकारण्यासाठी तंत्रज्ञानाचा लाभ घेण्यावर भर देण्यात आला आहे. तंत्रज्ञान-चालित शिक्षण प्रणालीवर हा भर विद्यार्थ्यांना डिजिटल युगातील आव्हानांसाठी तयार करणे, नवोन्मेषाला चालना देणे आणि सर्वांसाठी जागतिक स्तरावर स्पर्धात्मक शिक्षण सुनिश्चित करण्यासाठी एनईपी 2020 ची वचनबद्धता प्रतिबिंबित करतो. थोडक्यात, एनईपी 2020 हा एक सर्वसमावेशक आणि दूरदर्शी आराखडा आहे, ज्याचा उद्देश समकालीन जगाच्या मागण्या पूर्ण करण्यासाठी भारताच्या शैक्षणिक परिदृश्याला नवीन आकार देणे हा आहे.

एनईपी 2020 अंतर्गत शिक्षक शिक्षणात तंत्रज्ञानाच्या काही प्रमुख भूमिका खालीलप्रमाणे आहेत:-

1. सतत व्यावसायिक विकास (CPD)-दीक्षा, स्वयम् आणि निष्ठा यासारखे ऑनलाईन मंच शिक्षकांना स्व-गतीने शिकण्याच्या संधी प्रदान करतात तसेच आभासी कार्यशाळा, वेबिनार शिक्षकांना त्यांचे शैक्षणिक आणि विषय ज्ञान वाढवण्यास सक्षम करणे.
2. मिश्रित शिक्षण दृष्टीकोन-स्मार्ट वर्ग, ई-सामग्री आणि ऑनलाईन मूल्यांकनांचा वापर करून

- पारंपारिक आणि डिजिटल पद्धतींच्या मिश्रणाला प्रोत्साहन देते व कृत्रिम बुद्धिमत्ता, आभासी प्रयोगशाळा आणि अनुकरण यांचे एकत्रीकरण शिक्षकांना आकर्षक धडे देण्यास मदत करते.
- वैयक्तिकृत आणि अनुकूली शिक्षण-एआय-संचालित मंच शिक्षकांसाठी त्यांच्या कौशल्य पातळी आणि सुधारणेच्या क्षेत्रांच्या आधारे वैयक्तिकृत शिक्षण मार्ग प्रदान करतात व डेटा-चालित अंतर्दृष्टी शिक्षकांच्या कामगिरीचा मागोवा घेण्यास आणि प्रशिक्षणाच्या गरजा ओळखण्यास मदत करते.
 - डिजिटल पायाभूत सुविधांचा वापर-राष्ट्रीय शैक्षणिक तंत्रज्ञान मंचाची (एन. ई. टी. एफ.) स्थापना शैक्षणिक तंत्रज्ञानातील संशोधन आणि ज्ञानाच्या देवाणघेवाणीस प्रोत्साहन देते. आय. सी. टी. प्रयोगशाळा, स्मार्ट बोर्ड आणि डिजिटल ग्रंथालयांचा विस्तार शिक्षक प्रशिक्षणाला मदत करतो.
 - ऑनलाईन मूल्यमापन आणि अभिप्राय यंत्रणा-डिजिटल साधने शिक्षकांच्या प्रगतीचा मागोवा घेण्यास, क्षमतांचे मूल्यांकन करण्यास आणि रिअल-टाइम अभिप्राय प्रदान करण्यास मदत करतात आणि ई-पोर्टफोलिओ आणि एआय-आधारित मूल्यमापन क्षमता-आधारित शिक्षकांच्या मूल्यांकनास समर्थन देतात.
 - सर्वसमावेशक आणि न्याय्य शिक्षण वाढवणे-दुर्गम भागात शिक्षकांचे प्रशिक्षण सुलभ करून ग्रामीण-शहरी दरी भरून काढण्यासाठी तंत्रज्ञान मदत करते. एआय-चालित साधने अपंग मुलांसाठी सर्वसमावेशक शिक्षणास समर्थन देतात, ज्यामुळे शिक्षकांना त्यांच्या पद्धती स्वीकारण्यास सक्षम करतात.
 - डिजिटल साक्षरता आणि आयसीटी कौशल्ये-एनईपी 2020 सर्व शिक्षकांना प्रभावी शिक्षणासाठी मूलभूत डिजिटल साक्षरता आणि आयसीटी साधनांचा वापर करण्यात प्रवीणता प्राप्त करण्याचे आदेश देते. सायबर सुरक्षा, ऑनलाईन नैतिकता आणि डिजिटल अध्यापनशास्त्र या विषयांवरील अभ्यासक्रमांवर भर दिला जातो.
 - शिक्षणातील संशोधन आणि नवोन्मेष-तंत्रज्ञान-चालित सहयोगी संशोधन मंच शिक्षकांना अभ्यासक्रम विकास आणि शैक्षणिक नवनिर्मितीमध्ये योगदान देण्यास सक्षम करतात.

राष्ट्रीय शैक्षणिक धोरण (एनईपी) 2020 शिक्षक शिक्षणातील अपेक्षित बदल -

शैक्षणिक सुधारणांच्या यशस्वी अंमलबजावणीमध्ये शिक्षक प्रशिक्षण व व्यवस्थेतील प्रतिनिधी महत्त्वाची भूमिका बजावते, धोरणांना प्रभावी वर्ग पद्धतींमध्ये रूपांतरित करण्यासाठी एक आधार म्हणून शिक्षक काम करते. शिक्षक हे शिक्षण व्यवस्थेतील बदलाचे प्रतिनिधी आहेत तसेच शिक्षक व्यवस्थेतील प्रतिनिधी या दोघांची तयारी शिक्षक शिक्षण प्रक्रियेत सकारात्मक परिणाम मिळविण्यासाठी तयारी महत्त्वपूर्ण आहे.

शिक्षक प्रशिक्षण महत्वाचे बदल -

- शिक्षक प्रशिक्षणक्षमताआधारित शिक्षणाकडे, गंभीर विचार, सर्जनशीलता आणि बहुशाखीय दृष्टीकोनाला चालना देण्याकडे वळण्याची कल्पना आहेत तसेच विद्यार्थी-केंद्रित आणि समग्र दृष्टीकोनावर भर देते.
- आवश्यक शैक्षणिक कौशल्ये, अद्ययावत आशय ज्ञान आणि विकसित होत असलेल्या शैक्षणिक परिस्थितीची समज असणे आवश्यक आहे त्यासाठी शिक्षक शिक्षणामध्ये अद्ययावत तंत्रज्ञानाचा समावेश केला जावा यावर भर दिला आहे.
- क्षमता-आधारित शिक्षणावरील मॉड्यूलसचे एकत्रीकरण करून शिक्षणातील तंत्रज्ञानाचे एकत्रीकरण आणि नाविन्यपूर्ण मूल्यांकन पद्धती यांचा समावेश केल्याचे सांगितले आहे.

४. शिक्षकांना विविध अध्यापन पद्धतींचा परिचय करून दिला पाहिजे आणि शिक्षणातील सर्वोत्तम पद्धती आणि उदयोन्मुख कलांची माहिती ठेवण्यासाठी सतत व्यावसायिक विकासाच्या संधी उपलब्ध करून दिल्या पाहिजेत.
५. शिक्षकांच्या शिक्षणात तंत्रज्ञानाचे एकत्रीकरण करून डिजिटल साक्षरता करणे व त्यांच्या शिकवण्याच्या पद्धतींमध्ये तंत्रज्ञानाचे प्रभावीपणे एकत्रीकरण करण्यासाठी शिक्षकांमध्ये डिजिटल साक्षरता कौशल्ये विकसित करणे अपेक्षित आहे .
६. शिक्षकांच्या शिक्षणात ऑनलाईन आणि मिश्रित शिक्षण देऊन शिक्षकांना लवचिक आणि सुलभ व्यावसायिक विकासाच्या संधी उपलब्ध करून देण्यासाठी ऑनलाईन आणि मिश्रित शिक्षण मंचांचा लाभ घेणे.
७. आभासी प्रयोगशाळा आणि अनुकरण वापर करून विज्ञान, तंत्रज्ञान, अभियांत्रिकी आणि गणित यासारख्या विविध विषयांमध्ये शिक्षकांना प्रत्यक्ष अनुभव आणि प्रशिक्षण देण्यासाठी आभासी प्रयोगशाळा आणि अनुकरणांचा वापर करणे.
८. शिक्षक शिक्षणातील अभ्यासक्रमातील सुधारणा करून तंत्रज्ञानाचे एकत्रीकरण, डिजिटल साक्षरता आणि ऑनलाईन शिक्षण पद्धती यांचा समावेश करण्यासाठी शिक्षक शिक्षण अभ्यासक्रमात सुधारणा करणे.

शिक्षक शिक्षण व्यवस्थेतील संस्थांमध्ये बदल-

1. **पायाभूत सुविधा विकास:** संगणक प्रयोगशाळा, इंटरनेट कनेक्टिव्हिटी आणि डिजिटल संसाधनांसह तंत्रज्ञानाच्या एकत्रीकरणास समर्थन देण्यासाठी शिक्षक शिक्षण संस्थांमधील पायाभूत सुविधांमध्ये सुधारणा करणे.
2. **विद्याशाखा विकास:** शिक्षक शिक्षण संस्थांमधील विद्याशाखा सदस्यांना त्यांच्या अध्यापन पद्धतींमध्ये तंत्रज्ञानाचे प्रभावीपणे एकत्रीकरण करण्यासाठी प्रशिक्षण आणि सहाय्य प्रदान करणे.
3. **शिक्षक शिक्षणाची एकात्मिक रचना-B.Ed.-** अभ्यासक्रम चार वर्षांचा एकात्मिक पदवी अभ्यासक्रम असेल, जो इंटरडिसिप्लिनरी (बहुविषयक) दृष्टिकोन स्वीकारेल. दोन वर्षांचा B.Ed. अभ्यासक्रम केवळ विद्यमान पदवीधरांसाठी असेल. एका विशिष्ट विषयातील पारंगत व्यक्तींसाठी एक वर्षाचा B.Ed. अभ्यासक्रम प्रस्तावित आहे.
4. **शिक्षक प्रशिक्षण संस्थांचे रूपांतर-** भारतातील सर्व शिक्षक प्रशिक्षण संस्थांना (TEIs) उच्च शिक्षण संस्थांमध्ये (HEIs) विलीन करणे व त्यांना बहुविषयक विद्यापीठांचा भाग बनवणे. फक्त दर्जेदार आणि मान्यताप्राप्त संस्थांना शिक्षक शिक्षण देण्याची परवानगी असेल. राष्ट्रीय शैक्षणिक संशोधन आणि प्रशिक्षण परिषद (NCERT) व नॅशनल असेसमेंट अँड अॅक्रेडिटेशन कौन्सिल (NAAC) द्वारे नियमित गुणवत्ता मूल्यांकन.
5. **शिक्षक पात्रता आणि व्यवसायिक विकास-** शिक्षकांना नवीन तंत्रज्ञान आणि आधुनिक शिक्षणशास्त्र शिकवण्यासाठी सतत प्रशिक्षण उपलब्ध करून देणे. नवीन राष्ट्रीय व्यावसायिक मानक फ्रेमवर्क (NPST) तयार करणे, जे शिक्षकांच्या मूल्यांकनासाठी आणि करिअर ग्रोथसाठी मार्गदर्शक ठरेल. शिक्षकांसाठी निरंतर व्यावसायिक विकास (CPD) अनिवार्य करणे.
6. **बहुभाषिक आणि समावेशक शिक्षण-** शिक्षक प्रशिक्षणात भारतीय भाषांमधील अध्यापनावर भर देण्यात येईल. समावेशक शिक्षणावर भर देत विशेष गरजा असलेल्या मुलांसाठी (CWSN) शिक्षकांना प्रशिक्षण देण्यात येईल.

7. **तंत्रज्ञानाचा अधिक वापर-** शिक्षक प्रशिक्षणात ऑनलाइन व मिश्र शिक्षण पद्धतींचा समावेश करणे. SWAYAM, DIKSHA आणि NISHTHA सारख्या ऑनलाइन प्लॅटफॉर्मचा वापर वाढवणे.
8. **नवीन मूल्यांकन आणि संशोधन प्रक्रिया-** शिक्षकांना क्रिटिकल थिंकिंग, समस्या सोडवण्याची कौशल्ये आणि संशोधन क्षमता विकसित करण्यासाठी प्रोत्साहित करणे.स्कूल इंटर्नशिप आणि फील्ड वर्क अनिवार्य करणे.
9. **शिक्षकांची भरती प्रक्रिया सुधारणा-** टिचर एलिजिबिलिटी टेस्ट (TET) आणि शिक्षक भरती प्रक्रियेचा दर्जा सुधारून त्यात अधिक पारदर्शकता आणणे.कार्यप्रदर्शनावर आधारित प्रमोशन प्रणाली लागू करणे.
10. **शिक्षकांसाठी चांगली कारकीर्द आणि प्रोत्साहन योजना-** गुणवत्तापूर्ण शिक्षकांना उत्तम प्रोत्साहन आणि मानधन प्रणाली विकसित करणे.विविध पुरस्कार आणि सन्मान देऊन उत्कृष्ट शिक्षकांना प्रेरणा देणे.

नवीन राष्ट्रीय शिक्षण धोरण (NEP 2020) अंतर्गत शिक्षक प्रशिक्षण सुधारताना काही महत्त्वाच्या अडचणी उद्भवू शकतात.-

1. **शिक्षक प्रशिक्षण संस्थांच्या दर्जाबाबत अडचणी-**
 - (i) कमी दर्जाच्या शिक्षक प्रशिक्षण संस्था (TEIs) भारतात अनेक शिक्षक प्रशिक्षण संस्था केवळ प्रमाणपत्रे देतात, पण दर्जेदार प्रशिक्षण देत नाहीत.अशा संस्थांचा दर्जा सुधारण्यासाठी कठोर मानके लागू करावी लागतील.
 - (ii) शिक्षण पद्धतीतील जुने धोरण आणि अभ्यासक्रमशिक्षक प्रशिक्षणाचे जुने अभ्यासक्रम अजूनही पारंपरिक पद्धतीवर आधारित आहेत.नवीन तंत्रज्ञान आणि शिक्षणशास्त्र यांचा अभाव आहे.
2. **शिक्षक प्रशिक्षणाच्या अंमलबजावणीत अडचणी-**
 - (i) प्रशिक्षित शिक्षकांची कमतरताभारतात सध्या शिक्षकांमध्ये तंत्रज्ञान साक्षरता, नवीन शिक्षण तंत्रज्ञान आणि बहुभाषिक शिक्षणाचे ज्ञान कमी आहे.प्रशिक्षित शिक्षकांची संख्या वाढवण्यासाठी मोठ्या प्रमाणावर प्रशिक्षण कार्यक्रम राबवावे लागतील.
 - (ii) शिक्षक प्रशिक्षणासाठी आवश्यक सुविधा आणि संसाधनांचा अभावग्रामीण आणि आदिवासी भागात शिक्षक प्रशिक्षणासाठी योग्य सुविधा उपलब्ध नाहीत.डिजिटल शिक्षणासाठी इंटरनेट, संगणक आणि ई-लर्निंग साधने अनेक ठिकाणी उपलब्ध नाहीत.
3. **शिक्षकांची मानसिकता आणि स्वीकृतीसंबंधी अडचणी-**
 - (i) जुन्या शिक्षकांची नवीन बदल स्वीकारण्यास अनिच्छाशिक्षक जुन्या शिक्षण पद्धतींशी जुळवून घेतलेले असतात आणि नवीन शिक्षण प्रणाली स्वीकारण्यात संकोच करू शकतात.तंत्रज्ञानाचा उपयोग, नवे शिक्षण तंत्र आणि मूल्यांकन पद्धती शिकण्यासाठी त्यांना प्रोत्साहन द्यावे लागेल.
 - (ii) शिक्षकांची कमी वेतनश्रेणी आणि प्रेरणेचा अभावअनेक शिक्षकांच्या मते, त्यांचे वेतन आणि कामाच्या जबाबदाऱ्या यामध्ये तफावत आहे, त्यामुळे त्यांना नवीन कौशल्ये शिकण्याची इच्छा कमी असते.
4. **राष्ट्रीय आणि राज्यस्तरीय धोरणांच्या अंमलबजावणीतील विसंगती-**
 - (i) विविध राज्यांमध्ये धोरणाची असमान अंमलबजावणीकाही राज्ये नवीन धोरणे वेगाने लागू करू शकतात, तर काही राज्यांमध्ये आर्थिक आणि प्रशासकीय कारणांमुळे अंमलबजावणी मंद राहू शकते.सर्व राज्यांमध्ये समान पातळीवर शिक्षक प्रशिक्षणाची गुणवत्ता सुधारण्यासाठी राष्ट्रीय

स्तरावर ठोस नियोजन आवश्यक आहे.

- (ii) शिक्षक भरती प्रक्रियेतील अनियमितता शिक्षक भरती प्रक्रियेत पारदर्शकता आणि गुणवत्ता धारण्यासाठी कठोर नियम लागतील. राज्य पातळीवरील शिक्षक पात्रता परीक्षा (TET) सुधारण्याची आवश्यकता आहे.

5. तंत्रज्ञान वापरण्यासंबंधी अडचणी-

- (i) डिजिटल तंत्रज्ञानाचा अभाव आणि शिक्षकांची तांत्रिक कौशल्ये ऑनलाइन शिक्षण आणि डिजिटल साधनांचा योग्य वापर करण्यासाठी सर्व शिक्षक तांत्रिकदृष्ट्या सुसज्ज नाहीत. ग्रामीण भागात इंटरनेट आणि डिजिटल साधने उपलब्ध नसल्यामुळे ऑनलाइन शिक्षक प्रशिक्षण पूर्णपणे प्रभावी ठरू शकत नाही.
- (ii) शिक्षक प्रशिक्षणासाठी पुरेसे वित्तीय सहाय्य नाही शिक्षक प्रशिक्षण आणि आधुनिक तंत्रज्ञानाच्या वापरासाठी मोठ्या प्रमाणावर निधीची आवश्यकता आहे. सरकारी स्तरावर पुरेसे आर्थिक पाठबळ न मिळाल्यास शिक्षक प्रशिक्षण सुधारण्यात मर्यादा येऊ शकतात.

निष्कर्ष-

शिक्षक शिक्षणात तंत्रज्ञानाचा वापर करून, शिक्षणाचा दर्जा वाढवणे, शिकण्याचे परिणाम सुधारणे आणि 21 व्या शतकातील आव्हानांसाठी शिक्षकांना तयार करणे हे एनईपी 2020 चे उद्दिष्ट आहे. राष्ट्रीय शैक्षणिक धोरण (एनईपी) 2020 मध्ये शिक्षणाचा दर्जा, व्यावसायिक विकास आणि शिकण्याचे परिणाम सुधारण्यासाठी शिक्षकांच्या शिक्षणात तंत्रज्ञानाच्या परिवर्तनात्मक भूमिकेवर भर देण्यात आला आहे. नवीन शिक्षण धोरणाच्या प्रभावी अंमलबजावणीसाठी शिक्षक प्रशिक्षण सुधारणा गरजेच्या आहेत, परंतु महत्त्वपूर्ण उपाय अंमलात आणल्यास भारतातील शिक्षक प्रशिक्षण व्यवस्थेत मोठा सकारात्मक बदल घडू शकतो. शेवटी, एनईपी 2020 भारताच्या शिक्षण व्यवस्थेला आकार देण्यासाठी एक महत्त्वपूर्ण झेप दर्शवित असताना, त्याची यशस्वी अंमलबजावणी निरंतर सहकार्य, प्रभावी संवाद आणि केंद्र आणि राज्य अधिकारी तसेच शिक्षण क्षेत्रातील सर्व भागधारकांच्या एकत्रित प्रयत्नांवर अवलंबून असेल.

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शिक्षक प्रशिक्षणात भारतीय ज्ञान प्रणालीची भूमिका एक अभ्यास**डॉ. ज्योती रामचंद्र लष्करी****प्रभारी / प्राचार्य****रूरल फाउंडेशन शिक्षणशास्त्र महिला****महाविद्यालय अक्कलकुवा जिल्हा नंदुरबार****प्रस्तावना**

नवीन राष्ट्रीय धोरण 2020 यात अनेक नवीन दृष्टीकोण स्वीकारण्यात आले आहे, त्यातील भारतीय ज्ञान प्रणाली एक भारतीय ज्ञान काळाचा पडद्यामागे गेलेलं ज्ञान जे आता नवीन दृष्टीकोणासह समोर येत आहे आणि या प्रणालीचा समावेश शिक्षण प्रशिक्षणात करणे म्हणजे भावी शिक्षकांना ज्ञानाने समृद्ध करणे होय. शिक्षण प्रशिक्षणात भारतीय ज्ञान प्रणालीचा समावेश करून घेणे म्हणजेच भारतीय ज्ञान परंपरा ही भावी पिढी पर्यंत आणि हजारो वर्षे भारतीय ज्ञान टिकवून ठेवण्यासाठी उपयोगी पडेल व त्याच्या उपयोग करून जीवन समृद्ध होवू शकेल.

राष्ट्रीय शैक्षणिक धोरण 2020 (NEP 2020) ची प्रमुख उद्दिष्टे:

- सर्वसमावेशक आणि न्याय्य शिक्षण हे प्रत्येक विद्यार्थ्याला शिक्षणाची संधी मिळावी आणि कोणत्याही सामाजिक किंवा आर्थिक अडथळ्यांमुळे कोणीही वंचित राहू नये.
- सर्वांसाठी सक्तीचे व मोफत शिक्षण 3 ते 18 वर्षे वयोगटातील विद्यार्थ्यांसाठी शिक्षणाची व्यवस्था)5+3+3+4 प्रणाली.(
- गुणवत्तापूर्ण शिक्षण शिक्षणातील गुणवत्ता सुधारून जागतिक स्तरावर भारतीय विद्यार्थ्यांची स्पर्धात्मकता वाढवणे.
- बहुआयामी अध्ययन प्रणाली व परंपरागत शिक्षण पद्धतीत बदल करून सैद्धांतिक शिक्षणासोबत व्यावहारिक कौशल्यांवर भर देणे.
- मातृभाषेत शिक्षण प्राथमिक शिक्षण इयत्ता)5 पर्यंत किंवा शक्य असल्यास 8 पर्यंत मातृभाषा किंवा (प्रादेशिक भाषेत उपलब्ध करणे
- संशोधन व नवोपक्रमाला चालना देणे संशोधन आणि नवनवीन तंत्रज्ञानाच्या मदतीने शिक्षण अधिक प्रभावी बनवणे.
- संपूर्ण शिक्षक प्रशिक्षण व क्षमता वाढविणे व शिक्षकांना आधुनिक शिक्षण पद्धतींबाबत प्रशिक्षित करणे आणि त्यांच्या कौशल्यवृद्धीसाठी कार्यक्रम राबवणे.
- व्यावसायिक शिक्षणावर भर विद्यार्थ्यांना शालेय शिक्षणाच्या दरम्यानच व्यावसायिक कौशल्ये शिकवणे.
- डिजिटल शिक्षणाचा स्वीकार तंत्रज्ञानाच्या मदतीने शिक्षण अधिक सुलभ व सर्वांसाठी सहज उपलब्ध करणे.
- उच्च शिक्षण क्षेत्रात सुधारणा महाविद्यालयीन शिक्षणामध्ये लवचिकता आणून विद्यार्थ्यांना अधिक पर्याय उपलब्ध करणे.
- राष्ट्रीय शिक्षण आयोग (NEPI) ची स्थापना उच्च शिक्षणाच्या नियमनासाठी एक स्वतंत्र संस्था

स्थापन करणे.

- सर्वांगीण विकासावर भरविद्यार्थ्यांच्या सृजनशीलता, संवाद कौशल्ये, तर्कशक्ती, आणि नीतिमूल्ये विकसित करणे.
- NEP 2020 चा उद्देश भारतातील शिक्षण प्रणाली अधिक समकालीन, समावेशक आणि गुणवत्तापूर्ण बनवणे हा आहे.

शिक्षण प्रशिक्षणाची उद्दिष्टे

- शिक्षण प्रशिक्षण म्हणजे व्यक्तीच्या सर्वांगीण विकासासाठी आवश्यक ज्ञान, कौशल्य, मूल्ये व वर्तन आत्मसात करण्याची एक नियोजित प्रक्रिया आहे .
- ज्ञान आणि कौशल्य विकास व शैक्षणिक ज्ञान, तांत्रिक कौशल्ये व व्यावहारिक अनुभव प्रदान करून व्यक्तीला कामासाठी व आयुष्यात यशस्वी बनवणे.
- मूल्ये व नैतिकता ही समाजातील योग्य मूल्ये, नैतिकता व सकारात्मक वर्तन विकसित करण्यावर भर देणे.
- व्यावसायिक आणि शैक्षणिक तयारीकरण्यासाठी शिक्षक किंवा इतर व्यावसायिक क्षेत्रातील कर्मचाऱ्यांना त्यांच्या भूमिकेसाठी उपयुक्त बनवण्यासाठी विशिष्ट प्रशिक्षण व अध्यापन तंत्रे शिकवणे.
- प्रायोगिक शिक्षणअनुभवातून विद्यार्थ्यांना शिकण्याची संधी देऊन सैद्धांतिक ज्ञानाचे व्यवहार्य रूपांतरण सुनिश्चित करणे.

शिक्षक प्रशिक्षणात भारतीय ज्ञान प्रणालीचा समावेश करण्याची कारणे

शिक्षक प्रशिक्षणात भारतीय ज्ञान प्रणालीचा समावेश करण्याचे अनेक महत्त्वाचे कारणे आहेतही . अधिक व प्रणाली शिक्षणाच्यायापक, नैतिक व संस्कृतीशी सुसंगत दृष्टिकोनाची उभारणी करण्यास मदत करते.

१ . समग्र शिक्षणाचा दृष्टिकोन)Holistic Education Approach)

भारतीय शिक्षण प्रणाली प्राचीन काळापासून केवळ माहितीपुरते मर्यादित नसून विद्यार्थ्यांच्या मानसिक,बौद्धिक, सामाजिक आणि नैतिक विकासावर भर देत आली आहे.शिक्षक प्रशिक्षणात हा . दृष्टिकोन समाविष्ट केल्यास शिक्षण अधिक परिणामकारक ठरेल

२ . नैतिक आणि मूल्याधारित शिक्षण)Value-Based Education)

भारतीय ग्रंथ जसे की वेद, उपनिषदे, गीता, तिरुक्कुरल आणि पंचतंत्र नैतिक मूल्ये शिकवण्यावर भर देतात.शिक्षकांना हे तत्वज्ञान समजावल्यास ते विद्यार्थ्यांमध्ये जबाबदारी, कर्तव्यभावना आणि नीतिमत्ता विकसित करू शकतील.

३ . योग व मानसिक स्वास्थ्य)Yoga and Mental Well-being)

भारतीय ज्ञान परंपरेत योग आणि ध्यानधारणा यांना विशेष स्थान आहे शिक्षकांसाठी योग आणि . ध्यानाचे प्रशिक्षण केल्यास ते मानसिक आरोग्य चांगले ठेवू शकतात व विद्यार्थ्यांनाही तणावरहित शिक्षण देऊ शकतात.

४. भारतीय गणित आणि विज्ञानाचा वारसा)Heritage of Indian Mathematics & Science)

आर्यभट्ट, भास्कराचार्य, चरक, सुश्रुतयांसारख्या भारतीय शास्त्रज्ञांनी गणित, खगोलशास्त्र, वैद्यकशास्त्र यामध्ये मोठे योगदान दिले आहे. शिक्षकांना या विषयांमध्ये पारंपरिक भारतीय दृष्टिकोन शिकविल्यास ते अधिक आत्मविश्वासाने आणि प्रेरणादायी पद्धतीने अध्यापन करू शकतील.

५. मातृभाषा व स्थानिक ज्ञानाचा उपयोग)Use of Mother Tongue & Indigenous Knowledge)

भारतीय शिक्षण प्रणाली मातृभाषेत शिक्षण देण्यावर भर देते. शिक्षक प्रशिक्षणात भारतीय भाषांचे महत्त्व पटवून दिल्यास विद्यार्थ्यांचे संज्ञानात्मक (cognitive) विकास अधिक चांगल्या प्रकारे होऊ शकतो.

६. शिक्षण पद्धतीतील अध्यापन तंत्रज्ञान)Teaching Pedagogies from Indian Tradition)

- प्राचीन भारतातील गुरुकुल प्रणाली आणि तत्त्वज्ञान यामध्ये व्यक्ति-केंद्रित (learner-centric) शिक्षणपद्धती होती.
- संवादात्मक शिक्षण (Dialogue-based learning) - उपनिषद पद्धती संवाद व चर्चेच्या माध्यमातून शिक्षणावर भर देते.
- प्रयोगात्मक शिक्षण (Experiential Learning) - भारतीय परंपरेत 'करून शिकणे' (learning by doing) महत्त्वाचे आहे.

७. पर्यावरण व शाश्वत जीवनशैली)Environmental Consciousness & Sustainable Living)

भारतीय ज्ञान प्रणाली निसर्गासोबत सुसंगत जीवनशैलीवर भर देते. शिक्षकांनी विद्यार्थ्यांना शाश्वत जीवनशैली आणि पर्यावरणपूरक दृष्टिकोन शिकवण्यासाठी प्राचीन भारतीय तत्त्वज्ञानाचा उपयोग करणे महत्त्वाचे आहे.

शिक्षक प्रशिक्षणात भारतीय ज्ञान प्रणाली कशी समाविष्ट करावी?

1. शिक्षण प्रशिक्षण अभ्यासक्रमात सुधारणा - बी.आणि डी.एड.एड.अभ्यासक्रमात भारतीय शिक्षण परंपरेवरील स्वतंत्र घटक समाविष्ट करणे.
2. कार्यशाळा आणि सेमिनार - शिक्षकांसाठी भारतीय तत्त्वज्ञान, योग, प्राचीन गणित व विज्ञान यावरील कार्यशाळांचे आयोजन करणे.
3. शालेय अभ्यासक्रमात समावेश - शिक्षकांना भारतीय ग्रंथ, विज्ञान आणि गणितातील संकल्पना शिकवणे, जेणेकरून त्या संकल्पना विद्यार्थ्यांपर्यंत पोहोचतील.
4. डिजिटल साधनांचा वापर - भारतीय ज्ञान प्रणालीवरील ईलर्निंग प्लॅटफॉर्म, ऑडिओव्हिडिओ सामग्री - तयार करून शिक्षकांना उपलब्ध करणे.
5. संशोधन आणि विकास केंद्रे - भारतीय शिक्षण पद्धतीवरील संशोधन केंद्रे स्थापन करून शिक्षकांना पारंपरिक ज्ञान प्रणालीचा आधुनिक शिक्षणात उपयोग कसा करायचा हे शिकवणे.

निष्कर्ष

शिक्षक प्रशिक्षणात भारतीय ज्ञान प्रणाली समाविष्ट केल्याने शिक्षण अधिक मूल्याधारित, वैज्ञानिक दृष्टिकोनाने परिपूर्ण आणि समग्र होईलही प्रणाली आधुनिक शिक्षण प्रणालीच्या गरजा पूर्ण करतानाच . भारतीय ज्ञान प्रणाली ही प्राचीन भारतीय परंपरेतील .भारतीय संस्कृतीचे आणि ज्ञान परंपरेचे संवर्धन करेल .अद्वितीय आणि समृद्ध ज्ञानस्रोत आहे

संदर्भ

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Modernizing Muslim Education in the Indian Knowledge System:**Vikashitbharat 2047****Dr. Vijayant Balasaheb Bhurale***Program Coordinator**Department of Education School of Education, JSPM University, Pune.*

Abstract

Islam was founded by Hazrat Mohammad Sahib. The followers of this religion were called Muslims. Historians have called the period from 1200 to 1700 AD as the medieval or Muslim period. Muslim education meant acquiring knowledge. Under this knowledge, the main meaning of education was to convey the knowledge of the verses of the Quran Sharif and the teachings of Hazrat Muhammad to the public and to spread it as much as possible through Maktabas and Madrasas. Thus, the study of religious and worldly knowledge related to normal life was called Muslim education.

Keywords : Muslim education, modernization, Indian, knowledge, developed India

Medieval Education or Muslim Education

Inspired by the immense wealth of India, Muslims started their attacks on India in the eighth century, but the real storm of their attacks started during the time of Mahmud Ghazni, who attacked India about 17 times from 1000 to 1026 AD. The main aim of his attacks was to make Ghazni prosperous by looting the wealth of India, and not to establish Muslim rule here. Hence, he used to return to his homeland with the looted goods after every attack.

Muslims dominated India for about 550 years. Muslim invaders and rulers destroyed the world famous Vedic and Buddhist education systems of India and started a new education system, which can be called 'Medieval Muslim Education System'. In this period, apart from religious education, there was special progress in art, music, land management, justice and administration etc. Many famous buildings were also constructed in this period, out of which TajMahal and Red Fort of Agra, Jama Masjid and Red Fort of Delhi and QutubMinar etc. are famous. Expressing his opinion about the Muslim education system, Dr. F.E. Kay has written, "Muslim education was a foreign system, which was transplanted in India and developed in its new land with very little connection with Brahminical education."

Features of medieval Muslim education

As we have read earlier that Muslim rulers brought their culture and religion to India. Along with ruling India, they also propagated and spread their culture and religion here. They resorted to education to propagate their culture and religion. The education system they developed to fulfil this objective is known as the 'Muslim education system'. This new education system of Muslims remained prevalent in this country for about 600 years and its remains in the form of Maktabas are still visible here and there. This education system had some such features which kept

it alive even amidst terrible upheavals and political conflicts. The features of medieval education or Muslim education are as follows--

1. **Bismillah ritual** : Muslim education started with Bismillah ritual. This Bismillah ritual was similar to the Upanayan Sanskar of Vedic period and Pavajja Sanskar of Buddhist period. In this, the child was dressed in new clothes and taken to the Maulvi. Here the child had to repeat some verses of the Quran recited by the Maulvi. If the child was unable to repeat those verses, then saying the word Bismillah was considered sufficient. After this, the child's primary education started and after giving some offering to the Maulvi, the child was admitted to the Maktab.
2. **Free education** : There was a system of free education in Maktab and Madrasas. No fee of any kind was taken from the students receiving education. The entire cost of educational institutions was borne by the rulers or rich people who established and operated them.
3. **Class-leader system** : The class-leader system was prevalent in these educational institutions. In this system, capable students of higher classes were made leaders who would teach the students of lower classes and help the teacher in his teaching work.
4. **Practical education** : Muslims did not believe in the afterlife and rebirth, so they did not consider education as a means of spiritual development and attainment of salvation. He believed that life is in this world and therefore a person should be prepared for this life through education. Inspired by this idea, he gave a practical form to education.
5. **Patronage of education** : It is an undisputed fact that education was patronised by the state during the entire Muslim period. Along with this, it is also beyond dispute that almost all the Muslim rulers showed their love and generosity towards education by establishing Maktab and Madrasas.
6. **Language medium of education** : The medium of education for Muslims was Arabic-Persian. Persian being the official language, it was a means of getting a government job and a person could get a royal position by knowing this language. This was the reason that some Hindus also started learning Persian. Akbar encouraged Hindi and Aurangzeb encouraged Urdu, yet the importance of Arabic and Persian languages remained as the medium of language. There was no place for languages like Sanskrit and Pali in Muslim education.
7. **Status of teacher** : Due to the secular approach towards education, there was a lot of change in the status of the teacher in the Muslim era. The status of these teachers was not as high as that of ancient Indian teachers.
8. **Teaching Method** : During the Muslim period, the teaching method was mainly oral, emphasis was laid on rote learning and memorization. Lectures, question-answer and debate methods were used. Students were encouraged to acquire knowledge through self-study. In the presence of the teacher, skilled and capable students of higher classes used to teach the students of lower classes. Debates were also held on important topics in the royal courts.
7. **Coordination of religious and secular education** : Coordination of religious and secular

education was a major feature of Muslim education. In this education system, at the primary level, along with making the children memorize the verses of the Quran, they were also taught arithmetic, letter-writing and other useful subjects of life. At the higher level, along with regular study of the Quran, they were also taught subjects like history, geography, economics etc.

8. Religious and moral education : In the Muslim education system, in the name of religion, education of Islam was compulsory and in the name of morality, education of Shariat (Islamic rules and laws) was given. This was a narrow form of religious and moral education.

9. Personal contact : Like the ancient Indian education system, in the Muslim education system too, there was a personal contact between the Guru and the disciple. Influenced by the thoughts and ideals of the teacher, the students also remained engaged in improving their talent, skill and ability. According to T. N. Siqueira, "Education was considered a personal process. The teacher had to live with his students."

10. Guru-disciple relationship : During the Muslim period, the relationship between the Guru and the disciples was more intimate. Teachers were given a very respectable position in the society. Teachers used to get very little salary, yet they got a lot of respect at all places. The students became disciplined, polite and tolerant by following the orders of the Guru and the Guru became worship-worthy by getting respect from the students.

11. Discipline : In the secondary education system, discipline was given great importance. During the period of admission at both Maktabas and Madrasas, it was compulsory for the students to strictly follow the rules, customs, orders, traditions and Muslim laws of the Muslim education system. All these rules and procedures were communicated to the students through the orders and instructions of the teacher. Therefore, generally, following the orders and instructions of the teachers came under discipline. Those students who did not follow these orders and rules etc. were given severe punishment. Since the psychological education system was not in vogue till that time, efforts were made to control the students through repressionistic discipline.

12. Necessity of education : Education is considered necessary by Muslims for a person's life due to three main factors.

First, in the Holy Quran, it is stated that it is the duty of every person to acquire knowledge.

Secondly, Muslims believe in the saying of Prophet Muhammad, "The student who seeks knowledge, God gives him a high place in heaven."

Thirdly, Islam says, "The person who acquires knowledge, does a religious deed, the one who talks about knowledge, praises God, the one who seeks knowledge, worships God."

In such a religious background, education was considered essential for a person. This was the reason that all Muslim rulers and knowledge-loving people tried to make education as accessible as possible to the common people by establishing Maktabas and Madrasas and making arrangements for free education in them.

13. Promotion of cultural unity : Earlier under the Muslim rulers, the education provided in

Maktabs and Madrasas was limited to Muslims only and entry of Hindus was prohibited in them. This restriction was removed from the time of Sikandar Lodi. As a result, Hindus of all castes started entering Maktabs and Madrasas and receiving education along with Muslims.

In this way, Muslim educational institutions established mutual contact between Hindus and Muslims of all castes, due to which two beautiful results were visible – the end of caste bondages and the growth of cultural unity.

14. Promotion of language and sciences : In the Muslim era, Persian language and sciences were given great encouragement. The reason for this was that Persian was the official language of all Muslim rulers. Therefore, there was a great demand for scholars of this language for royal posts. Similarly, there was a demand for scientists as well.

To fulfill both the above demands, the main goal of education of Persian language and sciences was set in the Muslim era.

15. Development of Literature and History : Literature and history developed considerably during the Muslim period. Many Muslim rulers were lovers of learning and patrons of scholars. It was natural for the patronised scholars to be free from financial worries and hence to pay attention to literary creation. This was the reason that literature on subjects like ethics, philosophy etc. was created during the Muslim period and Hindu texts like Ramayana, Mahabharata etc. were translated into Persian

Major institutions imparting Muslim education

Many agencies did the important work of imparting education during the Muslim period. These can be mainly divided into two categories--

- (a) Related to primary education,
- (b) Related to higher education.

But there were some agencies which were related to both primary and higher education. The main educational institutions of this kind are as follows--

1. Maktab
2. Khanquahs
3. Dargahs
4. Madrasas
5. Arabic-Persian Schools
6. Quran Schools

Objectives of medieval Muslim education

1. Spread of Muslim religion and philosophy
2. Emphasis on good character building
3. Loyalty towards Muslim rulers
4. Attainment of worldly luxuries

5. To prove the superiority of Islam
6. Education is a medium of human knowledge and growth.

Qualities of the medieval Muslim education system

1. State patronage of education
2. Free and compulsory education
3. Incentives to students
4. High position of teachers
5. Separate system of primary and higher education
6. Emphasis on the development of knowledge
7. Advancement of Fine Arts and Handicrafts
8. Development of Nayakiya method
9. Development of History Writing
10. Teacher-Student Relationship
11. Development of Literature Creation
12. Promotion of Cultural Unity

Defects of medieval Muslim education

1. Importance to worldly education
2. Decline of women education
3. Decline of regional languages
5. Emphasis on the secular aspect of education
6. Lack of stability in education
7. Faulty teaching method
8. Failure to develop leadership qualities
9. Harsh punishment system
10. Emphasis on religious conversion

પ્રયાગરાજ મહાકુંભ એટલે શ્રદ્ધા વિશ્વાસ અનેકૃત્રિમ બુદ્ધિમત્તા (AI) નો ત્રિવેણી સંગમ

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ત્રિવેણી સંગમ એ પ્રયાગરાજ (પૂર્વે અલ્હાબાદ) માં ગંગા (શ્રદ્ધા), યમુના (વિશ્વાસ) અને સરસ્વતી(AI) નદીનો પવિત્ર નદીઓનું મિલન સ્થળ છે. હિંદુ ધર્મમાં ત્રિવેણી સંગમને અત્યંત પવિત્ર માનવામાં આવે છે, અને અહીં સ્નાન કરવાથી પાપ નષ્ટ થાય છે અને મોક્ષની પ્રાપ્તિ થાય છે એવી માન્યતા છે. ૨૦૨૫ પ્રયાગ કુંભ મેળો- કે જેને ૨૦૨૫ મહાકુંભ તરીકે પણ ઓળખાય છે. પ્રયાગરાજ, ઉત્તર પ્રદેશ, ભારતના ત્રિવેણી સંગમ ખાતે ૧૩મી જાન્યુઆરીથી ૨૬ ફેબ્રુઆરી ૨૦૨૫ દરમિયાન યોજનાર મહા ભરાયો. કુંભ મેળાની આ 'ભવ્ય' પુનરાવૃત્તિ એ ૧૪૪ વર્ષમાં એક વખતની ઘટના છે જે ૪૪ દિવસ સુધી ચાલશે આ મેળામાં કુલ ૪૦ કરોડ શ્રદ્ધાળુઓ આ મેળાનો લાભ લીધો. કુંભ મેળો લગભગ દર ૧૨ વર્ષે ચાર હરિદ્વાર, ઉજ્જૈન, પ્રયાગરાજ અને નાસિકમાં યોજાય છે. મેળાનું સ્થાન ગુરુ, સૂર્ય, અને ચંદ્રની સ્થિતિ દ્વારા નક્કી થાય છે.

મહાકુંભનું મહત્વ

મહાકુંભ મેળો હિંદુ ધર્મમાં એક પવિત્ર અને મહત્વપૂર્ણ તહેવાર છે, જે વિશ્વના સૌથી મોટા ધાર્મિક મેળાઓમાંનો એક છે. તે માત્ર ધાર્મિક જ નહીં, પણ આધ્યાત્મિક, સાંસ્કૃતિક અને સામાજિક રીતે પણ વિશેષ મહત્વ ધરાવે છે.

ધાર્મિક મહત્વ.

મહાકુંભ પૌરાણિક કથાઓ સાથે જોડાયેલો છે, જેમાં દૈવ અને દાનવો વચ્ચે અમૃતની માટે થયેલા સમુદ્રમંથનનો ઉલ્લેખ છે. કહેવાય છે કે દેવતાઓએ અમૃતનો કલશ (કુંભ)માંથી થોડું અમૃત ચાર પવિત્ર સ્થળો પર છાંટ્યું - પ્રયાગરાજ, હરિદ્વાર, ઉજ્જૈન અને નાસિક. તેથી, આ સ્થળોએ નક્કી કરાયેલા સમયગાળામાં કુંભ મેળો યોજાય છે.

આધ્યાત્મિક મહત્વ.

આ મેળા દરમિયાન ત્રિવેણી સંગમ (પ્રયાગરાજ) જેવા પવિત્ર સ્થળોએ સ્નાન કરવાથી પાપોનો નાશ થાય છે અને મોક્ષ પ્રાપ્ત થાય છે તેવી માન્યતા છે.યાત્રાળુઓ અને સાધુઓ માટે મહાકુંભ એ સાધના, ધ્યાન અને મોક્ષ માટેનો શ્રેષ્ઠ અવસર છે. શાહી સ્નાન દ્વારા ભક્તો દૈવી શક્તિઓ સાથે જોડાતા હોય છે.

સાંસ્કૃતિક મહત્વ

મહાકુંભ મેળો ભારતીય સંસ્કૃતિના વિવિધ પાસાઓને દર્શાવે છે, જેમાં યોગ, ધ્યાન, ગાન, કથાઓ અને પૂજા-વિધિઓનો સમાવેશ થાય છે.વિવિધ અખાડાઓના સાધુઓ, સંતો, મહાત્માઓ અને તપસ્વીઓ

અહીં એકત્ર થાય છે, અને તેમના દ્વારા ધર્મપ્રસંગો અને ઉપદેશો આપવામાં આવે છે. યોગ અને આયુર્વેદ જેવા ભારતીય પરંપરાઓનો વિશેષ પ્રચાર-પ્રસાર થાય છે.

સામાજિક અને વૈજ્ઞાનિક મહત્વ

મહાકુંભ એક એવી ઘટના છે, જ્યાં લાખો-કરોડો યાત્રાળુઓ એકત્ર થાય છે, અને તેમ છતાં એનું સુવ્યવસ્થિત સંચાલન કરવામાં આવે છે. આધુનિક ટેકનોલોજી, જેમ કે AI, CCTV, ડ્રોન, ટ્રાફિક મેનેજમેન્ટ અને હેલ્થકેર સુવિધાઓ મહાકુંભના વ્યવસ્થાપનને વધુ સરળ બનાવે છે. વિવિધ સમાજો અને પ્રાંતના લોકો અહીં એકત્ર થાય છે, જે માનવ એકતા અને ભાઈચારોનો સંદેશ આપે છે.

આર્થિક મહત્વ.

મહાકુંભ મેળા સ્થાનિક અને રાષ્ટ્રીય સ્તરે આર્થિક વૃદ્ધિ માટે મહત્વપૂર્ણ છે. પર્યટન ઉદ્યોગ, હોટેલ-રેસ્ટોરાં વ્યવસાય, હસ્તકલા અને પારંપરિક વેપાર આ અવધિ દરમિયાન પ્રભાવિત થાય છે. સરકાર પણ મહાકુંભ માટે વિશેષ બજેટ ફાળવે છે, જે અધિકારિક વ્યુહરચનાઓ અને ઇન્ફ્રાસ્ટ્રક્ચર માટે ઉપયોગમાં લેવાય છે. મહાકુંભ માત્ર એક મેળો નથી, તે ધાર્મિક શ્રદ્ધા, આધ્યાત્મિકતા, સાંસ્કૃતિક પરંપરા, સામાજિક એકતા અને વ્યવસ્થાપનના અજોડ ઉદાહરણનું પ્રતીક છે. આ મેળો ભારતીય પરંપરાના વૈભવ અને વૈવિધ્યતાને વિશ્વ સામે પ્રસ્તુત કરે છે

દર 12 વર્ષે ત્રિવેણી સંગમ ખાતે યોજાય છે, અને પવિત્ર સ્નાન માટે લાખો યાત્રાળુઓ અને સાધુ-સન્યાસીઓ અહીં આવે છે. ચાર મુખ્ય કુંભ મેળાઓમાં પ્રયાગરાજ મહાકુંભ સૌથી મહત્વપૂર્ણ માનવામાં આવે છે. ત્રિવેણી સંગમમાં સ્નાનનું મહત્વ પાપવિમોચન - માન્યતા મુજબ, સંગમમાં સ્નાન કરવાથી જીવનના પાપો ધોવાય છે. ધાર્મિક મહત્વ - વિવિધ ધર્મગ્રંથો અનુસાર, સંગમનું સ્નાન કરવાથી અધ્યાત્મિક શાંતિ અને મુક્તિ મળે છે. શ્રાદ્ધ અને તર્પણ - પૂર્વજોની આત્મશાંતિ માટે યાત્રાળુઓ અહીં પિંડદાન અને તર્પણ કરે છે.

મહાકુંભ અને સંગમનો આધ્યાત્મિક અને સાંસ્કૃતિક મહિમા અખાડા પરંપરાની જૂની પરંપરાનો લ્હાવો કુંભ દરમિયાન વિવિધ અખાડાના સાધુઓ શાહી સ્નાન કરે છે. યોગ અને પ્રવચનનો મહિમા પણ ખરો મહાકુંભમાં યોગ શિબિર અને ધર્મગુરુઓના પ્રવચનો યોજાય છે. સાંસ્કૃતિક પરંપરા માટે પણ આ આવશ્યક છે . મહાકુંભ દરમિયાન વિવિધ આધ્યાત્મિક અને સાંસ્કૃતિક કાર્યક્રમો યોજાય છે. ત્રિવેણી સંગમ મહાકુંભ માત્ર ધાર્મિક જ નહીં, પરંતુ એક સાંસ્કૃતિક અને આધ્યાત્મિક મેળાપ છે, જે ભક્તિ, સાધના, જ્ઞાન અને ભારતીય સંસ્કૃતિના મહત્વનો પરિચય કરાવે છે.

AI ના ઉપયોગો: ઓટોમેશન: પુનરાવર્તિત કાર્યો, ખાસ કરીને ઉત્પાદન અથવા એકાઉન્ટિંગ જેવા ઉદ્યોગોમાં, AI સાથે સ્વચાલિત થઈ શકે છે, જે કાર્યક્ષમતા અને ચોકસાઈમાં વધારો કરે છે.. ડેટા વિશ્લેષણ: AI સિસ્ટમો વિશાળ ડેટાસેટ્સમાંથી પસાર થઈને વલણો ઓળખી શકે છે, આગાહીઓ કરી શકે છે અને આંતરદૃષ્ટિ પ્રદાન કરી શકે છે, જે ફાઇનાન્સ, આરોગ્યસંભાળ અને માર્કેટિંગ જેવા ક્ષેત્રોમાં નિર્ણય લેવા માટે મહત્વપૂર્ણ છે. નેચરલ લેંગ્વેજ પ્રોસેસિંગ (NLP): NLP નો ઉપયોગ વોઇસ સહાયકો (જેમ કે સિરી અને એલેક્સા), ચેટબોટ્સ અને ભાષા અનુવાદ સાધનોમાં થાય છે, જે મશીનોને માનવ ભાષાને સમજવા અને તેની સાથે ક્રિયાપ્રતિક્રિયા કરવાની મંજૂરી આપે છે. છબી અને વાણી ઓળખ: ચહેરાની

ઓળખ, તબીબી ઇમેજિંગ વિશ્લેષણ અને સ્વચાલિત ટ્રાન્સક્રિપ્શન સેવાઓ જેવી એપ્લિકેશનો દ્રશ્ય અને ઓડિયો ડેટાનું અર્થઘટન કરવા માટે AI નો ઉપયોગ કરે છે વ્યક્તિગતકરણ: AI નો ઉપયોગ ભલામણ સિસ્ટમોમાં થાય છે, જેમ કે Netflix અથવા Amazon પર, વપરાશકર્તા પસંદગીઓ અને વર્તન પર આધારિત સામગ્રી અને ઉત્પાદન સૂચનોને અનુરૂપ બનાવવા માટે. આરોગ્યસંભાળ: AI ડાયગ્નોસ્ટિક્સ, આગાહી વિશ્લેષણ અને રોબોટિક સર્જરીમાં પણ મદદ કરે છે, તબીબી સંભાળની ચોકસાઈ અને સુલભતામાં વધારો કરે છે. નાણાં: તેનો ઉપયોગ છેતરપિંડી શોધ, સ્વચાલિત વેપાર અને જોખમ સંચાલન માટે થાય છે, વ્યવહારોને સુરક્ષિત કરવામાં અને જાણકાર નાણાકીય નિર્ણયો લેવામાં મદદ કરે છે. પ્રયાગરાજ મહાકુંભ મેળો વિશ્વનો સૌથી મોટો આધ્યાત્મિક અને સાંસ્કૃતિક મેળો છે, જે દર 12 વર્ષે ગંગા, યમુના અને અક્ષયવટ (કાલ્પનિક સરસ્વતી) નદીઓના સંગમ પર યોજાય છે.

AI નો મહાકુંભમાં વિનિયોગ ભીડ મેનેજમેન્ટ - AI આધારિત CCTV કેમેરા અને ડ્રોન મદદથી ભીડના પ્રવાહનું વિશ્લેષણ કરીને સલામતી સુનિશ્ચિત કરવી ટ્રાફિક મેનેજમેન્ટ - AI આધારિત ટ્રાફિક મોનિટરિંગ સિસ્ટમ, जिससे रफडता वाहनो અને ભીડવાળા રસ્તાઓની ઓળખ થઈ શકે. અનાઉન્સમેન્ટ અને મેસેજિંગ - AI ચેટબોટ અને ઓટોમેટેડ વોઇસ મેસેજિંગ દ્વારા યાત્રાળુઓને માહિતી પૂરી પાડવી. ઝેડલ્થકેર & ઇમરજન્સી - AI આધારિત હેલ્થ મોનિટરિંગ અને ઇમરજન્સી રિસ્પોન્સ સિસ્ટમ, જેથી તાત્કાલિક આરોગ્યસેવાઓ ઉપલબ્ધ થઈ શકે. દિવ્યAR & VR અનુભવ - યાત્રાળુઓ માટે AI આધારિત Virtual Reality (VR) અને Augmented Reality (AR) નો ઉપયોગ કરીને પવિત્ર સ્થળો અને ધાર્મિક વિધિઓનો ડિજિટલ અનુભવ.

કૃત્રિમ બુદ્ધિમત્તા મહાકુંભના સંચાલનમાં ક્રાંતિ લાવી રહી છે, જેને કારણે યાત્રાળુઓ માટે અનુભવ વધુ સુગમ અને સુરક્ષિત બની રહ્યો છે.

પ્રયાગરાજ મહાકુંભ મેળો વિશ્વનો સૌથી મોટો આધ્યાત્મિક અને સાંસ્કૃતિક મેળો છે, જે દર 12 વર્ષે ગંગા, યમુના અને અક્ષયવટ (કાલ્પનિક સરસ્વતી) નદીઓના સંગમ પર યોજાય છે. તાજેતરમાં, કૃત્રિમ બુદ્ધિમત્તા (AI) અને ડિજિટલ ટેક્નોલોજી મહાકુંભના સંચાલન અને ભક્તો માટેની સુવિધાઓમાં મહત્વની ભૂમિકા ભજવે છે.આ ખરેખર આપણી સનાતન પરંપરા માટે પણ પ્રયાગરાજ મહાકુંભ એટલે શ્રદ્ધા વિશ્વાસ અનેકૃત્રિમ બુદ્ધિમત્તા (AI)નો ત્રિવેણી સંગમ જોવા મળ્યો છે.

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प्रास्ताविक -

कोणत्याही क्षेत्रातील सेवा किंवा कार्य करण्यासाठी व्यक्तीला त्यासंबंधी सैद्धांतिक माहिती उपयुक्त, कौशल्यव क्षमता अवगत असणे आवश्यक असते, त्याशिवाय एखादे कार्य किंवा सेवा प्रभावीपणे व गुणवत्तापूर्ण होणे शक्य नसते. आजच्या युगात उद्योग, शेती, संगणक, अभियांत्रिकी, व्यापार, वकिली , शिक्षण यासारख्या सर्वच क्षेत्रांमध्ये उपयुक्त ज्ञान कौशल्यव क्षमतांचे प्रशिक्षण असल्याशिवाय व्यक्तिअंतर्गत उपयुक्तता निर्माण होत नाही. शिक्षण क्षेत्रात अध्ययन ,अध्यापन, लेखन, संशोधन व संसाधने निर्मिती इत्यादी सारख्या अनेक कृती कराव्या लागतात. या सर्व बाबींचे सांगोपांग ज्ञान असल्याशिवाय एक उत्तम शिक्षक किंवा व्याख्याता होणे शक्य नाही. म्हणूनच शिक्षण प्रशिक्षणामध्ये वरील गोष्टी प्राप्त करण्यासाठी वैशिष्ट्यपूर्ण प्रशिक्षण कार्यक्रम राबवला जातो ज्याला व्यवसायिक क्षमता विकसन प्रशिक्षण कार्यक्रम असेही म्हणता येईल .

आपल्याकडे शिक्षण क्षेत्रात उत्तम मनुष्यबळ तयार करण्याच्या दृष्टिकोनातून एन.आर.इ.सी.टी., एस.सी.इ.आर.टी.,मंडळे, अभ्यास मंडळे, विद्यापीठ अनुदान आयोग व एन.ओ.जी. इत्यादी सारख्या संस्था/ मंडळांमार्फत उत्तम दर्जाच्या अभ्यासक्रमातून चांगले प्रशिक्षण कार्यक्रम तयार करून शिक्षक घडविण्याचे कार्य प्रशिक्षण महाविद्यालयातून केले जात आहे. प्रशिक्षणात प्राविण्यम; या संस्कृत वचनाप्रमाणे प्रशिक्षणाशिवाय प्राविण्य प्राप्त होत नाहीयासाठी प्रशिक्षण महाविद्यालये व संस्थांची आवश्यकता असते. शिक्षण क्षेत्रात किंवा व्यवसायात पदार्पण करण्यासाठी शिक्षकाकडे व्यावसायिक क्षमता असणे आवश्यक असते, शिक्षकाने दहावी किंवा बारावीनंतर डी.एड.त्याचप्रमाणे पदवी किंवा पदव्युत्तर पदवीनंतर बी.एड.यासारख्या प्रशिक्षणात्मक व्यावसायिक पात्रता धारण केलेल्या असतात. शैक्षणिक किंवा व्यावसायिक पात्रता शिक्षकांकडून जी धारण केली जाते ती त्या-त्या काळानुरूप असते मात्र जस-जसा काळ बदलत जातो तस-तसे प्रारंभीच्या काळात प्राप्त केलेली शैक्षणिक व व्यावसायिक पात्रता ही कमी पडू लागते आणि म्हणून शिक्षकाला आपल्या क्षेत्रात अद्यावत राहण्यासाठी सातत्याने व्यावसायिक पात्रतेमध्ये वृद्धी करण्याचा प्रयत्न करावा लागत असतो .

मुंबई परिसर अंतर्गत बी.एम.सी.स्कूल मध्ये असणाऱ्या शिक्षकांमधील व्यावसायिक वृद्धी, व्यवसायिक वृद्धी संदर्भात त्यांनी केलेले प्रयत्न, त्यांना उपलब्ध करून दिल्या जात असलेल्या संधी, त्यांच्यात घडून येणारा विकासात्मक बदल व व्यावसायिक वृद्धी संदर्भातील समस्या या दृष्टिकोनातून संशोधन करणे आवश्यक वाटले म्हणून प्रस्तुत विषय संशोधनासाठी घेण्यात आला.

उद्दिष्टे -

1. शिक्षकांनी प्राप्त केलेली शैक्षणिक व व्यावसायिक पात्रते संबंधित माहिती प्राप्त करणे .

2. शिक्षकांनी सेवांतर्गत प्राप्त केलेल्या व्यावसायिक वृद्धीबाबत माहिती प्राप्त करणे .
3. व्यावसायिक वृद्धी अभावी निर्माण होणाऱ्या समस्यांची माहिती घेणे.
4. व्यावसायिक वृद्धी साधण्याच्या विविध मार्गांविषयी माहिती देणे.
5. व्यावसायिक वृद्धी संदर्भात शिक्षकांना योग्य उपाययोजना सुचविणे.

गृहीतके-

1. शिक्षकांना सेवांतर्गत व्यावसायिक वृद्धी संदर्भात महत्व नसते .
2. शिक्षकांना व्यवसाय वृद्धी संदर्भात संधी उपलब्ध करून दिल्या जात नाहीत .
3. शिक्षकांना व्यवसायिक वृद्धी संदर्भात उपस्थित राहण्यासाठी परवानगी दिली जात नाही .
4. व्यवसायिक वृद्धी प्रशिक्षण कार्यक्रम प्रभावी होत नाहीत .
5. व्यावसायिक वृद्धी शिक्षकांसाठी सक्तीची केली जात नाही .

कार्यात्मक व्याख्या

1. **व्यावसायिक वृद्धी** -शिक्षकांनी दैनंदिन अध्ययन-अध्यापनासाठी बदलत्या काळानुरूप आवश्यक असणाऱ्या अध्यापन शास्त्रीय बाबींची अल्प ते दीर्घ कालावधीत संपादन केलेल्या व्यावसायिक गुणवत्तेस व्यावसायिक वृद्धी असे म्हणतात.

2. **प्राथमिक शिक्षक** -इयत्ता पहिली ते आठवीपर्यंतच्या वर्गांना अध्यापन करणारे शिक्षक होय.

गरज -व्यवसायिक वृद्धी संदर्भात शिक्षकांचा सकारात्मक दृष्टिकोन निर्माण करणे सातत्यपूर्ण.व्यावसायिक वृद्धीच्या विविध मार्गांची शिक्षकांना माहिती प्राप्त होणे .व्यावसायिक वृद्धीतून आपल्या ज्ञानात भर पाडण्यासाठी .काळानुरूप शिक्षण क्षेत्रात होणाऱ्या बदलांची माहिती शिक्षकांना प्राप्त होण्यासाठी.अध्यापन क्षेत्रात व्यवसायिक वृद्धीचे विशेष महत्त्व जाणून घेण्यासाठी शिक्षकांसाठी प्रस्तुत संशोधन गरजेचे वाटते.

महत्व -प्रस्तुत संशोधनातून शिक्षकांना व्यवसायिक वृद्धीच्या मार्गविषयी माहिती प्राप्त होईल व्यवसायिक वृद्धीमुळे अध्ययन अध्यापन क्षेत्रात प्रभावी कार्य करण्यासाठी व्यवसाय वृद्धीचे उपक्रम उपस्थित राहून ज्ञानप्राप्तीसाठी तसेच अशाच प्रकारचे उपक्रम शिक्षकांनी स्वतः आयोजित करण्यासाठी शिक्षकांच्या अध्यापनातून विद्यार्थ्यांच्या प्राविण्यसंपादनामध्ये भर पाडण्यासाठी बदलत्या काळात शिक्षण क्षेत्रात घडणाऱ्या बदलांची माहिती शिक्षकांना प्राप्त होऊन विद्यार्थ्यांना शिक्षकांकडून आद्यवत ज्ञान प्राप्त होण्यासाठी प्रस्तुत संशोधन महत्वाचे आहे

व्याप्ती- प्रस्तुत संशोधनात बी.एम.सी.स्कूल मुंबई मधील प्राथमिक स्तरावरील शिक्षकांचा समावेश असून प्राथमिक स्तरावरील सर्व विषयांना अध्यापन करणाऱ्या शिक्षकांच्या व्यवसायिक वृद्धी विकासाचा समावेश केलेला आहे.

मर्यादा -प्रस्तुत संशोधनात बीएमसी स्कूल मुंबई मधील प्राथमिकस्तरावरील शिक्षकांच्या व्यवसायिक वृद्धी पुरतेच मर्यादित असून निष्कर्ष हे बीएमसीस्कूल मुंबई या शाळामधील शिक्षकांपुरतेच मर्यादित आहे.

संशोधन पद्धती -प्रस्तुत संशोधनासाठी संशोधनाची सर्वेक्षण पद्धतीची निवड करण्यात आली असून शिक्षकांसंदर्भातव्यावसायिक वृद्धी विकासाची वस्तुस्थितीदर्शक माहिती प्राप्त करण्याच्या उद्देशाने सर्वेक्षण पद्धतीचा वापर करण्यात आलेला आहे.

संशोधनाची साधने- माहिती संकलनाच्या विविध साधनांपैकी प्रश्नावली या साधनाचा माहिती संकलनासाठी

उपयोग करण्यात आला होता .व्यावसायिक वृद्धी विकासात शिक्षकांना येणाऱ्या समस्या व व्यावसायिक वृद्धी बाबत उपलब्ध संधी तसेच व्यावसायिक वृद्धी साधण्यासाठीचे विविध मार्ग या दृष्टिकोनातून प्रश्नावली तयार करण्यात आली होती. सदर प्रश्नावली गुगल फॉर्म द्वारे शिक्षकांना पुरविण्यात आली होती. व संबंधित माहिती प्रश्नावलीच्या आधारे प्राप्त करण्यात आली होती .

नमुना निवड - प्रस्तुत संशोधनासाठी शासकीय अध्यापक महाविद्यालय मुंबई येथील शैक्षणिक वर्ष 25-2023 या कालावधीतील अनु 26-2024 वक्रमे प्रथम व द्वितीय वर्षाच्यावर्गातील बी.एड.अभ्यासक्रमास प्रवेश घेतलेल्या बी.एम.सी.स्कूल मधील प्राथमिक शिक्षकांचा नमुन्यात समावेश करण्यात आला होता. प्रशिक्षणास प्रवेशित दोन्ही तुकडींच्या शिक्षकांचा समावेश करण्यात आला असून यासाठी गुच्छ न्यादर्श निवड पद्धतीचा अवलंब करण्यात आलेला होता .

माहितीचे विश्लेषण - प्रस्तुत संशोधनासाठी माहितीचे विश्लेषण हे टक्केवारी या वर्णनात्मक सांख्यिकीय तंत्राचा वापर करून माहितीचे विश्लेषण करण्यात आले.

निष्कर्ष-

1. प्राथमिक स्तरावर अध्यापन करणाऱ्या शिक्षकांना माध्यमिकच्या वर्गानाही अध्यापन करावे लागते त्यासाठी त्यांना व्यवसायिक वृद्धीची आवश्यकता आहे.
2. टक्के 30 शिक्षकांनी व्यवसायिक वृद्धी साधण्याचा प्रयत्न केलेला नाही.
3. व्यवसायिक वृद्धी साधनेसंदर्भात शिक्षकचे प्रमाण कमी आहे .
4. सातत्यपूर्ण व्यावसायिक वृद्धी साधण्याचा प्रयत्न शिक्षकांकडून नियमित स्वरूपात केला जात नाही.
5. सातत्यपूर्ण व्यावसायिक वृद्धी नसाधल्यामुळे शिक्षकांमधील अध्यापन शास्त्रीय अद्ययावतता, अध्यापनाच्या दृष्टिकोनातून नवनवीन कल्पना माहित नसणे, अभ्यासक्रमा-संदर्भात अध्यापनात येणाऱ्या समस्या, नवीन अभ्यासक्रम हाताळताना येणाऱ्या समस्या, अध्यापनातील नवोपक्रम, नवीन तंत्रज्ञानाचा वापर, बदलते शैक्षणिक धोरण या बाबत समस्या निर्माण होतात .
6. राष्ट्रीय, आंतरराष्ट्रीय स्तरावरील चर्चासत्र, परिसंवादांना व कार्यशाळा ना.शिक्षक सहभाग घेत नाहीत
7. नवीन शैक्षणिक धोरण अंतर्गत 1.0 व 2.0 सारखी प्रशिक्षण झालेली आहेत.
8. एस सी ई आर टी व्यतिरिक्त व्यावसायिक वृद्धीसाठीच्या इतर मार्गासंबंधी शिक्षकांना माहिती नाही.

शिफारसी -

1. माध्यमिक स्तरावर अध्यापन करणाऱ्या शिक्षकांनी सेवांतर्गत बी एड हा व्यवसायिक अभ्यासक्रम पूर्ण करून आपली व्यावसायिक पात्रता तसेच व्यवसायिक वृद्धी साधावी.
2. शिक्षकांनी व्यावसायिक वृद्धी साधण्यासाठी आपण अध्यापन करीत असलेल्या विषयांसंदर्भात उपलब्ध असलेली सर्व प्रशिक्षण वर्ग पूर्ण करावेत .
3. प्राप्त केलेले एखादे ज्ञान हे काळाच्या ओघात जुने होते ते फारसे परिणामकारक ठरत नाही अशावेळी आपण नियमित स्वरूपात व्यवसायिक वृद्धी साधण्याचा प्रयत्न करावा.
4. शिक्षकांनी राज्यस्तरीय, आंतरराष्ट्रीय स्तरावरील चर्चासत्र, परिसंवाद, कार्यशाळा इत्यादींना उपस्थित राहून आपली व्यावसायिक वृद्धी साधण्याचा प्रयत्न करावा .
5. शिक्षकांनी संशोधन कार्यातून आपल्या दैनंदिन समस्या सोडवून इतरांना देखील आपल्या संशोधन

कार्याचा लाभ होईल अशा प्रकारे नियोजन, धोरण आखावीत यातून आपल्याबरोबरच इतरांची देखील व्यवसायिक वृद्धी साधण्याचा प्रयत्न करावा .

6. शिक्षकांनी विविध अशासकीय संस्था, स्वयंसेवी मंडळे, शासकीय संस्था इत्यादींच्या मार्फत व्यावसायिक वृद्धी साधण्याचा प्रयत्न करावा याशिवाय ऑनलाइन माध्यमातून व्यवसायिक वृद्धी साधण्याचा प्रयत्न करावा.

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राष्ट्रीय शिक्षण धोरण 2020 च्या अंमलबजावणीतील आव्हाने आणि शिक्षक प्रशिक्षण**महाविद्यालयांवरील प्रभाव****डॉ. संजय एम. मराठे****प्राचार्य****इब्ल्यु के. बी सेवा मंडल****शिक्षणशास्त्र महिला महाविद्यालय नंदुरबार**

महत्त्वाचे की वर्ड्स: राष्ट्रीय शिक्षण धोरण 2020 (NEP 2020), शिक्षक प्रशिक्षण, बहुशाखीय शिक्षण, डिजिटल शिक्षण, शिक्षण व्यवस्थापन, सतत व्यावसायिक विकास (CPD), अभ्यासक्रम सुधारणा, नवोन्मेषी अध्यापन पद्धती, वित्तपुरवठा, तंत्रज्ञानाचा वापर, शिक्षणातील आव्हाने.

प्रस्तावना:

राष्ट्रीय शिक्षण धोरण 2020 (NEP 2020) हे शिक्षण क्षेत्रात क्रांतिकारी बदल घडविणारे धोरण असून त्याचा उद्देश शिक्षण प्रणाली अधिक लवचिक, सर्वसमावेशक आणि गुणवत्तापूर्ण बनवणे हा आहे. शिक्षक प्रशिक्षण महाविद्यालयांसाठी हे धोरण एक नवीन दिशा ठरू शकते, कारण यामध्ये एकात्मिक शिक्षक शिक्षण कार्यक्रम (ITEP), सतत व्यावसायिक विकास (CPD), बहुशाखीय शिक्षण (Multidisciplinary Education) आणि डिजिटल शिक्षण यांसारख्या महत्त्वपूर्ण बाबींचा समावेश आहे. तथापि, याच्या प्रभावी अंमलबजावणीसाठी विविध आव्हानांचा सामना करावा लागत आहे. यामध्ये अधोसंरचना, वित्तपुरवठा, शिक्षकांचे पुनर्प्रशिक्षण, तंत्रज्ञानाचा अभाव आणि पारंपरिक मानसिकतेत बदल यासारख्या अडचणी येतात.

अभ्यासाची उद्दिष्टे:

या अभ्यासाचे उद्दिष्ट शिक्षक प्रशिक्षण महाविद्यालयांमध्ये NEP 2020 च्या अंमलबजावणीतील प्रमुख अडचणींचे विश्लेषण करणे, नव्या अभ्यासक्रमामुळे होणाऱ्या बदलांचा अभ्यास करणे, डिजिटल शिक्षणाच्या प्रभावी अंमलबजावणीतील अडथळे ओळखणे आणि शिक्षकांचे सतत शिक्षण व व्यावसायिक विकासासाठी आवश्यक सुधारणांचा अभ्यास करणे हे आहे.

अभ्यासाची गरज व महत्त्व:

NEP 2020 अंतर्गत शिक्षक शिक्षण 4-वर्षीय एकात्मिक अभ्यासक्रमाच्या दिशेने वाटचाल करत आहे. त्यामुळे महाविद्यालयांनी आपली रचना आणि कार्यप्रणाली सुधारावी लागेल. नव्या अभ्यासक्रमानुसार शिक्षकांना संवाद कौशल्य, डिजिटल तंत्रज्ञान, समावेशक शिक्षण आणि नवोन्मेषी अध्यापन पद्धती शिकवणे आवश्यक आहे. ग्रामीण आणि निमशहरी भागातील शिक्षक प्रशिक्षण महाविद्यालयांमध्ये आवश्यक तांत्रिक सुविधा अपुऱ्या असल्यामुळे डिजिटल शिक्षणाच्या प्रभावी अंमलबजावणीला मर्यादा येतात. याशिवाय, शिक्षण व्यवस्थापन सुधारण्यासाठी महाविद्यालयांनी धोरणात्मक बदल करणे आवश्यक आहे.

अंमलबजावणीतील प्रमुख आव्हाने:

शिक्षक प्रशिक्षण महाविद्यालयांसमोर अधोसंरचनेचा अभाव हे एक मोठे आव्हान आहे. आधुनिक तंत्रस्नेही वर्गखोल्या, डिजिटल शिक्षणासाठी आवश्यक संसाधने आणि ग्रामीण भागातील इंटरनेट सुविधांचा अभाव यामुळे NEP

2020 ची प्रभावी अंमलबजावणी कठीण होत आहे. याशिवाय, नव्या अभ्यासक्रमामुळे शिक्षकांना विविध तांत्रिक आणि अध्यापन कौशल्ये आत्मसात करावी लागणार आहेत, परंतु शिक्षकांना अद्याप तशा प्रकारचे पुनर्प्रशिक्षण देण्याची व्यवस्था अपुरी आहे. अभ्यासक्रमाची अंमलबजावणी करताना महाविद्यालयांना संशोधन आणि नियोजनासाठी अधिक वेळ आणि संसाधने उपलब्ध होणे गरजेचे आहे. वित्तपुरवठ्याच्या मर्यादा, शिक्षक प्रशिक्षणात सतत व्यावसायिक विकासाचा अभाव आणि विद्यार्थी, शिक्षक व व्यवस्थापन यांची मानसिकता बदलण्याची गरज हीसुद्धा महत्त्वाची आव्हाने आहेत.

निष्कर्ष:

NEP 2020 अंतर्गत शिक्षक प्रशिक्षण महाविद्यालयांसाठी मोठ्या संधी उपलब्ध आहेत, परंतु त्याच्या प्रभावी अंमलबजावणीसाठी शिक्षक प्रशिक्षण, तंत्रज्ञानाचा प्रभावी वापर, संशोधनासाठी प्रोत्साहन आणि शिक्षण व्यवस्थापनातील सुधारणांची गरज आहे. शिक्षक प्रशिक्षण महाविद्यालयांनी आधुनिक तंत्रज्ञानाचा वापर वाढवावा, शिक्षकांचे सातत्याने पुनर्प्रशिक्षण करावे, तसेच सरकारने वित्तीय सहाय्य उपलब्ध करून द्यावे. गुणवत्तापूर्ण शिक्षक शिक्षणाची संकल्पना प्रत्यक्षात आणण्यासाठी महाविद्यालये, शिक्षक, विद्यार्थी आणि शासनाने एकत्रितपणे प्रयत्न करणे आवश्यक आहे.

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National professional standards for teachers (NPST): A framework for excellence in teaching

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Abstract

The National Professional Standards for Teachers (NPST) serve as a comprehensive framework designed to elevate the quality of teaching by establishing clear expectations and benchmarks for educators. This paper explores the origins, significance, and structure of NPST, emphasizing its role in enhancing teacher professionalism, accountability, and student learning outcomes. It discusses key domains, performance indicators, and implementation strategies for successful adherence. The study also highlights challenges in the implementation process and suggests policy recommendations to ensure effective execution. The paper concludes that NPST is pivotal in shaping competent educators who contribute to national development.

Keywords: National Professional Standards for Teachers, NPST, teacher quality, professional development, education policy, pedagogy, teaching excellence

Introduction

Quality education is the cornerstone of national development, and teachers play a crucial role in ensuring their success. Recognizing this, many countries have developed National Professional Standards for Teachers (NPST) to establish competency-based expectations for educators. NPST provides a structured approach to improving teacher training, performance assessment, and continuous professional development. This paper examines the historical development, framework, and significance of NPST, along with practical strategies for its implementation and impact on the education sector.

Education systems worldwide have evolved to meet the changing needs of students and society. A high-performing teacher is crucial for student success, and professional standards help maintain consistency in teaching practices across different regions and institutions. NPST ensures that teachers acquire the necessary skills, values, and attitudes to facilitate learning effectively.

Historical Context And Evolution Of Npst

The concept of professional standards for teachers has evolved over time, influenced by educational reforms and the growing need for teacher accountability. Historically, teacher education was often informal, with individuals learning through apprenticeships or community-based training. However, as education systems expanded, the demand for well-trained, professional teachers increased, leading to the establishment of formal teaching standards.

A) Global Evolution of Teacher Standards

- **United States:** The development of teacher certification programs in the early 20th century aimed to standardize teacher qualifications and ensure quality education across different states.
- **United Kingdom:** The establishment of teacher training colleges and national teaching standards reinforced the importance of pedagogical knowledge and classroom management.
- **Australia:** The introduction of the Australian Professional Standards for Teachers set clear expectations for teachers at different career stages, promoting lifelong learning and professional growth.
- **Finland:** A highly selective teacher training system, combined with rigorous educational standards, has contributed to Finland's consistently high performance in international assessments like PISA (Programme for International Student Assessment).

B) The Evolution of NPST in India

- **Pre-Independence Era:** Teacher education was largely unregulated, with training programs varying across regions.
- **Post-Independence Period:** The Kothari Commission (1964-66) emphasized the need for structured teacher education programs.
- **21st Century Reforms:** The introduction of the Right to Education Act (2009) and the National Curriculum Framework for Teacher Education (NCFTE) highlighted the importance of quality teacher training.
- **NEP 2020 and NPST:** The National Education Policy (NEP) 2020 reinforced the necessity of professional standards for teachers, leading to the formalization of NPST as a competency-based framework for teacher excellence.

C) Objectives of NPST in the Indian Context

NPST in India aims to:

- Align teacher competencies with 21st-century learning demands.
- Enhance teacher training programs by integrating research-based pedagogical strategies.
- Provide clear career progression pathways for educators.
- Ensure accountability and professional ethics among teachers.

Understanding Npst: Meaning And Significance

National Professional Standards for Teachers (NPST) refers to a structured framework that defines the essential competencies and expectations for teachers to ensure high-quality education. These standards provide a benchmark for teachers' professional growth and help in establishing consistency in teaching effectiveness across different educational institutions.

The primary objectives of NPST include:

- Establishing a Common Understanding of Effective Teaching Practices
- Promoting Accountability and Professional Growth Among Teachers

- Enhancing the Credibility and Status of the Teaching Profession
- Ensuring Uniformity in Teacher Quality Across Educational Institutions
- Providing a Clear Pathway for Career Progression and Teacher Evaluation

The Role Of Npst In Effective Teaching

By creating a shared vision for teaching excellence, NPST ensures that educators are well-equipped to address diverse classroom needs, integrate innovative teaching methodologies, and engage in reflective practice for continuous improvement. This may involve the use of:

- Multimodal Teaching Approaches
- Technology Integration
- Inclusive Education Practices
- Assessment for Learning

A) Case example: NPST in action

Consider a mathematics teacher in a high school setting. According to NPST, the teacher is expected to:

- Plan and Structure Lessons
- Incorporate Real-World Applications
- Engage in Reflective Practice
- Demonstrate Ethical and Professional Conduct

B) Example: NPST's Impact on Indian Schools

- Improved student engagement and learning outcomes.
- Increased teacher motivation and professional growth.
- Enhanced classroom management strategies leading to better discipline and student participation.

C) Impact Of NPST On Teacher Professionalism

NPST promotes teacher professionalism by:

- Encouraging educators to pursue advanced certifications and continuous professional development.
- Enhancing collaboration among teachers through mentorship programs, peer reviews, and shared learning experiences.
- Establishing clear evaluation metrics that enable educators to receive constructive feedback and grow in their careers.

By following NPST, educators not only improve their own teaching effectiveness but also contribute to the overall advancement of the education sector. As a result, students receive high-quality instruction that fosters intellectual curiosity, critical thinking, and lifelong learning.

The Framework Of Npst

The NPST framework is structured around key domains that encompass various aspects of effective teaching. These include:

1. Professional Knowledge

- Understanding child psychology and learning theories to cater to diverse learning needs.
- Mastery of subject content and pedagogical approaches to ensure conceptual clarity.
- Awareness of socio-cultural diversity and inclusive education practices to foster an equitable learning environment.

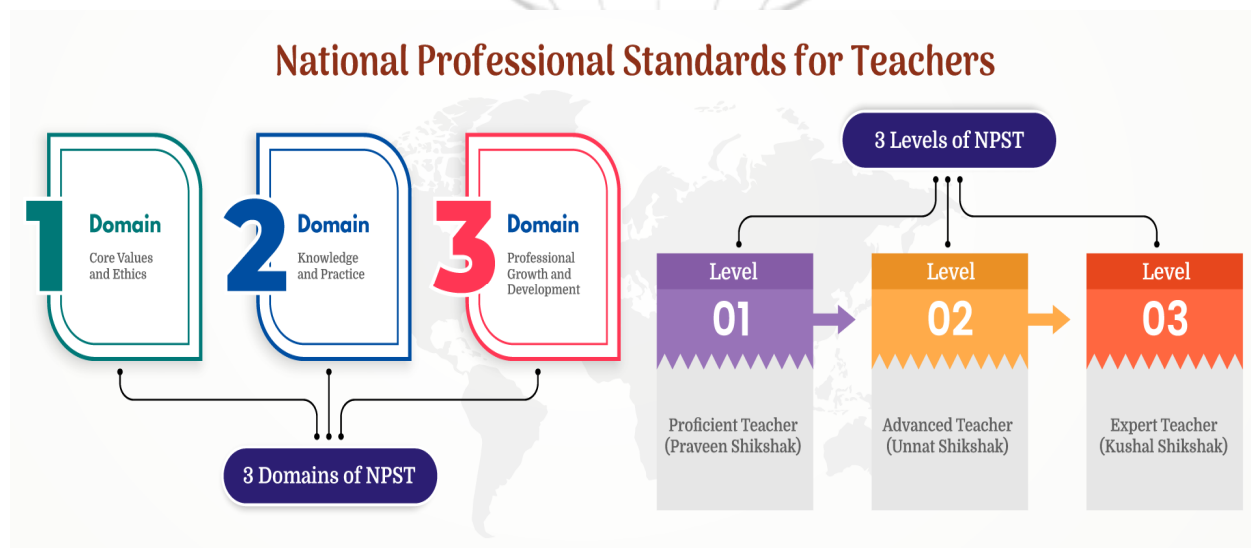
2. Professional Practice

- Designing effective lesson plans that align with learning objectives and student capabilities.
- Implementing student-centered teaching methodologies such as inquiry-based learning and project-based learning.
- Utilizing technology to enhance learning outcomes and promote digital literacy among students.

3. Professional Engagement

- Engaging in lifelong learning and professional development to stay updated with evolving educational trends.
- Collaborating with stakeholders, including parents, peers, and the community, to create a holistic learning environment.
- Adhering to ethical and professional conduct to uphold the dignity and integrity of the teaching profession.

(Figure 1: NPST Framework Domains & 3 Levels)

**Implementation Strategies For Npst**

Implementing NPST requires a multi-pronged approach, including:

1. Teacher Training Programs
2. Assessment and Certification
3. Institutional Support

Challenges In Implementing Npst

Despite its benefits, NPST faces several challenges:

- Resistance to Change
- Training Gaps
- Infrastructure Limitations
- Variability in Policy Implementation

Recommendations For Effective Npst Execution

- Strengthening teacher training institutions to align with NPST requirements by revising curricula and incorporating competency-based assessments.
- Enhancing collaboration between policymakers, educators, and academic institutions to create a unified approach to NPST implementation.
- Leveraging technology for large-scale teacher training, assessment, and certification through online learning platforms and digital competency tests.

Conclusion

NPST serves as a transformative tool for enhancing the quality of teaching and learning. By setting clear benchmarks for professional excellence, it ensures that teachers are well-equipped to meet the demands of modern education. While challenges remain in its implementation, strategic planning and collaborative efforts can drive its successful adoption. Ultimately, NPST paves the way for a robust education system that contributes to national progress and global competitiveness.

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A Study of Attitude among Teacher Educators towards NEP 2020 Policy about Teacher Education Programme

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Abstract :-

In the Post-Independence period the objective of education and accordingly the curriculum and teaching methods changed that's why the teacher education program also changed many time. But Teachers who makes the student does not appear to be fully formed- in today scenario where Teaching methods and technology are contently evolving to meet diverse student need, the Role of Teacher education programs has becomes more crucial than ever.

The NEP 2020 there for highlighted the need to Reform teacher education programs to better prepare educators for the 21st century classroom. Today Teacher education programs are being implemented in many state of India. But the old education system still working in part of the country and it will end after 2030.

In short There is confusion among Teacher Trainers across domains regarding New education policy. in present Research paper an attempt has been made to find out for what types are attitude of rural and urban teacher educators regarding Nep 2020. Which are the potential difficulties for implementation. It is necessary to all teacher educators are aware and readiness for NEP 2020 policy.

Key Word :- attitude, Readiness, Teacher educators, potential difficulties, Teacher education.

Introduction :-

NEP 2020 is the first education policy at the 21st century which aim to address the emphasis on bridging the quantity and quality gap between learner. The implementation of previous policies on education has focused largely on issues of access and equity. In sense education is the limited to Increasing the number of students receiving education. The situation of Teacher education is no different. Over the past few decades the number of students pursuing teacher education has outpaced professional skill development.

Lack of quality, educational institutions modern tools, update teachers, Job opportunity, social and culture environment. Due to the lack of such factors the urban-rural gap in the quality of education is always experienced. The new education policy emphasis on quality and inclusive education giving a new impetus to teacher education. Hence, Nep 2020 will play an imported, Role in improving this status. But this will be truly possible only it the teacher educators who has a different area background are committed to achieve the goal as well as readiness about implementation of Nep 2020.

NEP 2020 : Teacher education

The current teacher education programs have been criticized for their emphasis on rote

learning. The new education policy recognizes the crucial role of teachers trainers reforms to teacher education programs. The Nep 2020 has several features related to teacher education.

- **ITEP Programme:-** A 4 year integrated Teacher education programme. for degree create teachers who are qualified, motivated and professionally trained. Admission to the ITEP program is based on the National common Entrance Test (NCET)
- **CPD:-** CPD is one of the importance feature of NEP 2020. requiring teachers to complete at least 50 hours to continuous professional development each year. Which will including seminars. Online courses and peer learning. This will help teacher keep abreast of the latest educational practices and technology.
- **Language Diversity:-** multilingualism is adopted in teacher training program. Indian knowledge system is at the heart of NEP multilingual traditional knowledge helps teacher develop a more multifaceted personality
- **LLP (ODLP) :-** NEP 2020 emphasizes on using platforms like swayam and diksha to impart skills to Teachers though continuous education programmes. This platforms play an important role in creating the technologically poticient learning environment affordable by ODL-
- **NCTE :-** National curriculum Framework for Teacher education is cornerstone of NEP 2020. Developed By the National council of education Research and Training. This Framework provided guideline for teacher education as per updating.
- **Mentor :-** In New education policy scholars who have made important achievements in various field will act is mentors of continually or short term period as per recommendation this is to create a culture of continuous improvement and professional growth.
- **Need of the study :-** change is the law of nature To survive in global competition reform in education is the need of present scenario, There are many difficulties in accepting any change. But will attitude Towards it is optimistic the Transformation becomes easy. Acceptance and implementation changes of the Teacher education program is often related to the positive or negative attitude. so it is necessary to know the attitude and Readiness of teacher educators about New education policy.

Objective :-

- To know the Attitude and Readiness of urban and rural teacher educators about NEP2020.
- To know the possible difficulties for the implementation of NEP 2020.

Operational definition :-

- **Teacher education :-** Teacher education is the training required for the secondary and higher secondary levels.
- **NEP 2020 :-** The National Education policy is a policy that outlines the vision for India education system It was released on July 29, 2020
- **Teacher Attitude :-** Teacher Attitude is a psychological tendency that is a favorable or dis

favorable response expressed for policy

- Readiness :- A Teacher capability to Operate New technology and policy about teacher education.

Literature Review :-

- Dr. Bhatt (2022) explores the about opportunities in teacher education due to the new policy discussed what should be the role of the teacher to seize the opportunity.
- Dr. Shambhavi Kumari (2024 July) explored the details of the National education policy and addressing how it aligns with the sustainable development Goals 2030.
- Kavita Roy (may 2024) 'A critical Analysis of national education policy 2020 perspectives of, Ph.D. scholars.'
- Ms. Sonia Bombacha – Research study about knowledge system and Nep 2020 Assessing school Teacher awareness.

Research Method :-

A survey method was used to study attitude of Teacher educators and also used to find out possible difficulties are face for implementation of New education policy.

Data collection, Tools & Sample:

Data was collected from 40 teacher educators. working in different rural and urban area in teacher training institute of Nagpur district 20 teacher educators of rural areas and 20 of urban areas had selected with the help of convenience sampling method,

Procedure :-

- 1) Review of related literature
- 2) Development of Data collection tools questionnaire
- 3) collection of Data
- 4) Analysis of Data
- 5) finding and conclusion.

Data Analysis :- Teachers educators attitude and readiness about NEP 2020 was evaluated by using percentage of their responses and compared favorable and disfavor able attitude of rural and urban teacher educators.

Table -01 :- NEP GUIDELINS

Factor	Teacher Educators Attitude				
	Rural Area		Urban Area		
	Favorable	Disfavorable	Favorable	Disfavorable	Total
1. Language Diversity	18 (45%)	2 (5%)	15 (37.5%)	5 (12.5%)	40
2. ITEP	10 (25%)	10(25%)	6 (15%)	14 (35%)	40
3. CPD	20 (50%)	0	20 (50%)	0	40
4. Mentor	12 (30%)	8 (20%)	17 (42.5%)	3 (7.5%)	40
5. LLP (ODPL Program)	9 (22.5%)	11 (27.5%)	16 (40%)	4 (10%)	40

Finding

- The Attitude of rural (45%) and urban (37.5) Teacher educators is favorable towards the element of linguistics diversity which gives students on opportunity to teach in their own regional language
- The attitude of Teacher educators from rural Areas towards Interdisciplinary policy appears to be ambiguous (50% favorable and 50% unfavorable) while teacher educators from urban areas (35%) have shown an unfavorable response.
- Majority of rural (100%) and urban (100%) Teacher educators positively agreed that CPD program would be key to trainee's professional development.
- The attitude of teacher educators in rural (30%) as well as urban (42.5%) areas agree with this view of conducting program under guidance of mentor in various field. But ODPL Role in Teacher education programs The view of rural Teacher educators (27.5%) is unfavorable and urban areas (40%) Teacher Educator Attitude was favorable.

Table 2- IMPACT OF NEP IMPLEMENTATIONS

Factor	Teachers Educators Attitude				
	Rural Area		Urban Area		
	Favorable	Disfavorable	Favorable	Disfavorable	Total
1. Student quantity and interest	19 (47.5%)	1(2.5%)	13(32.5%)	7 (17.5%)	40
2. Student quality	18 (45%)	2(5%)	20 (50%)	0	40
3. Private Institute	13 (32.5%)	7(17.5%)	16(40%)	4(10%)	40
4. ICT Updation	17 (42.5%)	3 (7.5%)	18 (45%)	2(5%)	40
5. Job security	5 (12.5%)	15(37.5%)	8 (20%)	12 (30%)	40

Finding-

- In the view of Teacher educators in rural (47.5%) as well as urban areas (32.5%) the interdisciplinary approach will have an adverse effect on the quantity and interest of students.
- The attitude of teacher educators in rural (15%) and urban (12%) areas regarding the job security of students is reflected in the policy.
- Majority of the rural (32.5%) and urban (40%) Teacher educators agree that private educational institutions will not easily adopt the new policy Rules about Teacher education programs.
- The attitude of rural (37.5%) and urban (30%) Teacher educators seems to be unfavorable in ICI updation.

Table 03 : POSSIBLE DIFFICULTIES

Factor	Teachers Educators Attitude				
	Rural Area		Urban Area		
	Favorable	Disfavorable	Favorable	Disfavorable	Total
1. One Nation one curriculum	16 (40%)	4 (10%)	14(35%)	6 (15%)	40
2. Multidisciplinary Institutes	9 (22.5%)	11(27.5%)	5 (12.5%)	15(37.5)	40
3. Access available	13 (32.5%)	7(17.5)	17(42.5%)	3 (7.5%)	40
4. Digital Divide	7 (17.5%)	13 (32.5%)	2 (5%)	18(45%)	40
5. Regional Inequality	18(45.5%)	2(5%)	17 (42.5%)	3 (7.5%)	40

Finding-

- There was a consensus among rural (40%) and urban teachers (35%) that creating a unified Teaching program across the country is a major challenge.
- The majority attitude of teacher educators are unfavorable regarding the potential difficulty of developing a multidisciplinary institute
- Both rural and urban educators attitude is favorable that regional inequality and the digital divide are major obstacles to achieving the NEP goal.

Conclusion :-

It was observed that some teacher educators lacked knowledge about Nep 2020. But from the findings of Research it is seen that the attitude of teacher educators towards Nep 2020 is favorable. so it is clear that the New education policy is an important step to reforms the education system and also to improve the quality of upcoming teachers. While the implementations of NEP ambitions in rural area it can be face significant difficulties But Teacher educators in rural and urban areas also have shown readiness to accept these challenge and make away out of them. That way Indian education will achieve New heights in upcoming decade.

Recommendations :-

- 1) It should be provide various discussion panel in rural area for Teacher Educators.
- 2) Conduct workshops and online program to aware about NEP 2020 Towards teacher education program.
- 3) Suggestions should be sought from the teacher regarding the problems Faced in the implementation of NEP 2020.
- 4) A program should be organized in every educational institute to Discuss the New education policy and its report should be called for by The government.
- 5) The new education policy should be kept away from corruption. Which Makes it difficult for students from lower socio-economic classes to Get an equal education.
- 6) Teachers and students are seen to be encouraged to embrace New education Ambition

through the NEP 2020 policy.

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GOEIIRJ

Role of Teachers in NEP 2020: The Concept of Blended Learning Mode

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Abstract:

According to National Education Policy (2020) ,Higher Education Institute (HEI) has to provide quality education which would enable personal capability, insight among the students. Over the past year during the pandemic, the teaching -learning process has changed tremendously and teachers has to take new challenges in order to create more interest and have to incorporate creative teaching techniques for enhancing the learning experience of their students for delivering theory and practical technical subjects. One such revolutionary approach is the concept of blended learning, which combines traditional face-to-face teaching with digital learning experiences. This paper explores the role of teachers in a blended learning environment under NEP 2020, emphasizing their pivotal role as facilitators, mentors, and adaptors of change. It delves into the key characteristics of blended learning, such as collaborative activities, the use of webinars, and digital tools like YouTube lectures, and investigates its benefits in enhancing educational outcomes. With NEP 2020 advocating multidisciplinary and holistic learning approaches, teachers are central to its successful implementation. By fostering creativity, critical thinking, and inclusivity, teachers bridge the digital divide and ensure effective learning for all.

Keywords: NEP 2020, Blended Learning, Teachers, Holistic Education, Digital Tools, Face-to-Face Teaching.

Introduction

In the NEP 2020, the role of teachers has been emphasized. Teachers must be given more autonomy in choosing aspects of pedagogy, so that they may teach in the manner they find most effective. The educational system presently is in a transition stage. The traditional approach helps only in developing a strong value system. The National Education Policy 2020 marks a pivotal shift in the Indian education system, focusing on inclusivity, technology integration, and innovative teaching methodologies. One of the significant shifts proposed is the adoption of blended learning, an amalgamation of conventional teaching practices and digital tools. Blended learning aligns with NEP 2020's goals of promoting equitable, multidisciplinary, and learner-centric education. At the heart of this shift lies the indispensable role of teachers, who act as enablers and facilitators in ensuring its effective implementation.

To make students' knowledge supplement with the present technological advancement and globalization, to minimize the teaching debts, to enhance the quality, to increase pupils exposure ICT supported teaching learning process is a good option. The demand of moment is an approach that blends the advantages of both the modes for the pupil's literacy i.e. blended learning.

Objectives

The purpose of the paper has been to highlight to discuss the mix methodology of teaching learning for both teachers and new generation students. The objective are:

- (a) **To analyze the role of teachers in implementing blended learning as envisioned in NEP 2020:** This objective focuses on understanding how teachers adapt to and facilitate the integration of traditional and digital teaching methodologies to create a holistic and effective learning environment.
- (b) **To explore the key elements and benefits of blended learning in enhancing education:** This includes examining components like face-to-face teaching, peer interaction, group discussions, webinars, and online resources, and evaluating their impact on fostering creativity, inclusivity, and critical thinking in learners.

What is Blended Learning?

Blended learning combines traditional teaching methods with digital resources to create a comprehensive educational experience. It leverages the best of both worlds; the personal touch of face-to-face interaction and the accessibility and scalability of technology. Key elements of blended learning include:

1. **Face-to-face teaching** -remains a cornerstone of education due to its irreplaceable benefits. This traditional mode allows teachers and students to build personal relationships, fostering trust and understanding. It offers a dynamic environment where educators can gauge learners' expressions, body language, and overall engagement, enabling tailored instruction. Immediate feedback becomes possible as doubts can be addressed in real time, thereby reducing confusion and enhancing concept clarity. The emotional connection between teachers and students in a classroom setting also helps create a supportive atmosphere that encourages active participation and boosts morale.
2. **Peer Group Interaction**-Encourages Collaboration, Shared Learning, and Critical Thinking-Learning in a group enables students to share knowledge, skills, and ideas, promoting a collaborative approach to education. Peer group interactions help in developing critical thinking as students are exposed to diverse perspectives. Such interactions often take place in settings like group projects or study sessions, where students learn to resolve conflicts, build consensus, and refine their arguments. Moreover, it fosters soft skills such as teamwork and communication, which are essential in professional and social settings. Teachers can play a pivotal role in facilitating these interactions, ensuring inclusivity and equal participation.

3. Group Discussions and Idea Exchange -Facilitates Deeper Understanding Through Debates, Discussions, and Diverse Viewpoints-Group discussions serve as an excellent tool for active learning. Students engage in debates and exchange ideas, which encourage them to explore topics from multiple angles. This method promotes deeper understanding by challenging assumptions and encouraging the formulation of well-rounded arguments. Such discussions often lead to innovative problem-solving and enhance students' analytical skills. Teachers guide these sessions by moderating discussions, ensuring the conversation remains focused, and addressing misconceptions. The exchange of ideas in a group setting also helps students develop confidence in expressing their opinions.

4. Utilizes Online Seminars for Expert Talks, Workshops, and Real-Time Virtual Engagements-Webinars are a vital component of blended learning, bringing experts and learners together on virtual platforms. These online seminars offer the opportunity to attend workshops, lectures, or Q&A sessions with professionals who might otherwise be geographically inaccessible. Real-time engagement during webinars allows participants to ask questions, share insights, and clarify doubts instantly. Additionally, webinars often provide access to recorded sessions, enabling learners to revisit the material later. Teachers leverage webinars to expose students to the latest developments in their fields, fostering curiosity and inspiring lifelong learning.

5. Viewing Expert Lectures on YouTube-Offers Learners Access to a Vast Repository of Resources for Self-Paced Learning-YouTube has revolutionized education by offering free and diverse learning resources. Expert lectures available on this platform cater to varied subjects and learning levels. These videos provide flexibility as students can learn at their own pace, pausing and rewatching segments to enhance understanding. Teachers can curate playlists of high-quality content to complement classroom instruction or assign specific lectures as supplementary learning. By integrating YouTube resources into their teaching strategies, educators ensure students have access to a wealth of knowledge beyond the curriculum, broadening their intellectual horizons.

Main Characteristics of Blended Learning

- **Flexibility:** Enables learning anytime, anywhere.
- **Personalization:** Caters to diverse learning styles and paces.
- **Collaborative:** Promotes peer-to-peer engagement and teamwork.
- **Technology-Driven:** Integrates tools like virtual classrooms, multimedia content, and learning management systems.

Role of Teachers in a Blended Learning Environment- Teachers play a multifaceted role in ensuring the success of blended learning. They are:

1. **Facilitators:** Guiding students in navigating through digital and offline resources.
2. **Mentors:** Providing emotional and academic support in a hybrid setup.
3. **Content Curators:** Selecting and customizing digital tools and materials to suit learning objectives.

4. **Change Agents:** Adapting to new technologies and encouraging students to embrace them.
5. **Evaluators:** Assessing student progress in both traditional and digital environments. NEP 2020 emphasizes teacher training and development programs to equip educators with the skills required for this paradigm shift.

Conclusions

The National Education Policy (NEP) 2020 has introduced a transformative approach to the Indian education system, focusing on inclusivity, innovation, and technological integration. Among its many advancements, the concept of blended learning emerges as a pivotal teaching methodology, combining traditional face-to-face interaction with the advantages of digital tools and resources. This modern pedagogical strategy not only aligns with global educational trends but also caters to the diverse and dynamic learning needs of Indian students. Teachers play a central role in ensuring the successful adoption and implementation of this paradigm, navigating the balance between conventional teaching methods and new-age technology-driven learning environments. A blended learning mode provides ultimate flexibility in many aspects. Blended learning mode is to be used all over the world to help learners develop 21st century skills along with the effective learning and skill development related to the subject.

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**Development of Software for teaching history subject
of class 9th and To study its effectiveness**

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Research Centre :Sane Guruji Vidya Prabodhini,**Comprehensive College of Education,**Khiroda, Tal-Raver, Dist- Jalgaon, Maharashtra.*

Introduction :

Today 21st century is known as the technological era as various fields are covered by technology. As a result, it is easy to acquire knowledge and skills in a better way. One of the various sectors is the education sector. Today, the process of teaching and learning is getting the addition of technology along with the traditional form. The result is that the teaching-learning process seems to be effective and efficient. Software is developed through various electronics software. The content will be educational and easily accessible where students can use it anytime, anywhere. Thus, the study process continues uninterrupted and uninterrupted resulting in consolidation of content.

Need for research

Studying various subjects for the holistic development of students in today's changing times but along with it, various extra-curricular and extra-curricular activities have to be done, so there is a time limit. As a result of this, it becomes necessary to convey complete content and additional necessary information to the students. For this, it is necessary to use technology today to convey the content to the students without the limitation of time and place.

Importance of research

Educational Software is such a concept. In which various software is used for study. There is no space-time limit for content creation. While conveying the content to the students, different colors, pictures. A combination of tables is created as well as more, useful information to the students can be delivered.

Problem of Statement

To Develop Software and Studying its Effectiveness for Class 9 History Teaching.

Objectives

1. Development of Software for teaching history subject of class 9.
2. Implementation And Studying through Software for class 9 students.

3. To study the effectiveness of Software .

Assumptions

Class 9 students are taught in the traditional way.

Hypothesis**Research Hypothesis**

Teaching history through educational Software to class 9th students makes a significant difference in their studies.

Null Hypothesis

There is no meaningful difference in the study of class 9 students when history is taught through Software.

Functional definition

1. 9th Class :Class 9 is the class in the school plan given by the state of Maharashtra.
2. History subject :One of the various subjects of class 9th in the school plan given by the state of Maharashtra Subject History Subject Yes.
3. Software: Educational Software is the preparation of students for studying history content with the help of software.
4. Effectiveness :Effectiveness is a positive change in students' achievement scores when they study through educational Software.

Scope and Limitation of the Research**Scope**

1. The research is related to the elementary level history subject
2. English medium schools in Nashik district have been considered in the research.
3. The research has considered the topics decided by the Maharashtra State Government.

Limitation

1. A school in rural Nashik has been considered in the research.
2. Research history is relevant to the subject itself.
3. Research is relevant only to class 9th.
4. The research is limited to Matoshri Asarabai Darade English Medium School.
5. The research presented is limited to the academic year 2024-2025.

Variable

Independent Variables- Teaching through educational Software is the independent variable for history teaching in the research.

Dependent Variable – Effectiveness on learning through Software is a dependent variable.

Research Methods

Experimental research method was adopted for the research.

Research sample : 50 students of class 9th of AsarabaiDarade English Medium School, Eklahare were elected using purposive sampling method.

Research tools

1. A self-made test instrument was used in the research.
2. Software developed by researcher.

Research design : Equal group design was used for the research.

Numerical tools : Mean, standard deviation and 't' test were used for the research.

Analysis of information

Types of test	Number of Student	Mean	Standard Deviation	't' Test	Degrees of Freedom	Levels of Significance
Pre-Test	30	4.8	1.65	28.06	48	0.01
Post-Test	30	13.16	1.86			

Analysis was done on the basis of the information obtained after taking the pre- and post-test. It has a pre-test mean of 4.8 and standard deviation of 1.65. So the mean of answer test is 1.86 and standard deviation is 13.16 their 't' value is 28.06. The significance level is 48 and the significance level is 0.01. Therefore, when history is taught through Software to the students of class 9th, there is a meaningful difference in their studies. Null Hypothesis There is no significant difference in the learning of class 9th students when history is taught through educational Software, it is abandoned.

Conclusion

It helps the students to understand the concept of Software as is not limited by time and place. So it can be studied by students anywhere. Also students got habit of self study. Revising the concepts frequently resulted in consolidation of the concept.

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शिक्षक शिक्षणात बहुविद्याशाखीय दृष्टिकोनांना प्रोत्साहन देणे

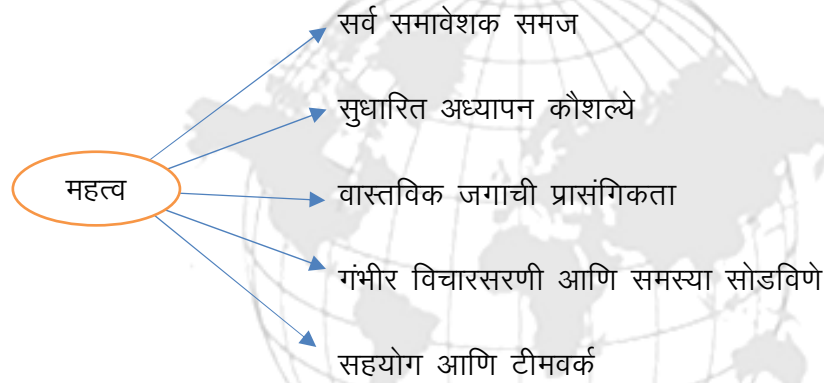
आढाव ज्योती पांडुरंग
संशोधक

डॉ. संजय शेडमाके
मार्गदर्शक

प्रस्तावना

विविध विषयांचे एकत्रीकरण करणे, सहकार्याला प्रोत्साहन देणे आणि विविध क्षेत्रातील ज्ञान आणि पद्धती एकत्रीत करणा-या क्रियाकलापांद्वारे समीक्षात्मक विचारसरणीला चालना देणे, ज्यामुळे शिक्षकांना जटिल वास्तवीक जगातील समस्यांसाठी तयार करणे शक्य होईल.

“शिक्षक शिक्षणात बहुविद्याशाखीय दृष्टिकोन महत्वाचा आहे”



- **सर्वसमावेशक समज :-** बहुविद्याशाखीयदृष्टिकोन शिक्षकांना हे समजून घेण्यास हे मदत करतो की, वेगवेगळे विषय कसे एकमेकांशी जोडले जातात आणि विविध क्षेत्रातील ज्ञान समस्या सोडविण्यासाठी कसे वापरले जाऊ शकते.
- **सुधारीत अध्यापन कौशल्ये :-** विविध दृष्टिकोनांचा समावेश करून शिक्षक अधिक बहुमुखी आणि आकर्षक शिक्षण पद्धती विकसीत करू शकतात, ज्या विविध प्रकारच्या शिक्षण शैलींना पुरक ठरतील.
- **वास्तविक जगाची प्रासंगिकता :-** बहुविद्याशाखीय शिक्षण शिक्षकांना अशा जटिल वास्तवीक जगातील समस्या सोडविण्यास तयार करते ज्यांना अनेकदा विविध विषयांमधून सहकार्य आणि ज्ञान आवश्यक असते.
- **गंभीर विचारसरणी आणि समस्या सोडविणे :-** बहुविद्याशाखीय दृष्टिकोन शिक्षकांना गंभीरपणे विचार करण्यास वेगवेगळ्या स्रोतांकडून मिळालेल्या माहितीचे विश्लेषण करण्यास आणि जटिल समस्यांवर नाविन्यपूर्ण उपाय विकसीत करण्यास प्रोत्साहित करतो.
- **सहयोग आणि टिमवर्क :-** बहुविद्याशाखीय शिक्षण शिक्षक आणि विद्यार्थी दोघांमध्ये सहकार्य आणि टिमवर्कला प्रोत्साहन देते जे आधुनिक कार्यास्थळ आणि समाजासाठी आवश्यक कौशल्ये आहेत.

शिक्षक शिक्षणात बहुविद्याशाखीय दृष्टिकोन कसे वाढवायचे

अ. अभ्यासक्रम एकत्रीकरण

ब. प्राध्यापक विकास

क. अध्यापन पद्धती

ड. मूल्यांकन

अ. अभ्यासक्रम एकत्रीकरण

- वेगवेगळे विषय एकत्रीत करा – विषयांना वेगळे ठेवण्या ऐवजी विविध विषयांमधील ज्ञान आणि पद्धती एकत्रीत करणारे अभ्यासक्रम तयार करा.
- विषयागत एकके – विविध दृष्टिकोनातून जटिल विषयांचा शोध घेणारे विषयागत एकके विकसीत करा. ज्यामुळे विद्यार्थ्यांना वेगवेगळे विषय एकमेकांशी कसे संबंधित आहेत हे पाहता येईल.
- प्रकल्प आधारित शिक्षण – विद्यार्थ्यांना सहकार्याने कार्य करावे आणि वेगवेगळ्या विषयांमधील ज्ञानाचा वापर करावा यासाठी प्रकल्प आधारित शिक्षक उपक्रमांचा समावेश करा.

ब. प्राध्यापक विकास

- सहकार्याला प्रोत्साहन द्या – बहुविद्याशाखीय अभ्यासक्रम आणि उपक्रम विकसित आणि अंमलात आणण्यासाठी विविध विभागांमधील प्राध्यापकांमध्ये सहकार्य वाढवणे.
- व्यावसायीक विकास – बहुविद्याशाखीय अध्यापन पद्धती आणि सर्वाततम पद्धतींबद्दल जाणुन घेण्यासाठी शिक्षकांना व्यवसायीक विकासाच्या संधी प्रदान करा.
- पाहुणे, वक्ते आणि तज्ज्ञ – शिक्षक शिक्षण विद्यार्थ्यांसोबत त्यांचे ज्ञान आणि दृष्टिकोन सामायिक करण्यासाठी विविध क्षेत्रातील अतिथी, वक्ते आणि तज्ज्ञांना आमंत्रित करा.

क. अभ्यास पद्धती

- गंभीर विचारांना प्रोत्साहन द्या – विद्यार्थ्यांना गंभीरपणे विचार करण्यास वेगवेगळ्या स्त्रोतांकडून मिळालेल्या माहितीचे विश्लेषण करण्यास आणि वेगवेगळ्या दृष्टिकोनाचे मूल्यांकन करण्यास प्रोत्साहित करणारे उपक्रम तयार करा.
- सहकार्याला प्रोत्साहन द्या – विद्यार्थ्यांना वेगवेगळ्या विषयांमधील ज्ञान आणि कौशल्ये एकत्रीत करण्यासाठी आवश्यक असलेल्या प्रकल्प आणि उपक्रमांवर सहकार्याने काम करण्याच्या संधी निर्माण करा.
- वास्तविक जगातील अनुप्रयोग – शिक्षणाला वास्तविक जगातील समस्या आणि समस्यांशी जोडा. जेणे करून विद्यार्थ्यांना त्यांचे ज्ञान आणि कौशल्ये कशी बदल घडवून आणु शकतात हे पाहता येईल.

ड. मूल्यांकन

- विविध मूल्यांकन पद्धती वापरा – बहुविद्याशाखीय संदर्भात विद्यार्थ्यांच्या शिक्षणाचे मूल्यांकन

करण्यासाठी प्रकल्प सादरीकरण सादर करणे आणि निबंधासह विविध मूल्यांकन पद्धती वापरा.

- गंभिर विचारसरणी आणि समस्या सोडविण्यावर लक्ष्य केंद्रित करा. – केवळ रटके लक्षात ठेवण्याऐवजी मूल्यांकनात टिकात्मक विचारसरणी आणि समस्या सोडविण्याच्या कौशल्यांवर भर द्या.

निष्कर्ष

बहुविद्याशाखीय शिक्षण हि एक संकल्पना आहे जी भारत सरकारने नवीन राष्ट्रीय शैक्षणिक धोरण एनईपी 2020 द्वारे स्विकारली आहे. शिकण्याचा दृष्टिकोन एखाद्या विषयाची सर्वसमावेशक समज निर्माण करण्यासाठी विविध विषय एकमेकांशी कसे संवाद साधू शकतात आणि एकमेकांशी कसे ओव्हरलॅप करू शकतात हे पाहणे. शिक्षणातील बहुविषय दृष्टिकोन हा गुंतागुंतीच्या समस्यांना तोंड देण्याचा आदर्श मार्ग म्हणून पाहीला जातो. आणि जागतीक अर्थव्यवस्थेत भारताच्या निरंतर यशासाठी आवश्यक असेल. एनईपी 2020 सह भारताची सध्याची शैक्षणिक प्रणाली तयार करण्यासाठी आणि अधिक बहु अनुशासनात्मक दृष्टिकोनाकडे वाटचाल करण्यासाठी चांगली स्थिती आहे.

सारांश

बहुविद्याशाखीय शिक्षक शिक्षणात बहुविद्याशाखीय दृष्टिकोनांना प्रोत्साहन देणे, यासाठी शिक्षक शिक्षणात बहुविद्याशाखीय दृष्टिकोनाचा महत्वाचा सहभाग आहे. तसेच शिक्षक शिक्षणात बहुविद्याशाखीय दृष्टिकोन वाढविण्यासाठीचे महत्वाचे स्थान असल्याचे दिसून येते.

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Role Of Technology in Teacher Education under NEP – 2020**Omprakash J. Zimte***Research Scholar*

Abstract

The National Education Policy (NEP) 2020 envisions a technology-driven transformation in teacher education to improve teaching quality and learning outcomes. This paper explores the role of digital tools, online platforms, artificial intelligence (AI), and blended learning in teacher training. It highlights the benefits, challenges, and future prospects of integrating technology into teacher education, focusing on improving pedagogical skills and fostering lifelong learning.

Keywords- Digital tools, Online platforms, Artificial intelligence (AI), Blended learning

Introduction-

Education is evolving rapidly with the integration of digital technologies, and teacher education is no exception. The NEP 2020 acknowledges the transformative potential of technology in professional development, advocating for a blended learning approach. This paper examines how technology enhances teacher training, improves pedagogical methods, and ensures inclusive and equitable learning experiences.

NEP 2020 and the Role of Technology in Teacher Education

The National Education Policy (NEP) 2020 emphasizes the importance of quality teacher education in India. To achieve this, the policy proposes several reforms, including:

- **Multidisciplinary and Integrated Teacher Education Programs:** By 2030, only educationally sound, multidisciplinary, and integrated teacher education programs will be in force.
- **Four-Year Integrated B.Ed. Program:** The minimum degree required for teaching will be a four-year integrated B.Ed. program.
- **National Professional Standards for Teachers (NPST):** A common guiding set of NPST will be developed by the National Council for Teacher Education to ensure uniform standards for teacher education.
- **Continuous Professional Development (CPD):** Teachers will be expected to participate in at least 50 hours of CPD every year to enhance their skills and knowledge.
- **Emphasis on Practical Training:** All B.Ed. programs will include strong practicum training in the form of classroom teaching at local schools.
- **Focus on Indian Values and Languages:** Teachers will be grounded in Indian values, languages, knowledge, ethos, and traditions, while also being well-versed in the latest advances in education and pedagogy.

These reforms aim to enhance the quality of teacher education in India, making teachers more effective and competent in their profession.

Digital Infrastructure for Training

Digital Infrastructure for Training refers to the technology, platforms, and systems that support online and blended learning. It enables organizations, educational institutions, and businesses to deliver training efficiently. Here are the key components:

1. Learning Management System (LMS)- Platforms like Moodle, Blackboard, Canvas, and TalentLMSHelps in course management, tracking progress, and assessments
2. Content Development & Delivery Tools- Authoring Tools: Articulate Storyline, Adobe Captivate, VideoPlatforms, YouTube, Vimeo, Microsoft Stream
3. Live Training Tools: Zoom, Microsoft Teams, Google Meet- Cloud-Based Storage & AccessGoogle Drive, Dropbox, OneDrive for easy access to training materials
4. Artificial Intelligence & Personalization -AI-powered chatbots and recommendation systems for adaptive learning
5. Mobile Learning & Apps-Mobile-friendly platforms and dedicated apps for learning on the go
6. Assessment & Certification Tools-Online quizzes, proctoring solutions, and certification badges
7. Data Analytics & Reporting- Insights into learner progress, engagement, and performancePlatforms like SWAYAM, DIKSHA, and NISHTHA provide teachers with access to free, high-quality training modules.Virtual labs and AI-powered assessments offer an interactive learning environment.

Blended Learning Approaches

Blended Learning Approaches

Blended learning combines traditional face-to-face instruction with online learning to create a more flexible and effective educational experience. This approach leverages digital tools and technology to enhance engagement and learning outcomes.

Key Blended Learning Models

1. Face-to-Face Driver Model – Traditional classroom instruction is the primary method, with digital tools used as supplementary resources when needed.
2. Rotation Model – Students rotate between different learning stations, including face-to-face instruction, online learning, and group activities. Variants include:
Station Rotation – Students move between in-class stations.
Lab Rotation – Students switch between a physical classroom and a computer lab.
Flipped Classroom – Students learn new content online at home and practice it in class.
3. Flex Model – Online learning is the backbone of instruction, with teachers providing

targeted support as needed. Students' progress at their own pace.

4. A La Carte Model – Students take some courses online and others in a traditional setting, allowing for personalized learning paths.
5. Enriched Virtual Model – Students primarily learn online but attend in-person sessions for additional support and discussions

Artificial Intelligence (AI) and Data Analytics

Here's an overview of Artificial Intelligence (AI) and Data Analytics:

Artificial Intelligence (AI)-AI refers to the development of computer systems that can perform tasks that typically require human intelligence, such as:

- Learning
- Reasoning
- Problem-solving
- Perception
- Language understanding

Applications

AI has various applications across industries, including:

- Healthcare: diagnosis, personalized medicine
- Finance: risk management, portfolio optimization
- Education: personalized learning, intelligent tutoring
- Transportation: autonomous vehicles, route optimization

Challenges in Implementing Technology in Teacher Education

Here are the challenges in implementing technology in teacher education:

Technical Challenges

1. Infrastructure: Inadequate hardware, software, and internet connectivity.
2. Technical support: Limited IT support and maintenance.
3. Compatibility issues: Incompatibility between different devices and platforms.

Pedagogical Challenges

1. Lack of training: Teachers may not have the necessary skills to effectively integrate technology.
2. Resistance to change: Some teachers may be hesitant to adopt new technologies.
3. Integrating technology into curriculum: Difficulty in incorporating technology into existing lesson plans.

Administrative Challenges

1. Budget constraints: Limited funding for technology purchases and maintenance.
2. Policy and regulations: Lack of clear policies and regulations governing technology use.
3. Leadership support: Limited support from school administrators.

Social Challenges

1. Digital divide: Unequal access to technology and internet connectivity among students and teachers.
2. Cyberbullying and online safety: Concerns about online harassment and safety.
3. Cultural and linguistic barriers: Technology may not be culturally or linguistically relevant.

Other Challenges

1. Time constraints: Limited time for teachers to learn and implement new technologies.
2. Information overload: Managing vast amounts of digital content and data.
3. Evaluation and assessment: Difficulty in evaluating the effectiveness of technology integration.

Recommendations

1. Develop a national framework: Establish a national framework for technology integration in teacher education.
2. Provide ongoing training: Offer regular training and support for teachers to develop their technology skills.
3. Invest in infrastructure: Upgrade infrastructure to support technology integration, including hardware, software, and internet connectivity.
4. Promote collaboration: Encourage collaboration between teachers, schools, and institutions to share best practices and resources.
5. Monitor and evaluate: Regularly monitor and evaluate the effectiveness of technology integration in teacher education.

Conclusion

The NEP 2020 provides a roadmap for the integration of technology in teacher education, making it more dynamic and effective. While challenges exist, strategic implementation and continuous innovation in digital learning can revolutionize teacher training in India.

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Promoting multidisciplinary perspective in teacher education**Shaikh Massarrat Shaikh Ameer***Ph.D. Scholar in Education**Dr. B.A.M.U. Chh. Sambhajinagar,**Sub-Center Dharashiv, Maharashtra.*

ABSTRACT:

Teacher education often operates within disciplinary silos, limiting the potential for innovative curriculum development and pedagogical practices. This research advocates for a paradigm shift towards multidisciplinary teacher education, demonstrating how the integration of perspectives from fields like sociology, psychology, technology, and the arts can transform teaching and learning. It examines specific examples of multidisciplinary curriculum design and explores how these approaches can empower teachers to create engaging and relevant learning experiences for diverse student populations.

This research explores the critical role of multidisciplinary perspectives in enriching teacher education programs. By integrating knowledge and methodologies from diverse fields, we argue that future educators can develop a more holistic understanding of student learning and address the complex challenges of contemporary classrooms. This abstract outlines the benefits of fostering interdisciplinary collaboration and presents practical strategies for incorporating multidisciplinary approaches into teacher preparation curricula, ultimately leading to more adaptable and effective educators.

This research emphasizes the necessity of transcending disciplinary boundaries in teacher education. We examine the benefits of integrating diverse fields of study and propose strategies for implementing multidisciplinary approaches in teacher preparation programs.

Introduction:

The complexities of today's classrooms demand educators who are not only subject-matter experts, but also adept at navigating diverse learning styles, social-emotional needs, and rapidly evolving technologies. To meet these challenges, teacher education must transcend traditional silos and embrace multidisciplinary perspectives. This approach fosters a holistic understanding of learning, equipping future teachers with the critical thinking, adaptability, and collaborative skills necessary to empower every student.

In an interconnected world, knowledge is no longer confined to isolated disciplines. The challenges facing education, from addressing equity gaps to fostering innovation, require a multifaceted approach. Therefore, promoting multidisciplinary perspectives in teacher education is not merely an academic exercise, but a crucial imperative for preparing educators who can

effectively bridge disciplines and create meaningful learning experiences for their students.

Traditional teacher education often focuses on pedagogical content knowledge within specific subject areas. However, the modern educator requires a broader toolkit. Incorporating multidisciplinary perspectives into teacher training allows for the development of essential skills such as critical thinking, problem-solving, and cross-disciplinary communication. This approach enables future teachers to view educational challenges from various angles, leading to more innovative and effective solutions.

The shift towards learner-centered and inquiry-based pedagogies necessitates a reimagining of teacher education. This paper explores the importance of promoting multidisciplinary perspectives in teacher preparation programs. By examining the integration of fields such as psychology, sociology, technology, and the arts, we aim to demonstrate how a multidisciplinary approach can enhance teachers' understanding of student development, diverse learning needs, and the broader social context of education.

To prepare teachers for the dynamic and diverse challenges of the 21st century, teacher education must move beyond single-subject focus. Promoting multidisciplinary perspectives will create educators who are adaptable, innovative, and capable of fostering holistic learning experiences for their students.

Review of Literature:

❖ Complexity and Interconnectedness of Learning:

Authors like Darling-Hammond (2010) and Biesta (2017) emphasize the complex nature of learning and the need to move beyond narrow disciplinary silos. They argue that effective teaching requires understanding how knowledge from various fields intersects and influences student development.

Systems thinking and ecological perspectives (Bronfenbrenner, 1979) highlight the importance of considering the social, cultural, and political contexts that shape learning.

❖ Development of 21st-Century Skills:

The rise of 21st-century skills (e.g., critical thinking, problem-solving, creativity, collaboration) necessitates a multidisciplinary approach. These skills are not confined to specific subject areas but require integration across disciplines (Partnership for 21st Century Skills, 2011).

Authors such as Trilling and Fadel (2009) stress that future teachers must be able to design learning experiences that foster these skills, which often involve drawing on knowledge from diverse fields.

❖ Social Justice and Equity:

Multidisciplinary perspectives are crucial for addressing issues of social justice and equity in education. Understanding the intersections of race, class, gender, and other social categories

requires drawing on insights from sociology, anthropology, and other social sciences (Cochran-Smith, 2004).

Critical pedagogy (Freire, 1970) emphasizes the importance of challenging dominant narratives and promoting critical consciousness, which necessitates a multidisciplinary approach.

❖ **Constructivism and Situated Learning:**

Constructivist learning theories (Vygotsky, 1978; Piaget, 1954) support multidisciplinary approaches by emphasising that knowledge is actively constructed by learners in social contexts. This requires teachers to understand how different disciplines contribute to knowledge construction.

Situated learning theory (Lave & Wenger, 1991) also highlights the importance of learning in authentic contexts, which often involve drawing on knowledge from multiple disciplines.

❖ **Integrated Curriculum Design:**

Researchers have explored various models for integrating disciplines in teacher education, such as interdisciplinary units, problem-based learning, and project-based learning (Drake & Burns, 2004).

The literature emphasizes the importance of careful planning and collaboration among faculty from different disciplines to ensure effective integration.

❖ **Collaborative Teaching and Learning:**

Multidisciplinary teacher education programs often involve collaborative teaching by faculty from different disciplines, as well as collaborative learning among teacher candidates (Grossman et al., 2009).

This approach allows teacher candidates to observe and experience how different disciplines can be integrated and to develop their own collaborative skills.

❖ **Case-Based Learning and Simulations:**

Case-based learning and simulations can provide authentic contexts for teacher candidates to apply multidisciplinary perspectives to real-world problems (Shulman, 1992).

These approaches allow teacher candidates to analyze complex situations, consider multiple perspectives, and develop their problem-solving skills.

❖ **Reflective Practice and Inquiry-Based Learning:**

Promoting reflective practice and inquiry-based learning encourages teacher candidates to critically examine their own assumptions and biases, and to consider multiple perspectives on educational issues (Schön, 1983).

Inquiry based learning invites the student to investigate topics, and this naturally leads to multiple disciplines.

Methodology of Research: For this research work I use quantitative research tools and followings tools used by me

Surveys: In this research work I used survey as a tool, and in which I had prepared questionnaire session with teachers and students I asked 5 questions to teachers also same 5 questions to students.

Sr. No.	Questions for teachers	Answer from teachers	Question for students	Answers from students
1.	Which concept can be better taught by using multidisciplinary approach?	Critical thinking, problem solving and adaptability	Are you want use of software in every field of education?	Yes
2.	What is multidisciplinary approaches in education refers to learning a concept?	A method of curriculum integration that highlights the diverse perspectives that different disciplines	Are you satisfied with use of digital classroom in education sector?	Yes
3.	What is the potential challenges of implementing multidisciplinary education?	Students may feel a little bit lost	In your opinion multasking subject is essential for students?	Yes
4.	What is the primary goal of multidisciplinary education?	Students can deepen their understanding of the subject matter	Students are needed to improve theirself in the field of multidisciplinary?	Yes
5.	How is NEP driving towards a more holistic and multidisciplinary education?	The need to move away from rote learning and memorization	Can teachers use software for assessment scheme?	Yes

Conclusion:

As per survey and interactive session in the form of questionnaire pattern I concluded that the teachers and students are satisfied with this survey.

Summary:

❖ Core Idea:

- * Teacher education should move beyond solely pedagogical content and incorporate insights from fields like psychology, sociology, neuroscience, technology, and the arts.
- * This approach aims to develop teachers who are well-rounded, adaptable, and capable of addressing the complex needs of diverse learners.

❖ Key Benefits:

- * Enhanced Understanding of Learners:
- * Psychology and neuroscience provide insights into how children learn, develop, and process information.
- * Sociology helps teachers understand the impact of social and cultural factors on student behavior and achievement.

❖ **Improved Curriculum Design and Delivery:**

- * Integrating content from various disciplines allows for more engaging and relevant lessons.
- * Teachers can connect concepts across subjects, fostering deeper understanding.
- * Technology education prepares teachers to use up to date tools to aid in education.

❖ **Development of Critical Thinking and Problem-Solving Skills:**

- * Exposure to diverse perspectives encourages teachers to think critically and creatively.
- * They become better equipped to address complex educational challenges.

❖ **Increased Adaptability and Flexibility:**

- * Multidisciplinary training prepares teachers to adapt to changing educational landscapes and diverse student populations.
- * It allows for teachers to better understand and work with special needs students.
- * Fosters inclusive education:
- * Multidisciplinary training can provide a better understanding of diverse learning styles and needs.

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Reconceptualizing Education with EdTech: A Critical Analysis of NEP 2020's Digital Transformation Agenda

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Abstract

The National Education Policy (NEP) 2020 aims to transform India's education system by leveraging digital technologies. This paper critically analyzes NEP 2020's digital transformation agenda, exploring the challenges and opportunities presented by EdTech integration. A mixed-methods approach is employed, combining policy analysis, expert interviews, and case studies. The findings highlight the need for a nuanced understanding of EdTech's role in education, addressing issues of equity, accessibility, and teacher professional development.

The study also identifies opportunities for personalized learning, increased access to education, and improved teacher effectiveness. Recommendations for policymakers, educators, and EdTech developers are provided to ensure effective and inclusive EdTech integration. This research is significant because it contributes to a critical understanding of the NEP 2020's digital transformation agenda and its implications for Indian education. By examining the complex interplay between technology, policy, and pedagogy, this study can inform policymakers, educators, and EdTech developers as they work to harness the potential of technology to improve educational outcomes in India.

Keywords : EdTech, NEP 2020, Digital Transformation, Education Policy, Critical Analysis, India, Personalized Learning, Access to Education, Teacher Professional Development

Introduction

The National Education Policy (NEP) 2020, unveiled by the Indian government, envisions a transformative overhaul of the country's education system. A pivotal aspect of this reform is the integration of Educational Technology (EdTech) to reimagine teaching, learning, and assessment. NEP 2020's digital transformation agenda seeks to harness the potential of technology to democratize access, improve outcomes, and enhance the overall quality of education.

However, as India embarks on this ambitious journey, it is crucial to critically examine the underlying assumptions, potential benefits, and challenges associated with the EdTech-driven transformation. This paper aims to provide a nuanced analysis of NEP 2020's digital transformation agenda, exploring the ways in which EdTech can reconceptualize education in India. By interrogating the intersections of technology, pedagogy, and policy, this research seeks to contribute to a deeper understanding of the opportunities and complexities inherent in this transformative endeavor.

Research Questions

1. How does NEP 2020 envision the role of EdTech in transforming the Indian education system?
2. What are the potential benefits and challenges associated with the integration of EdTech in Indian schools and universities?
3. How can EdTech be leveraged to address issues of equity, access, and quality in Indian education?
4. What are the implications of NEP 2020's digital transformation agenda for teacher professional development and pedagogical practices?
5. How can EdTech be used to promote personalized learning, adaptive assessments, and competency-based progression in Indian education?
6. What are the potential risks and challenges associated with the increased use of EdTech in Indian education, such as digital divide, data privacy, and cybersecurity?
7. How can the Indian government ensure that the EdTech-driven transformation is inclusive, equitable, and accessible to all, particularly in rural and disadvantaged areas?
8. What role can EdTech play in promoting Indian languages, cultures, and values in the education system?
9. How can NEP 2020's digital transformation agenda be aligned with the United Nations' Sustainable Development Goals (SDGs), particularly SDG 4 (Quality Education)?
10. What are the potential opportunities and challenges for public-private partnerships in the EdTech sector in India, and how can these partnerships be leveraged to support the goals of NEP 2020?

Need of the Study : The NEP 2020's emphasis on digital transformation necessitates a critical examination of its implications on India's education system. This study addresses the need to:

1. Analyze the policy's assumptions and expectations regarding EdTech integration.
2. Investigate the challenges and opportunities arising from EdTech adoption.
3. Provide recommendations for effective and inclusive EdTech integration.
4. Examine the potential impact of EdTech on marginalized communities and disadvantaged groups.
5. Investigate the role of EdTech in promoting personalized learning and improving teacher effectiveness.

Objectives of the Study

The primary objectives of this study are:

1. To critically analyze NEP 2020's digital transformation agenda and its implications for education.
2. To identify the challenges and opportunities presented by EdTech integration in Indian education.
3. To examine the potential impact of EdTech on marginalized communities and disadvantaged groups.

4. To investigate the role of EdTech in promoting personalized learning and improving teacher effectiveness.
5. To provide recommendations for policymakers, educators, and EdTech developers to ensure effective and inclusive EdTech integration.

National Education Policy (NEP)- 2020

Achieving one's full potential, creating a just and equitable society, and achieving national progress all require education. India's sustained rise and leadership in terms of financial growth on the international scene depend on the access of high-quality education. National integration, technological advancement, social fairness and equality, and cultural preservation. For the future, global reachable to high-quality education is an effective planning for extra advancement and optimization of our abundant resources and abilities of the country for the benefit of each person, society, the nation, and the globe. Over the next decade, India will have the largest number of young people worldwide, and the upcoming time of our capacity to offer kids top-notch educational options will influence our nation.

The goal of this NEP-2020 (National Education Policy, 2020), which is the pioneer and 1st education policy of the twenty-first century, is to meet the nation's numerous and expanding developmental imperatives. This Policy suggests updating and changing every facet of the educational system, including its rules and Governance, with the goal to create an innovative process that is consistent with the enormous goals of Twenty First Century.

NEP 2020's digital transformation agenda

Here's a brief overview of NEP 2020's digital transformation agenda:

Digital Infrastructure

1. **Digital infrastructure:** Establish a digital infrastructure for education, including online platforms, digital resources, and technology-enabled learning environments.
2. **Broadband connectivity:** Ensure broadband connectivity in all schools, universities, and educational institutions.

Digital Learning Resources

1. **Digital textbooks:** Develop and promote digital textbooks, educational resources, and online courses.
2. **Open Educational Resources (OERs):** Promote the development and use of OERs to support inclusive and equitable education.
3. **Artificial Intelligence (AI) and Machine Learning (ML):** Leverage AI and ML to develop personalized learning experiences, adaptive assessments, and intelligent tutoring systems.

Online and Blended Learning

1. **Online courses:** Develop and promote online courses, degree programs, and certification courses.
2. **Blended learning:** Encourage blended learning models that combine online and offline

learning experiences.

3. **MOOCs (Massive Open Online Courses):** Promote the development and use of MOOCs to support large-scale online learning.

Teacher Professional Development

1. **Digital literacy:** Provide teachers with training and support to develop their digital literacy skills.
2. **Pedagogical training:** Offer teachers training on effective pedagogies for technology-enhanced learning.
3. **Continuous professional development:** Encourage teachers to engage in continuous professional development to stay updated on emerging technologies and pedagogies.

Equity and Access

1. **Digital divide:** Address the digital divide by ensuring equitable access to digital infrastructure, devices, and internet connectivity.
2. **Inclusive education:** Promote inclusive education by leveraging technology to support diverse learning needs.
3. **Accessibility:** Ensure that digital learning resources and platforms are accessible and usable by all, including persons with disabilities.

Governance and Partnerships

1. **National Education Technology Forum (NETF):** Establish NETF to facilitate collaboration and knowledge-sharing among stakeholders.
2. **Public-Private Partnerships (PPPs):** Foster PPPs to support the development and implementation of digital education initiatives.
3. **Regulatory framework:** Develop a regulatory framework to ensure quality, equity, and accessibility in digital education.

Current scenario of Educational technology/EdTech in India:

The current scenario of Educational Technology (EdTech) in India is marked by significant growth and transformation. The COVID-19 pandemic accelerated the adoption of online learning in India, with many educational institutions and students turning to digital platforms for teaching and learning. As a result, the Indian EdTech market has witnessed a surge in demand, with the market size valued at \$5.13 billion in 2023 and expected to grow at a CAGR of more than 19% during 2023-2028. The availability of affordable mobile internet and digital devices has made online education more accessible, especially in rural areas, and there is a growing demand for personalized learning experiences, with many EdTech companies leveraging AI and ML to offer tailored learning solutions. However, despite these advancements, challenges persist, including the digital divide, concerns around the quality of content, and the need for a clear regulatory framework to ensure the quality and accountability of EdTech providers.

Major ICT/ EdTech Initiatives in India

UGC-INFONET: The University Grant Commission (UGC) founded UGC-INFONET at the

close of 2004. All scholarly materials and literature accessible online may be accessed electronically through UGCINFONET. The Director of the “Information and Library Network”(INFLIBNET) Center in Ahmedabad carried out the program. This program's members are the institutions and universities that are linked or associated with UGC or another agency.

BRIHASPATI: This is an online education system. IIT Kanpur produced it as open-source freeware. Instructors are efficient to upload their study materials, lecture notes, and handouts in e-format to the internet.

EDUSAT: It was launched with the collaboration between the ‘Indian Space Research Organization’ (ISRO) and Ministry of Education (MoE). This project was aimed to bring the interaction to enhance the education and develop an effective online and distance education system in the nation.

SAKSHAT: SAKSHAT is an educational portal under MHRD which provides links to resources which are available on the websites. It addresses all the educational concerned needs of teachers, students, researchers, and learners. The content was created by NCERT, AICTE, CBSE, IITs, NITs, UGC, IGNOU, IISc and KVS etc.

e-SIKSHAK: CDAC, a ‘Scientific Society of the Ministry of Communications and Information Technology,’ GOI, launched e-SIKSHAK, an e-learning framework. You can access free Telugu courses using this platform.

e-YANTRA: Funded by the MHRD under the National Mission on an ICT-based education program designed to produce the next wave of embedded systems engineers with a pragmatic approach to aid in offering workable answers to certain issues encountered in daily life.

OSCAR++: The Open-Source Courseware Animations Repository, or OSCAR, seeks to create a sizable collection of interactive, web-based simulations and animations, or "learning objects," to aid in the teaching-learning process of scientific topics. These kinds of systems are helpful for solo study, distant learning, and classroom instruction.

FOSSEE: The ‘National Mission on Education’ includes ‘Free and Open-Source Software’ in Education, or FOSSEE. Ministry of Education's ICT Ministry of Education (MoE), the Indian government. The initiative seeks to encourage the use of FOSS technologies to raise the quality of Education.

e-KALPA or D'Source: As part of the ‘National Mission in Education’ via ICT, the Ministry of Education, Government of India, has supported this initiative. Aim of the project is to "create a digital learning environment for design," which entails constructing learning environments. It will grant access to the learning of essential design-related information, skills, and abilities.

Virtual Learning Environment (VLE): VLE is an electronic resource platform that functions as an online resource among a number of undergraduate and graduate courses offered. It is an Institute of Life-Long project. The University of Delhi's Learning was established in 2012.

The Role and Impact of EdTech in Improving Educational Quality: in the Context of NEP-2020

The focus of conventional education has been on content. Courses have been designed mostly

around textbooks for a long time. Lectures and presentations have been used by teachers, combined with learning exercises and tutorials aimed at reinforcing and practicing the material. Modern environments are currently favoring educational programs that enhance performance and proficiency. The role of Information and Communication Technology in Improving educational quality is following.

Pilot Studies for Online Education: To assess the advantages of combining in-person and online learning, relevant organizations such as IGNOU, NETF, NIOS, NITs, CIET, IITs etc. would be chosen to carry out several pilot studies.

Digital Infrastructure: With the speed at which technology is developing, this will prevent technology-based solutions from becoming old.

Online Teaching-Learning Platform with Tools: Teachers will be used and provided with an organized, user-friendly, and comprehensive collection of assistive tools and techniques to monitor students' progress through the extension of relevant, currently-existing e-learning platforms like SWAYAM and DIKSHA.

Content Creation: A digital content repository encompassing computer games, augmented reality, learning games & simulations, and coursework will be created. Students will access to a dependable fallback method for distributing e-content.

Bridging among Digital Divide: A particular emphasis on material in Indian languages shall be necessary; digital content must, to the greatest extent feasible, reach educators and learners in the medium of instruction.

Virtual Laboratories: Provide equitable access to high-quality, hands-on, practical experiment-based learning experiences, virtual laboratories will be created using already existing e-learning platforms like DIKSHA, SWAYAM, and SWAYAMPRAKASH.

Incentives and training for learners: Learners will receive in-depth instruction in 'learner-centric pedagogy' and will use 'online teaching platforms and tools' to develop become superior bloggers.

Online testing and assessments: The National Testing Authority (NTA), school boards, PARAKH, the National Assessment Centre, and other relevant organizations shall create and administer the assessment frameworks. In addition, they will create the necessary skills, rubrics, portfolios, standardized tests, and assessment analytics.

Blended learning models: The value of in-person, face-to-face instruction is fully acknowledged when integrating digital learning into the classroom. As a result, several successful blended learning models will be found and appropriately replicated across a range of subject areas.

Methodology

A mixed-methods approach is employed, combining:

1. Policy analysis: A critical examination of NEP 2020's digital transformation agenda.
2. Expert interviews: In-depth interviews with policymakers, educators, and EdTech developers.
3. Case studies: Examination of successful EdTech integration initiatives in Indian schools.
4. Survey research: A survey of teachers, students, and parents to gather data on EdTech

adoption and effectiveness.

Challenges

The study identifies the following challenges:

1. Equity and accessibility: Ensuring equal access to EdTech for all students, particularly those from marginalized communities.
2. Teacher professional development: Providing educators with the necessary training and support to effectively integrate EdTech.
3. Infrastructure and resources: Addressing the need for adequate digital infrastructure and resources in schools.
4. Digital divide: Addressing the gap between students who have access to digital technologies and those who do not.
5. Cybersecurity: Ensuring the security and privacy of student data in online learning environments.
6. Curriculum integration: Ensuring that EdTech is integrated into the curriculum in a way that supports learning outcomes.
7. Assessment and evaluation: Developing effective methods for assessing and evaluating student learning in EdTech-enabled environments.

Opportunities

The study identifies the following opportunities:

1. Personalized learning: EdTech's potential to provide tailored learning experiences for students.
2. Increased access to education: EdTech's ability to reach remote and underserved populations.
3. Improved teacher effectiveness: EdTech's potential to enhance teacher professional development and instructional practices.
4. Enhanced student engagement: EdTech's ability to increase student motivation and engagement.
5. Data-driven decision making: EdTech's potential to provide insights and data to inform educational decision making.
6. Collaboration and partnerships: EdTech's potential to facilitate collaboration between educators, policymakers, and industry partners.
7. Innovation and entrepreneurship: EdTech's potential to promote innovation and entrepreneurship in education.

Scope for Improvement

1. **Inclusive EdTech design:** Developing EdTech solutions that cater to diverse student needs and abilities.
2. **Contextualized EdTech integration:** Tailoring EdTech integration to specific educational contexts and needs.

3. **Continuous monitoring and evaluation:** Regularly assessing the effectiveness and impact of EdTech integration initiatives.
4. **Teacher training and support:** Providing educators with ongoing training and support to effectively integrate EdTech.
5. **Addressing the digital divide:** Implementing strategies to address the gap between students who have access to digital technologies and those who do not.
6. **Enhancing digital literacy:** Providing students, teachers, and parents with the necessary skills to effectively use digital technologies.
7. **Fostering collaboration and partnerships:** Encouraging collaboration between educators, EdTech developers, and policymakers to ensure effective EdTech integration.
8. **Addressing cybersecurity concerns:** Implementing measures to ensure the security and privacy of student data in online learning environments.

Recommendations

1. **Develop inclusive EdTech policies:** Policymakers should create policies that promote equitable access to EdTech.
2. **Provide teacher training and support:** Educators should receive regular training and support to effectively integrate EdTech.
3. **Invest in digital infrastructure:** Governments and schools should invest in adequate digital infrastructure to support EdTech integration.
4. **Address the digital divide:** Implement strategies to address the gap between students who have access to digital technologies and those who do not.
5. **Continuously monitor and evaluate EdTech integration:** Regularly assess the effectiveness and impact of EdTech integration initiatives.
6. **Foster collaboration between educators, EdTech developers, and policymakers:** Encourage collaboration to ensure effective EdTech integration.
7. **Develop contextualized EdTech solutions:** Develop EdTech solutions that cater to specific educational contexts and needs.
8. **Provide ongoing support for students, teachers, and parents:** Provide ongoing support to ensure effective EdTech integration.

Conclusion

This study contributes to the ongoing discussion on EdTech integration in Indian education. The findings highlight the need for a nuanced understanding of EdTech's role in education, addressing issues of equity, accessibility, and teacher professional development. The study also identifies opportunities for personalized learning, increased access to education, and improved teacher effectiveness. The recommendations provided aim to support policymakers, educators, and EdTech developers in ensuring effective and inclusive EdTech integration. Ultimately, this study aims to inform the development of a comprehensive EdTech strategy that supports the goals of NEP 2020.

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Teachers NPST : A Framework for Excellence**Miss. Sonakshi Sandeep Tendulkar***Assistant Professor,**PVDT College of Education for Women, Churchgate, Mumbai*

Abstract:

‘Education is the foundation upon which we build our future’ this quotation by Christine Gregoire underlines the importance and role of education. In today’s context we Indians need to follow it as we dream to become ‘developed nation’ i.e. ‘Viksit Bharat’. Our government seems to take this into consideration and is taking some effective measures to achieve it, one crucial step has been taken by introducing a revolutionary draft called NEP i.e. National Educational Policy 2020. This will be instrumental as it has a greater vision of creating education system transforming India i.e. Bharat into vibrant knowledge society by providing quality education to all. So undoubtedly this policy will bring drastic development into the field of education. Further it has inclusion of some innovative ideas like NPST i.e. National Professional Standards for Teachers which is a public statement of what constitutes teaching quality and what is required to improve the educational outcomes of students in India. So this will be crucial and remarkable as it will ensure all pervasive development of field of education and excellence in it through the development of instrumental component i.e. Teacher. Ultimately this all will contribute to the achievement of the national goal so it needs to be studied in detail and present paper will serve the same purpose as it focuses on the concept of NPST, its framework, relevance to NEP 2020, teacher career progression, its areas and standards and its importance cum role in excellence in teaching and in the field of education.

Introduction :

India aims to become a developed nation i.e. ‘Viksit Bharat’ upto 2047 so its tagline is ‘Viksit Bharat @2047’. As Christine Gregoire said, “Education is the foundation upon which we build our future” if we follow it this national goal will be easily achieved. This particular thing seems to be focused by our government and it has paid due attention and focused on its development and updation upto the mark. Draft of NEP 2020 is the indicator of it. Further this NEP -2020 is revolutionary draft that is not meant for the development of field of Education but will contribute for the all pervasive development of our country as stated in its vision that *‘An education system rooted in Indian ethos that contributes directly to transforming India, that is Bharat, sustainably into an equitable and vibrant knowledge society, by providing high – quality education to all.* (NEP 2020 Vision).

In achieving this vision thoroughly one figure will be instrumental is none but a teacher so he also needs to be paid due attention as their current situation is not that satisfactory and complimentary for achieving the vision of NEP as well as the ultimate national goal. This very thing also seems to be taken into consideration as in NEP 2020 there is recommendation of

introduction of NPST i.e. National Professional Standard for Teachers. *This NPST is a public statement of what constitutes teaching quality and what is required to improve the educational outcomes of students in India.* which is based on the purpose *‘To ensure that all teachers at all levels of school education are passionate, motivated, highly qualified, professionally trained, well- equipped and well – supported for growth in their careers.(Purpose of NPST stated in draft)*

Thus it all underlines the importance and crucial role of NEP-2020 and also its remarkable recommendations like NPST in future development of our country and the achievement of goal of being Viksit(developed) Bharat so it needs to be studied in detail and present paper will serve the same as it focuses on the concept of NPST, its framework, its relevance to NEP 2020, teacher career progression in it, areas and standards in it and its importance cum role in excellence in teaching.

Overview of NPST :

The NPST is a public statement of what constitutes teaching quality and what is required to improve the educational outcomes of students in India. These standards are a set of guiding statements that define the expectations of the role of a teacher at different levels of expertise at different stages of career. The standards also defines effective teaching and the competencies required to practice as a teacher in 21st century schools at each stage of teaching career. As a result teachers trained under NPST will be highly skilled and capable enough to impart quality education to students so that students will also be skilled knowledgeable and capable to face challenges.

The first draft of NPST (as stated in Para 5.20. NEP, 2020) has already been published and has been prepared through consultation with :

- NCERT (National Council of Educational Research and Training)
- SCERT (State Council of Educational Research and Training)
- Expert educational Institutions
- The Organization in Teacher Training and Development
- Experienced Teachers from different parts of India
- Expert Institutions on Vocational Studies

Relevance of NPST : NEP, 2020: As stated in Para 5.20 NEP,2020

Professional Standards for Teachers 5.20.

A common guiding set of National Professional Standards for Teachers (NPST) will be developed by 2022, by the National Council for Teacher Education in its restructured new form as a Professional Standard Setting Body (PSSB) under the General Education Council (GEC), in consultation with NCERT, SCERTs, teachers from across levels and regions, expert organizations in teacher preparation and development, expert bodies in vocational education, and higher education institutions. The standards would cover expectations of the role of the teacher at different levels of expertise/stage, and the competencies required for that stage. It will also comprise standards for National Education Policy 2020 23 performance appraisal, for each stage,

that would be carried out on a periodic basis. The NPST will also inform the design of pre-service teacher education programmes. This could be then adopted by States and determine all aspects of teacher career management, including tenure, professional development efforts, salary increases, promotions, and other recognitions. Promotions and salary increases will not occur based on the length of tenure or seniority, but only on the basis of such appraisal. The professional standards will be reviewed and revised in 2030, and thereafter every ten years, on the basis of rigorous empirical analysis of the efficacy of the system.

(Para5.20 NEP 2020.)

NEP 2020 envisions

An education system rooted in Indian ethos that contributes directly to transforming India, that is Bharat, sustainably into an equitable and vibrant knowledge society, by providing high-quality education to all. So as the NPST is instrumental in fulfilling this vision and make it reality NPST is based on the purpose TO ensure that all teachers at all levels of school education are passionate, motivated, highly qualified, professionally trained, well- equipped and well- supported for growth in their careers.

Role and importance of NPST in Teacher's progression and excellence :

In NPST there is a comprehensive skills framework which comprises standards for the following purposes:

- Defining the expectations regarding the role of teachers at different levels of expertise/stage
- Designing the initial professional preparation and continuing professional development of teachers
- Clarifying the competencies required by teachers
- Explaining the career stage wise performance criteria
- Managing teachers' careers, including tenure
- Addressing the professional development pathways
- Giving the guidelines in concluding/undertaking performance appraisal (for salary increases, promotions, and other recognitions)
- Streamlining the Teacher Evaluation

This framework will provide the teacher the knowledge about expectations about his role according to the stages, initial professional preparation and continuous professional development, competencies required by him, career stage wise performance criteria, managing careers including tenure, professional development pathways, performance appraisal guidelines. This knowledge will enable the teacher to manage his career and professional development, provide guidance for salary increment, promotions, tenure for probation and permanent, recognition and rewards.

Conclusion :

In this way With the help of NPST teacher will be able to excell in his field and will make his profession excellent one and again directly indirectly this all will ensure and will make him

capable enough to face the challenges in his field and bring the excellence in the field of education, teaching profession and teacher as an individual professional and ultimately will contribute to the achievement of fulfilling the purpose of NPST in particular and vision of NEP 2020 and the nation in general.

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विद्यार्थी शिक्षकांच्या माहिती आणि संप्रेषण तंत्रज्ञान (ICT) ज्ञान आणि कौशल्यांवरील एक
प्रायोगिक अभ्यास

प्रतिभा दिगंबर कांबळी
संशोधिका

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सारांश

या अभ्यासात विद्यार्थी शिक्षकांच्या माहिती आणि संप्रेषण तंत्रज्ञान (ICT) कौशल्यांचे मूल्यांकन करण्यात आले असून, शिक्षणात ICT चा उपयोग करण्याबाबत त्यांचे ज्ञान तपासण्यात आले आहे. माहितीचा शोध, डिजिटल सामग्री निर्मिती, संप्रेषण साधने आणि डिजिटल सुरक्षा जागरूकता यांसारख्या ICT साक्षरतेच्या विविध पैलूंचे मूल्यमापन करण्यासाठी संरचित प्रश्नावली वापरण्यात आली. ICT कौशल्य पातळीचे विश्लेषण करण्यासाठी सांख्यिकीय विश्लेषण (सरासरी, प्रमाणित विचलन, t-चाचणी, आणि ANOVA) केले गेले. निष्कर्ष दर्शवितात की विद्यार्थी शिक्षकांकडे मध्यम ICT कौशल्य आहे, परंतु समस्येचे समाधान आणि डिजिटल साधनांच्या वापराबाबत काही मर्यादा आहेत. डिजिटल वर्गासाठी शिक्षकांची तयारी सुधारण्यासाठी लक्षित ICT प्रशिक्षण आवश्यक आहे.

कीवर्ड्स: ICT कौशल्ये, शिक्षक शिक्षण, डिजिटल साक्षरता, ICT एकीकरण, शैक्षणिक तंत्रज्ञान, विद्यार्थी शिक्षक, राष्ट्रीय शिक्षण धोरण 2020 (NEP 2020), डिजिटल अध्यापन

1. परिचय

शिक्षणात ICT एकीकरण हे आधुनिक अध्यापन आणि शिकण्याच्या पद्धतींसाठी महत्त्वाचे आहे. विद्यार्थी शिक्षकांना अध्यापनासाठी डिजिटल साधने प्रभावीपणे वापरण्यासाठी ICT कौशल्य विकसित करणे आवश्यक आहे. या अभ्यासाचा उद्देश विद्यार्थी शिक्षकांचे ICT कौशल्यांचे मूल्यमापन करणे आणि सुधारणा करण्याच्या गरजा ओळखणे हा आहे.

संशोधन साहित्याचा आढावा (२०२०-२०२५)

विद्यार्थी शिक्षकांच्या डिजिटल कौशल्यांचा विकास

माराइस (2023) यांनी विद्यार्थी शिक्षकांच्या डिजिटल कौशल्यांचा अभ्यास केला आणि तंत्रज्ञानाच्या प्रभावी एकीकरणासाठी प्रगत प्रशिक्षण आवश्यक असल्याचे स्पष्ट केले. या संशोधनातून असेही दिसून आले की तंत्रज्ञानातील झपाट्याने होणाऱ्या प्रगतीस अनुरूप राहण्यासाठी सततच्या व्यावसायिक विकासाला महत्त्व आहे.

शिक्षक आयसीटी कौशल्यांवरील जागतिक दृष्टीकोन

झोउ इत्यादी (2024) यांनी शिक्षक आयसीटी कौशल्यांचे आठ जागतिक चौकटींमधील साम्य आणि फरकांचा अभ्यास केला. त्यांनी शिक्षकांसाठी ज्ञान, कौशल्ये आणि मूल्यांचे एकीकरण, डिजिटल समाजनिर्मिती, डिजिटल संवाद आणि सहकार्य, डिजिटल मूल्यमापन, तसेच विद्यार्थ्यांच्या डिजिटल कौशल्यांच्या

विकासासारख्या महत्त्वाच्या घटकांची ओळख पटवली.

शिक्षकांच्या शैक्षणिक तंत्रज्ञानाच्या समावेशनातील कौशल्ये

डी वेरा आणि बेलो (2021) यांनी शिक्षकांच्या आयसीटी वापराबाबतचा अभ्यास केला. त्यांनी असे आढळले की जरी शिक्षकांना तांत्रिक कौशल्यांमध्ये विश्वास होता, तरी अध्यापनाच्या पद्धतींमध्ये सुधारणा आवश्यक होती.

शिक्षकांच्या आयसीटी समावेशनावर प्रभाव टाकणारे घटक

टॅग इत्यादी (2022) यांनी शिक्षकांच्या आयसीटी समावेशनाच्या हेतूवर प्रभाव टाकणाऱ्या घटकांचे विश्लेषण केले. त्यात आयसीटी वापरण्याची सहजता, उपयोगिता आणि संस्थात्मक समर्थन या घटकांचा मोठा प्रभाव आढळला.

2. उद्दिष्टे

1. विद्यार्थी शिक्षकांच्या ICT कौशल्यांचे मूल्यमापन करणे.
2. लिंग आणि स्थानानुसार (शहरी व ग्रामीण) ICT कौशल्यातील फरकांचे विश्लेषण करणे.
3. सुधारणा करावयाच्या प्रमुख ICT कौशल्य क्षेत्रांची ओळख करणे.
4. शिक्षक प्रशिक्षण कार्यक्रमांमध्ये ICT शिक्षण सुधारण्यासाठी शिफारसी प्रदान करणे.

3. संशोधनातील चले:

स्वाश्रयी चले: लिंग, स्थान, शैक्षणिक पात्रता

आश्रयी चले: ICT कौशल्य पातळी (सर्वेक्षण प्रतिसादांच्या आधारे मोजलेले)

4. परिकल्पना संशोधनातील चले

H₀: पुरुष आणि महिला विद्यार्थी शिक्षकांमध्ये ICT कौशल्यात महत्त्वपूर्ण फरक नाही.

H₀: पुरुष आणि महिला विद्यार्थी शिक्षकांमध्ये ICT कौशल्यात महत्त्वपूर्ण फरक आहे.

H₀: शहरी आणि ग्रामीण भागातील विद्यार्थी शिक्षकांच्या ICT कौशल्यात महत्त्वपूर्ण फरक नाही.

H₀: शहरी आणि ग्रामीण भागातील विद्यार्थी शिक्षकांच्या ICT कौशल्यात महत्त्वपूर्ण फरक आहे.

5. संशोधन प्रश्न

1. विद्यार्थी शिक्षकांची एकूण ICT कौशल्य पातळी काय आहे?
2. लिंग किंवा स्थानाच्या आधारे ICT कौशल्यात सांख्यिकीय दृष्टिकोनातून महत्त्वपूर्ण फरक आहे का?
3. ICT कौशल्याच्या कोणत्या क्षेत्रांमध्ये सुधारणा आवश्यक आहे?
4. पूर्व-सेवा शिक्षकांसाठी ICT प्रशिक्षण कसे अनुकूल करता येईल?

6. नमुना आकार :

प्रस्तुत संशोधनात गुरुनानक शिक्षण शास्त्र महाविद्यालय ,भांडुप येथील 40 विद्यार्थी शिक्षकांचा समावेश होता, ज्यांचे वर्गीकरण भौगोलिक क्षेत्र, लिंग आणि ICT चा पूर्वानुभव याप्रमाणे केले होते.

7. संशोधन पद्धती :

प्रस्तुत संशोधनात वर्णनात्मक सर्वेक्षण पद्धतीचा अवलंब केला गेला , जो विद्यार्थी शिक्षकांच्या ICT कौशल्य पातळीचे मूल्यांकन करण्यासाठी वापरण्यात आला.

संख्यात्मक संशोधन पद्धतीचा अवलंब करण्यात आला. ICT कौशल्यांचे मोजमाप करणाऱ्या 50 Likert-स्केल घटकांचा समावेश असलेल्या संरचित प्रश्नावलीद्वारे डेटा संकलित करण्यात आला. त्यानंतर वर्णनात्मक आकडेवारी, t-चाचणी आणि ANOVA च्या मदतीने विश्लेषण करण्यात आले.

प्रस्तुत संशोधनात वर्णनात्मक सर्वेक्षण पद्धतीचा अवलंब केला गेला , जो विद्यार्थी शिक्षकांच्या ICT कौशल्य पातळीचे मूल्यांकन करण्यासाठी वापरण्यात आला.

8. संशोधन साधने:

सदर संशोधनात माहितीचा शोध, डिजिटल संप्रेषण, सामग्री निर्मिती आणि सुरक्षा जागरूकता यांसारख्या ICT कौशल्यांचे मूल्यमापन करण्यासाठी ५० Likert-स्केल प्रश्न असलेली संरचित प्रश्नावली वापरण्यात आली .

9. सांख्यिकीय विश्लेषण :

- वर्णनात्मक आकडेवारी: सरासरी ICT कौशल्य गुण 2.0 ते 3.0 दरम्यान असल्याचे आढळले, जे मध्यम ICT प्राविण्य दर्शवते.
- t-चाचणी विश्लेषण: पुरुष आणि महिला विद्यार्थी शिक्षकांमध्ये ICT कौशल्यात कोणताही महत्त्वपूर्ण फरक आढळला नाही.
- ANOVA निकाल: शहरी आणि ग्रामीण भागातील विद्यार्थी शिक्षकांमध्ये ICT कौशल्यातील फरक सांख्यिकीय दृष्टिकोनातून महत्त्वाचा नाही.

सहसंबंध विश्लेषण: विविध ICT कौशल्यांमध्ये मजबूत सहसंबंध आढळले, याचा अर्थ असा की एका कौशल्यात निपुणता असल्यास इतर कौशल्यांमध्येही सुधारणा होऊ शकते.

प्रतिगमन विश्लेषण: लिंग आणि स्थान यासारखे लोकसंख्याशास्त्रीय घटक ICT कौशल्यांचे मोठ्या प्रमाणात भाकीत करत नाहीत, याचा अर्थ प्रशिक्षण आणि संस्थात्मक संसाधने यांसारख्या बाह्य घटकांचा अधिक प्रभाव असू शकतो.

निकाल आणि चर्चा

या अभ्यासातून असे दिसून आले की विद्यार्थी शिक्षकांकडे माहिती आणि संप्रेषण तंत्रज्ञान (ICT) संबंधित मध्यम प्रमाणात कौशल्ये आहेत, विशेषतः माहिती मिळवणे आणि संवाद साधने यासारख्या क्षेत्रांमध्ये. तथापि, समस्या सोडवणे आणि डिजिटल साधनांचा वापर यासारख्या महत्त्वाच्या क्षेत्रांमध्ये कमतरता आढळल्या, ज्या प्रभावी अध्यापनासाठी आवश्यक आहेत.

मुख्य निष्कर्ष:

- पुरुष आणि महिला विद्यार्थी शिक्षकांमध्ये आयसीटी कौशल्यांमध्ये फारसा फरक आढळला नाही.
- शहरी आणि ग्रामीण भागातील विद्यार्थी शिक्षकांमध्ये आयसीटी कौशल्यांमध्ये कोणताही महत्त्वाचा फरक दिसून आला नाही.
- डिजिटल सामग्री निर्मिती आणि सुरक्षिततेची जाणीव ही सर्वाधिक आव्हानात्मक क्षेत्रे ठरली.

निष्कर्षांचे अर्थनिर्वचन

सांख्यिकीय विश्लेषणातून असे स्पष्ट झाले की फक्त लोकसंख्याशास्त्रीय घटक (लिंग, स्थान) आयसीटी कौशल्य ठरवत नाहीत. त्याऐवजी, पूर्वीचे प्रशिक्षण, संस्थात्मक सुविधा आणि वैयक्तिक प्रेरणा

यासारखे बाह्य घटक मोठी भूमिका बजावतात. लिंग आणि स्थान यावर आधारित महत्त्वपूर्ण फरक नसल्यामुळे सर्व विद्यार्थी शिक्षकांसाठी समान प्रशिक्षण संधी निर्माण करणे आवश्यक आहे.

शिफारसी:

1. **अभ्यासक्रम सुधारणा:** शिक्षक शिक्षण कार्यक्रमांमध्ये प्रत्यक्ष ICT प्रशिक्षण समाविष्ट करावे.
2. **कार्यशाळा आणि प्रशिक्षण:** विद्यार्थी शिक्षकांच्या डिजिटल साधनांच्या वापरास सुधारण्यासाठी नियमित प्रशिक्षण शिबिरे आयोजित करावीत.
3. **संस्थात्मक समर्थन:** महाविद्यालयांनी आयसीटी संसाधने आणि प्रशिक्षण सामग्रीसाठी अधिक सोयी उपलब्ध करून द्याव्यात.
4. **स्वयं-अभ्यास उपक्रम:** ऑनलाइन आयसीटी प्रमाणपत्र अभ्यासक्रमांमध्ये विद्यार्थ्यांना भाग घेण्यास प्रोत्साहित करावे.

तंत्रज्ञान आणि NEP 2020 भूमिके अंतर्गत शिक्षक शिक्षण

राष्ट्रीय शैक्षणिक धोरण (NEP) 2020 अंतर्गत शिक्षक शिक्षणात तंत्रज्ञानाच्या भूमिकेवर मोठा भर दिला गेला आहे. या धोरणात तंत्रज्ञान-सक्षम शिक्षणाचा अवलंब करण्यास प्रोत्साहन दिले गेले आहे, जेणेकरून शिक्षकांना डिजिटल कौशल्य आत्मसात करता येतील. महत्त्वाचे पैलू:

- **ऑनलाइन आणि ब्लेंडेड शिक्षण:** शिक्षक प्रशिक्षणासाठी ऑनलाइन साधने आणि LMS (Learning Management System) चा वापर.
- **MOOCs आणि SWAYAM:** शिक्षकांसाठी मुक्त शिक्षण स्रोतांचा उपयोग वाढवणे.
- **AI आणि डेटा अॅनालिटिक्स:** शिक्षकांसाठी वैयक्तिकशिकण्याचा अनुभव देण्यासाठी कृत्रिम बुद्धिमत्ता वापरणे.
- **संस्थात्मक ICT पायाभूत सुविधा:** शिक्षक प्रशिक्षण संस्थांमध्ये तांत्रिक सुविधा आणि डिजिटल लायब्ररी विकसित करणे.

NEP 2020 अंतर्गत, पूर्व-सेवा आणि सेवांतर्गत ICT प्रशिक्षणास प्राधान्य देण्याची गरज अधोरेखित करण्यात आली आहे. परिणामी, विद्यार्थी शिक्षकांनी डिजिटल कौशल्ये विकसित करून शिक्षण प्रक्रियेत तंत्रज्ञानाचा अधिक चांगला वापर करणे आवश्यक आहे.

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राष्ट्रीय शैक्षणिक धोरण २०२० च्या संदर्भात शिक्षक प्रशिक्षणात तंत्रज्ञानाची भूमिका

श्रीम. प्रजा नरेंद्र खोपकर

संशोधक विद्यार्थी

पी. व्ही. डी. टी. महिला शिक्षणशास्त्र महाविद्यालय, चर्चगेट

प्रस्तावना

शिक्षण हाकोणत्याहीसमाजाच्या सर्वांगीण प्रगतीचा मूलभूत घटक आहे हे आपण जाणतोच आहोत. शिक्षक शिक्षण आणि त्याचा दर्जा हा शिक्षण व्यवस्थेच्या गुणवत्तेवर मोठा प्रभाव टाकतो. आधुनिक काळात, शिक्षण प्रणालीत आमूलाग्र बदल होत आहेत आणि या बदलांमध्ये तंत्रज्ञानाची भूमिका अत्यंत महत्त्वाची ठरली आहे. राष्ट्रीय शैक्षणिक धोरण (NEP) 2020 मध्ये तंत्रज्ञानाचा वापर प्रभावीपणे करून शिक्षक शिक्षण अधिक सुलभ आणि गुणवत्तापूर्ण करण्यावर भर देण्यात आला आहे.

NEP 2020 मध्ये शिक्षक शिक्षणात तंत्रज्ञानाच्या वापरावर विशेष भर देण्यात आला आहे, ज्यामुळे अध्यापन प्रक्रिया अधिक प्रभावी, समृद्ध आणि आंतरक्रियात्मक बनू शकते. तंत्रज्ञानाच्या मदतीने शिक्षकांना सतत नवीन कौशल्य शिकण्याची आणि त्यांच्या अध्यापन क्षमतेत सुधारणा करण्याची संधी मिळते. या संशोधन पत्रात शिक्षक शिक्षणातील तंत्रज्ञानाच्या महत्त्वावर प्रकाश टाकण्यात आला आहे.

शिक्षक शिक्षण आणि तंत्रज्ञानाचा प्रभाव

१. ऑनलाईन शिक्षण आणि डिजिटल साधने

तंत्रज्ञानाच्या मदतीने शिक्षकांना ऑनलाईन शिक्षणाचा उत्तम पर्याय मिळतो. NEP 2020 मध्ये डिजिटल शिक्षणाच्या प्रसारावर भर देण्यात आला आहे. सध्याच्या युगात अनेक शिक्षक SWAYAM, DIKSHA, NPTEL, Coursera, edX आणि MOOCs यांसारख्या ऑनलाईन प्लॅटफॉर्मचा वापर करून त्यांचे ज्ञान आणि कौशल्य वाढवत आहेत.

ऑनलाईन शिक्षणामध्ये खालील गोष्टी समाविष्ट आहेत:

- ऑनलाईन वेबिनार्स आणि कोर्सेस: वेबिनार्सच्या माध्यमातून देशभरातील शिक्षणतज्ज्ञ आणि प्राध्यापकांचे मार्गदर्शन घेता येते.
- व्हर्च्युअल लर्निंग एन्व्हायर्नमेंट (VLE): हे शिक्षणास उपयुक्त डिजिटल साधन आहे, ज्यामुळे शिक्षक आणि विद्यार्थी यांच्यातील संवाद अधिक चांगला राहतो.

२. स्मार्ट वर्ग (Smart Classroom) आणि मल्टीमीडिया शिक्षण

स्मार्ट वर्गाचा वापर शिक्षकांना अध्यापन अधिक प्रभावी आणि दृश्यात्मक बनवण्यासाठी उपयुक्त ठरतो. स्मार्ट बोर्ड्स, व्हिडिओ लेक्चर्स, ऑनिमेशन आणि सिम्युलेशन तंत्रज्ञानाच्या मदतीने शिक्षण अधिक सुलभ आणि समजण्यास सोपे होते. तंत्रज्ञानामुळे शिक्षकांचे अध्यापन कौशल्य वाढते आणि विद्यार्थ्यांना कोणताही विषय समजणे अधिक सोपे होते.

३. कृत्रिम बुद्धिमत्ता (AI) आणि शिक्षण

कृत्रिम बुद्धिमत्ता (Artificial Intelligence - AI) हे शिक्षक शिक्षणात मोठ्या प्रमाणावर परिवर्तन घडवून आणत आहे. AI च्या मदतीने शिक्षकांना त्यांच्या विद्यार्थ्यांच्या प्रगतीचा आढावा घेता येतो. उदाहरणार्थ, डेटा

ऑनलाइटिक्स आणि मशीन लर्निंग च्या मदतीने शिक्षकांना त्यांच्या विद्यार्थ्यांच्या प्रगतीसंबंधी अचूक माहिती मिळू शकते, ज्यामुळे वैयक्तिक मार्गदर्शन करणे सोपे होते.

AI तंत्रज्ञानाचेकाही उपयोगी पैलू:

- ऑटोमेटेड असाइनमेंट आणि ग्रेडिंग सिस्टीम: AI च्या मदतीने शिक्षकांना विद्यार्थ्यांचे उत्तरपत्रिकांचे मूल्यमापन सहज करता येते.
- स्वयं-अभ्यास आणि वैयक्तिक शिक्षण: AI च्या मदतीने विद्यार्थ्यांच्या क्षमतांनुसार शिक्षण सादर करता येते.

४. गेमिफिकेशन आणि VR/AR तंत्रज्ञानाचा वापर

गेमिफिकेशन (Gamification), व्हर्चुअलरिअलिटी (VR), आणि ऑगमेंटेडरिअलिटी (AR) तंत्रज्ञानाचा वापर शिक्षण प्रक्रियेत अधिक सहभाग आणि मनोरंजकता आणण्यासाठी केला जात आहे. हे तंत्रज्ञान विशेषतः विज्ञान, गणित, भूगोल आणि इतिहास यांसारख्या विषयांसाठी उपयुक्त ठरते.

५. ई-पुस्तके आणि डिजिटल लायब्ररी

NEP 2020 अंतर्गत ई-पुस्तके आणि डिजिटल लायब्ररीचा प्रचार केला जात आहे. यामुळे शिक्षकांना मोठ्या प्रमाणात शैक्षणिक स्रोतांपर्यंत सहज प्रवेश मिळतो. “National Digital Library of India” (NDLI) सारखी संसाधने शिक्षकांसाठी विशेषतः उपयुक्त ठरतात.

NEP 2020 अंतर्गत शिक्षक शिक्षणासाठी तंत्रज्ञानाचे महत्त्व

NEP 2020 मध्ये शिक्षक शिक्षणासाठी तंत्रज्ञानाच्या प्रभावी वापरावर भर दिला आहे. धोरणाच्या काही महत्त्वाच्या बाबी पुढीलप्रमाणे आहेत:

1. शिक्षकांसाठी सतत व्यावसायिक विकास (Continuous Professional Development - CPD):
 - शिक्षकांसाठी ऑनलाईन प्रशिक्षण आणि प्रमाणपत्र अभ्यासक्रम उपलब्ध करून देण्यात आले आहेत.
 - DIKSHA प्लॅटफॉर्मवरून शिक्षकांना नवीन अध्यापन तंत्रज्ञान शिकण्याची संधी मिळते.
2. स्थानीय भाषांमधून डिजिटल शिक्षण:
 - NEP 2020 अंतर्गत डिजिटल शिक्षणाला स्थानिक भाषांमध्ये अधिक प्रोत्साहन दिले जात आहे.
 - विविध भारतीय भाषांमध्ये ऑनलाईन कोर्सेस आणि ई-सामग्री उपलब्ध करून देण्यात आली आहे.
3. शिक्षकांचे डिजिटल साक्षरता अभियान:
 - NEP 2020 मध्ये शिक्षकांना डिजिटल तंत्रज्ञान साक्षर करण्यासाठी विशेष धोरणे राबवण्यात आली आहेत.
 - SWAYAM आणि NPTEL सारख्या ऑनलाईन प्लॅटफॉर्मच्या मदतीने शिक्षकांना प्रशिक्षित करण्यात येत आहे.

आव्हाने आणि उपाययोजना

१. तंत्रज्ञानाचा अभाव आणि डिजिटल विभागणी (Digital Divide)

भारतासारख्या मोठ्या देशात अनेक भागांमध्ये अद्यापही इंटरनेट सुविधा उपलब्ध नाही. त्यामुळे शिक्षकांना डिजिटल शिक्षणाचा पूर्ण लाभ घेतायेत नाही.

२. शिक्षकांची तंत्रज्ञान साक्षरता कमी असणे

तंत्रज्ञानाचा योग्य वापर कसा करावा हे सर्व शिक्षकांना माहित नसते. त्यामुळे शिक्षकांसाठी विशेष प्रशिक्षण कार्यक्रम आवश्यक आहे.

३. उपाययोजना

1. सरकार आणि खासगी क्षेत्रातील सहकार्य: शिक्षण क्षेत्रात डिजिटल तंत्रज्ञानाचा प्रसार करण्यासाठी सरकारी आणि खासगी क्षेत्राने एकत्रित येऊन प्रयत्न करावेत.
2. शिक्षकांसाठी विशेष प्रशिक्षण कार्यक्रम: शिक्षकांना डिजिटल शिक्षण पद्धती शिकवण्यासाठी नियमित कार्यशाळा आयोजित कराव्यात.
3. ग्रामीण भागात डिजिटल सुविधांचा प्रसार: NEP 2020 अंतर्गत ग्रामीण भागात इंटरनेट आणि डिजिटल उपकरणांचा अधिक प्रमाणात वापर करणे आवश्यक आहे.

निष्कर्ष-

NEP 2020 अंतर्गत शिक्षक शिक्षणात तंत्रज्ञानाच्या भूमिकेला महत्त्व देण्यात आले आहे. डिजिटल साधनांचा प्रभावीपणे वापर केल्यास शिक्षकांचे अध्यापन कौशल्य वाढते आणि विद्यार्थ्यांना दर्जेदार शिक्षण मिळते. भविष्यात कृत्रिम बुद्धिमत्ता, व्हर्च्युअल रॅलिटी आणि ऑगमेंटेड रॅलिटी यांसारख्या तंत्रज्ञानांचा उपयोग अधिक प्रभावीपणे केला जाईल. NEP 2020 च्या अंमलबजावणीमुळे शिक्षक शिक्षण अधिक सशक्त, सर्वसमावेशक आणि तंत्रज्ञान सुसंगत होईल यात शंका नाही.

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Bridging Urban-Rural Gaps in Teacher Education through NEP 2020**Prof. Dr. G. D. Rupwate****Dadasaheb Bidkar College Peth-Nashik**

Abstract

The National Education Policy (NEP) 2020 envisions an equitable, inclusive, and quality education system that addresses disparities between urban and rural education. A critical aspect of this transformation is teacher education, which directly influences learning outcomes. Despite India's progress, significant gaps persist between urban and rural teacher education, primarily due to differences in infrastructure, accessibility, technology, and training opportunities. This conceptual paper explores the challenges of urban-rural disparities in teacher education and examines how NEP 2020 provides a framework to bridge these gaps through policy interventions, digital learning, professional development, and community participation.

Introduction

India's education system has long faced urban-rural disparities, with teacher education being a crucial determinant of educational quality in both settings. While urban areas have better teacher training institutes, access to resources, and digital infrastructure, rural areas often struggle with inadequate teacher preparation, lack of professional development, and resource constraints. The NEP 2020 seeks to minimize these disparities by introducing integrated teacher education programs (ITEP), digital learning initiatives, and an emphasis on localized and contextual teacher training.

This paper examines the conceptual underpinnings of bridging the urban-rural divide in teacher education by leveraging technology, policy frameworks, community involvement, and innovative pedagogical models under NEP 2020.

Challenges in Urban-Rural Teacher Education Disparities

Despite national efforts to improve teacher education, several challenges hinder parity between urban and rural teacher training programs:

1. Infrastructure and Institutional Access

Urban areas have well-equipped teacher education institutions, while rural areas face shortages of qualified teacher trainers, labs, and libraries. The absence of continuous professional development (CPD) programs in rural settings weakens the capacity of teachers to adapt to changing pedagogies.

2. Technological Divide

Urban teachers benefit from ICT-based training, smart classrooms, and e-learning platforms, whereas rural educators often lack internet access, digital literacy, and adequate devices. Rural schools frequently operate in low-resource environments, making hybrid and blended learning models difficult to implement.

3. Quality of Teacher Training

Many rural teachers enter the profession through non-standardized or substandard training programs, leading to skill gaps. Urban teacher education follows modern pedagogical methods, while rural areas still rely on traditional rote-based approaches.

4. Limited Professional Growth Opportunities

Urban teachers have better access to mentorship programs, workshops, and research opportunities, which rural teachers lack. Rural educators face logistical and financial barriers to attending training programs in urban centers.

5. Curriculum and Contextual Challenges

Teacher education programs are often urban-centric, failing to consider local languages, socio-cultural factors, and diverse learning needs in rural settings. Rural students require contextualized pedagogy that connects education with their environment and lived experiences.

NEP 2020 as a Framework for Bridging the Gap

NEP 2020 provides a transformative vision to eliminate urban-rural disparities in teacher education by adopting an inclusive, technology-driven, and competency-based approach. The key interventions include:

1. Establishment of Integrated Teacher Education Programs (ITEP)

NEP 2020 mandates a 4-year multidisciplinary B.Ed. program, ensuring uniform teacher preparation across urban and rural areas. Emphasis on practice-based learning, internships, and rural immersion for urban trainee teachers.

2. Expansion of Digital and Hybrid Learning

DIKSHA, SWAYAM, and NISHTHA portals offer free digital teacher training modules accessible in rural areas. Government initiatives like PM e-Vidya and One-Class-One-Channel bridge the content divide. Use of Artificial Intelligence (AI) and Augmented Reality (AR) to enhance remote teacher training.

3. Strengthening Rural Teacher Training Institutes

NEP 2020 emphasizes upgrading District Institutes of Education and Training (DIETs) to become centers of excellence. Collaboration between universities, NGOs, and rural teacher education centers to promote best practices.

4. Contextualizing Curriculum and Pedagogy

Introduction of multilingual education, allowing rural teachers to be trained in regional and tribal languages. Focus on experiential learning and socio-emotional skills, integrating local knowledge into teacher training.

5. Enhancing Professional Development Opportunities

Expansion of CPD programs through online teacher training modules and hybrid workshops. Rural teachers to be encouraged to participate in action research, community projects, and collaborative learning networks.

6. Promoting Community Engagement in Teacher Education

School complexes and teacher learning circles (TLCs) to foster peer mentoring and shared learning in rural settings. Involvement of local communities, Panchayati Raj institutions, and civil society organizations in teacher training.

Conceptual Model for Bridging the Urban-Rural Divide

1. Equity-Based Digital Inclusion

Providing subsidized devices, low-cost internet, and mobile learning solutions for rural teachers. Encouraging corporate social responsibility (CSR) and private partnerships to **strengthen e-learning**.

2. Localized Teacher Training Networks

Developing regional teacher training hubs in rural districts. Encouraging peer-learning models, where urban-trained teachers mentor rural educators.

3. Policy and Governance Reforms

Stronger monitoring mechanisms for teacher training institutions to maintain quality standards. Increased funding for rural teacher education under Samagra Shiksha and NEP 2020 implementation.

Conclusion

Bridging the urban-rural divide in teacher education is essential to achieving educational equity, quality, and sustainability in India. NEP 2020 provides a structured roadmap to reduce disparities through technology integration, inclusive training models, and policy interventions. Strengthening rural teacher education institutions, promoting hybrid learning, and fostering collaborative professional development will help ensure that teachers across all geographies receive equitable opportunities to enhance their skills and contribute to nation-building.

The success of these initiatives will depend on effective implementation, cross-sector collaboration, and continuous evaluation, ensuring that every teacher—urban or rural—has access to high-quality education and professional development.

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Leadership Training for Educators: Developing School Leaders and Administrators

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Introduction

In the evolving landscape of education, effective leadership plays a crucial role in shaping the quality of learning experiences and institutional success. School leaders and administrators are not only responsible for managing schools but also for inspiring teachers, engaging students, and fostering a culture of innovation and inclusivity. Leadership training for educators is essential to equip them with the necessary skills to navigate complex educational environments, drive academic excellence, and implement progressive policies. This paper explores the need for leadership training in education, key leadership concepts, and strategies for developing competent school leaders and administrators.

Need for Leadership Training in Education

1. Enhancing Decision-Making Skills

School leaders frequently face critical decisions related to curriculum design, student welfare, faculty management, and infrastructure development. Leadership training helps administrators develop analytical skills, enabling them to make informed, strategic decisions that benefit the institution.

2. Improving Instructional Leadership

Effective school leadership directly influences teaching quality and student outcomes. Administrators who undergo leadership training can better support teachers through mentorship, performance evaluations, and professional development programs.

3. Adapting to Educational Reforms

Education systems worldwide are continuously evolving due to technological advancements, policy changes, and societal needs. Leadership training equips school administrators with the ability to adapt, innovate, and implement new pedagogical approaches effectively.

4. Building a Positive School Culture

A well-trained school leader fosters an inclusive, collaborative, and motivating school environment. Leadership training enhances communication skills, emotional intelligence, and conflict-resolution abilities, ensuring a harmonious educational ecosystem.

5. Strengthening Stakeholder Relationships

School leaders must collaborate with various stakeholders, including teachers, students, parents, and policymakers. Leadership training helps administrators develop negotiation, team-building, and community engagement skills, strengthening relationships and institutional growth.

Key Leadership Concepts and Their Applications

1. Transformational Leadership

Transformational leaders inspire and motivate their team members to achieve beyond expectations. In an educational setting, school leaders can adopt this approach to encourage teachers and students to strive for excellence by fostering a shared vision, promoting innovation, and recognizing achievements.

2. Instructional Leadership

This leadership model focuses on improving teaching and learning. School administrators who adopt instructional leadership emphasize curriculum development, teacher training, and student assessment strategies. They actively participate in classroom observations and provide constructive feedback to educators.

3. Distributed Leadership

Rather than relying on a single authority, distributed leadership involves delegating responsibilities across different levels of the school hierarchy. This approach empowers teachers and staff to take on leadership roles, promoting collaboration and shared decision-making.

4. Servant Leadership

A servant leader prioritizes the needs of students, teachers, and the community. School administrators who embrace this philosophy focus on ethical leadership, empathy, and student-centered policies to create an inclusive learning environment.

5. Situational Leadership

Situational leadership emphasizes flexibility, where leaders adjust their style based on the context and needs of their team. In schools, administrators may need to adopt different approaches when dealing with experienced teachers versus newly hired educators.

Strategies for Developing School Leaders and Administrators

1. Professional Development Programs

Workshops, seminars, and leadership training courses can enhance school administrators' knowledge and skills. These programs should cover topics such as strategic planning, conflict resolution, and policy implementation.

2. Mentorship and Coaching

Pairing emerging school leaders with experienced mentors allows them to learn from real-world experiences and best practices. Coaching sessions help administrators develop confidence and problem-solving abilities.

3. Action Research and Reflective Practice

Encouraging school leaders to engage in action research helps them analyze challenges, experiment with new strategies, and reflect on their effectiveness. Reflective practice fosters continuous improvement and adaptability.

4. Networking and Collaboration

Participation in professional organizations and networking events allows school

administrators to exchange ideas, learn from peers, and stay updated on global educational trends. Collaborative learning communities further support leadership growth.

5. Use of Technology in Leadership Training

Digital platforms, online courses, and virtual mentoring can provide accessible and flexible leadership training opportunities. E-learning resources enable school administrators to acquire skills at their own pace.

Conclusion

Effective school leadership is a critical factor in ensuring educational success. Leadership training programs equip educators with essential skills to manage schools efficiently, enhance teaching and learning, and create positive institutional cultures. By adopting transformational, instructional, and servant leadership styles, school administrators can drive meaningful change in the education sector. Investing in leadership development not only benefits individual educators but also strengthens entire school communities, leading to improved student outcomes and institutional excellence.

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Continuous Professional Development (CPD): A Lifelong Learning Approach for Teachers

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Abstract:

It is said that well begun is half done, but if one doesn't continue the well doing, one can't expect best output. Education particularly teaching-learning process is no exception for this. Consistency, self-motivation, continuity, formal and informal learning, hard work, devotion, dedication, persistence, determination, confidence, concentration and commitment etc are important to complete any process or becoming successful in any field. This provides personal growth, career advancement, social connections and quality of life. Teaching is pious profession. For remaining updated, every teacher need to follow the techniques of professional developments. To achieve professional development, teacher needs to focus on constructivist approach and technology.

Key words: professional development, teacher learning, research design, teacher quality, educational improvement, teaching practice.

In B. Ed. Course of SNDT Women's University, there is one topic based on Professional Development of School Teachers. Considering the 5 P's of career development can be advantageous when planning for success in your career. These five principles—possibility, presence, people, perspective, and perseverance—can help you remember the key factors for achieving success. The term "professional education" is not to be confused with vocational education. Professional development, often referred to as professional education, encompasses learning that enhances or focuses on a specific career field or develops practical skills that can be applied in a job setting, in addition to the transferable and theoretical knowledge typically found in traditional liberal arts and pure sciences education. It is utilized to obtain or maintain professional credentials, such as certifications or academic degrees, through formal courses in institutions known as professional schools, or by participating in conferences and informal learning experiences to acquire or enhance skills.

In a general sense, professional development can encompass formal vocational education, usually in the form of post-secondary or poly-technical training that leads to qualifications or credentials necessary for obtaining or maintaining employment. It may also take the shape of pre-service or in-service programs focused on professional growth. Coaching – This focuses on enhancing an individual's abilities in a particular area by guiding them through a process of observation, contemplation, and action.

Communities of Practice – This method aims to improve professional practice through collaborative exploration and learning among individuals who share common objectives.

Lesson Study – This strategy tackles practical issues related to intervention or teaching by working together with other professionals to systematically evaluate practices.

Mentoring – This process aids an individual in becoming more self-aware and refining their professional growth by providing structured opportunities for reflection and observation.

Reflective Supervision – This aims to support, develop, and ultimately evaluate employee performance through an inquiry process that encourages their understanding and articulation of the reasoning behind their actions.

Technical Assistance – This offers support to individuals and organizations in enhancing their practices by providing resources, and information, and facilitating networking and change initiatives.

The 2019 World Development Report from the World Bank emphasizes that providing professional development opportunities for both currently employed individuals and those searching for jobs, including flexible learning options at universities and adult education courses, helps labour markets adjust to the evolving work landscape.

Professional development programs are founded on various theories regarding how both learners and educators acquire knowledge. Evaluators frequently categorize these programs based on their design characteristics, such as length, intensity, or specific approaches like coaching or online courses; nevertheless, these classifications do not reveal the core purpose or fundamental beliefs about teaching and teacher learning that influence the programs. Lifelong learning does not have to confine itself to informal learning, though. It is best described as being voluntary with the purpose of achieving personal fulfilment. The approaches to accomplish this might involve informal or formal education.

Whether pursuing personal interests and passions or following professional goals, lifelong learning can help us attain personal fulfilment and satisfaction.

It recognizes that humans have an intrinsic desire to explore, learn, and grow, and encourages us to improve our own quality of life and sense of self-worth by concentrating on the ideas and objectives that motivate us.

Personal fulfilment and development relate to natural interests, curiosity, and motivations that drive us to acquire new knowledge. We learn for our own sake, not for others.

Learning a new sport or activity (e.g., joining martial arts, learning to ski, learning to exercise.

Learning to use a new technology (smart devices, new software applications)

Acquiring new knowledge (taking a self-interest course via online education or classroom-based course)

Incorporating lifelong learning into your life can provide advantages,

1. Renewed self-motivation

At times, we may find ourselves in a repetitive routine, doing things solely out of obligation, such as going to work or cleaning the house.

Discovering what inspires you allows you to regain control and serves as a reminder that you can pursue activities in life that you genuinely want to engage in.

2. Recognition of personal interests and goals

Rekindling your passions reduces monotony, makes life more engaging, and might even lead to future opportunities.

You never know where your passions might take you if you dedicate your attention to them.

3. Enhancement of other personal and professional skills

While we are engaged in acquiring a new skill or knowledge, we are also enhancing other essential skills that can assist us in both personal and professional realms.

4. Enhanced self-confidence

Gaining more knowledge or proficiency in a subject can boost our self-confidence in both our personal and professional spheres.

In our personal domains, this assurance can arise from the fulfilment of dedicating time and energy to learning and developing, which provides us with a feeling of success.

In our professional spheres, this self-confidence can manifest as the trust we have in our expertise and our capability to implement what we have learned.

1. Identify your own interests and objectives

Lifelong learning is centred around you, rather than others and their desires.

Think about what excites you and what you imagine for your future.

If advancing your career aligns with your personal interests, then there are methods to engage in self-directed learning to achieve this aim.

If a fascination with history drives you, there are also avenues to delve deeper into this interest.

2. Create a list of what you wish to learn or skills you want to acquire

After determining what inspires you, investigate what aspects of that specific interest or goal you aim to attain.

Returning to our example of an individual passionate about history, it may be intended to merely broaden knowledge regarding the history of Europe. Alternatively, the enthusiasm might be so intense that pursuing a Ph. D. becomes an aspirational objective.

Both of these represent varying degrees of interest that involve different approaches to learning.

3. Identify how you would like to engage and the resources that are available

Reaching our personal aspirations starts with determining how to commence.

Exploring and reading about the passion and objective can aid in devising a plan for how to pursue learning it.

In our history illustration: the individual who seeks to simply deepen their understanding of a specific historical era might discover books in the library catalogue, blogs, magazines, and podcasts focused on the topic, or even museums and lectures.

The person aspiring to earn a Ph. D. in history as a personal ambition might investigate university programs that could be pursued part-time or online, as well as the necessary steps to attain the doctorate.

4. Integrate the learning goal into your life

Incorporating a new learning goal into your busy life demands careful consideration and

effort.

If you do not set aside time and space for it, it simply won't happen.

This may easily lead to frustration or completely abandoning the learning initiative.

Describe how the requirements of the new learning initiative can be incorporated into your life or what actions you need to undertake to make room for it.

5. Make a commitment

Committing to your decision to engage in a new learning initiative is the final and most vital step.

If you have set realistic expectations and have the self-drive to follow through, commit to it and avoid making excuses.

What is CPD in Education and Why Is It Important?

CPD constitutes an essential aspect of education that assists teachers in staying updated with the most recent information in their field. It is very important as it allows students to receive the best possible education, as educators will be thoroughly equipped with the latest skills and knowledge to facilitate their personal and academic success.

CPD stands for Continuing Professional Development and signifies the continuous process in which professionals partake in activities aimed at enhancing their understanding, knowledge, skills, and expertise.

CPD holds significance in every aspect of Education.

What does CPD entail in Education?

1) Participating in Conferences, Workshops, and Seminars

Joining CPD events like these presents an excellent chance for educators to delve into their professional growth beyond the classroom.

Such gatherings allow educators to become acquainted with new teaching techniques, technologies, and research developments in their disciplines. They can also network with fellow educators to gather fresh perspectives on their teaching practices.

2) Obtaining Additional Qualifications or Certifications

Educators might opt to pursue further qualifications or certifications to enhance their knowledge and skills in a particular subject area or teaching strategy. For instance, there has been a recent increase in utilizing augmented and virtual reality in education. It could be advantageous for teachers to enroll in a course on this to effectively incorporate it with their students.

3) Taking Online Courses and Attending Webinars

A wide variety of online courses and webinars exists that enable educators to learn at their own pace and according to their own schedules. These can cover topics from classroom management and instructional design to specialized subject knowledge.

4) Participating in Peer-to-Peer Learning

Educators can gain insights from their colleagues through several activities, such as lesson observations, peer coaching, and collaborative lesson planning. This experience can offer educators valuable feedback and perspectives on their teaching practices, facilitating the

development of new strategies and methodologies.

5) Self-Directed Learning

Educators can engage in self-directed learning by reading professional literature, engaging in research, and reflecting on their teaching practices. This approach can aid them in pinpointing areas for enhancement as well as acquiring new skills and knowledge.

1) Updated Teaching Practices

CPD enables educators to discover new teaching strategies, advancements in technology, and research updates, which enhances their teaching practices. By broadening their knowledge and skills, educators can enhance their teaching techniques and more effectively address the needs of their students.

2) Enhanced Career Performance

Taking part in CPD activities can help educators acquire new skills, gain fresh perspectives, and remain informed about the latest trends and developments in their profession. This can result in improved job satisfaction and increased chances for career progression.

3) Enhance Student Outcomes

Educators engaged in CPD activities are better equipped to address the varied and continuously evolving needs of their students. This engagement can lead to improved student outcomes, including greater participation and elevated academic performance, resulting in more satisfied students!

4) Accumulate CPD Credits or Points

CPD may be necessary for educators to uphold their professional status through earning CPD credits or points. Numerous teachers must complete a specific number of hours in CPD learning to ensure adherence to the highest professional development standards and demonstrate a commitment to ongoing learning and growth. [Learn more about CPD credits here!](#)

5) Promote Lifelong Learning

Regular participation in CPD serves as an effective means to embrace the mindset of lifelong learning and ongoing enhancement, an approach that is essential to have in a constantly changing educational environment.

When someone mentions that they attended the “university of life,” they are typically attempting to explain why a formal education may not be necessary for navigating life. Conversely, we hear other individuals discuss more structured education as a means to gain the abilities and knowledge required to achieve our aspirations and contribute to society. Both perspectives hold merit. Lifelong learning signifies that education is not confined to “school,” and there exist various learning opportunities, both informal and formal, within and beyond what we might conventionally consider as “education,” which we can engage with at any stage of our lives. Lifelong learning is an essential requirement of the present, encompassing computer technology, language skills, and public speaking. Lifelong learning is the "ongoing, voluntary, and self-motivated" endeavour of acquiring knowledge for personal or professional purposes. Lifelong learning is crucial for an individual’s competitiveness and employability, but it also promotes

social inclusion, active citizenship, and personal growth.

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राष्ट्रीय शिक्षण धोरण २०२० अंतर्गत शिक्षक शिक्षणात तंत्रज्ञानाची भूमिका

डॉ. अमित गावंडे

डॉ. किशोर शिरभाते

प्रस्तावना

भारत सरकारने २९ जुलै २०२० रोजी नवीन राष्ट्रीय शिक्षण धोरण (NEP 2020) जाहीर केले, ज्यामुळे शिक्षणव्यवस्थेत अनेक सकारात्मक बदल घडून येणार आहेत. या धोरणात तंत्रज्ञानाच्या प्रभावी वापरावर भर देण्यात आला आहे, विशेषतः शिक्षक शिक्षणासाठी (Teacher Education). आजच्या डिजिटल युगात गुणवत्तापूर्ण शिक्षक प्रशिक्षण ही काळाची गरज आहे. आधुनिक तंत्रज्ञानाच्या मदतीने शिक्षकांचे अध्यापन कौशल्य सुधारता येते आणि अध्यापन अधिक प्रभावी व आकर्षक बनते.

शिक्षक शिक्षणात तंत्रज्ञानाची गरज

१. डिजिटल साक्षरता – आधुनिक शिक्षणात शिक्षकांनी डिजिटल साक्षर असणे आवश्यक आहे. ऑनलाइन शिक्षण पद्धती, ई-लर्निंग साधने, आणि व्हर्च्युअल प्लॅटफॉर्मचा वापर करून अध्यापन अधिक प्रभावी करता येते.
२. शिकवण्याच्या पद्धतीत नवोपक्रम – पारंपरिक अध्यापन पद्धतींबरोबरच ICT (Information and Communication Technology), स्मार्ट क्लासरूम, आणि ब्लेंडेड लर्निंग तंत्राचा उपयोग करून अध्यापन अधिक समृद्ध करता येते.
३. शिक्षक प्रशिक्षणाच्या संधी – डिजिटल तंत्रज्ञानामुळे शिक्षकांना मुक्त ऑनलाइन अभ्यासक्रम (MOOCs), वेबिनार, आणि e-PG Pathshala यांसारख्या प्लॅटफॉर्मद्वारे सतत शिक्षण घेण्याची संधी उपलब्ध होते. ४. व्यक्तिगत व समावेशक शिक्षण – तंत्रज्ञानाच्या मदतीने विविध गटांतील विद्यार्थ्यांसाठी व्यक्तिगत शिक्षण आणि समावेशक शिक्षण (Inclusive Education) शक्य होते. शिक्षकांना विशेष शिक्षणासाठी ऑगमेंटेड रिअॅलिटी (AR) आणि व्हर्च्युअल रिअॅलिटी (VR) सारख्या आधुनिक तंत्रज्ञानाचा वापर करता येतो.

राष्ट्रीय शिक्षण धोरण २०२० अंतर्गत तंत्रज्ञानाच्या उपयोगाचे मुख्य मुद्दे

१. नॅशनल एजुकेशनल टेक्नॉलॉजी फोरम (NETF)
शिक्षणातील तांत्रिक प्रगतीस मदत करणारी एक स्वायत्त संस्था स्थापन करण्यात आली आहे. शिक्षकांसाठी नव्या तंत्रज्ञानाच्या संधी व आव्हानांवर मार्गदर्शन करणारे हे एक महत्त्वाचे व्यासपीठ असेल.
२. ऑनलाइन आणि डिजिटल शिक्षणाचा वाढता वापर
शिक्षकांसाठी ऑनलाइन प्रशिक्षण कार्यक्रम सुरू करण्यावर भर. SWAYAM, DIKSHA, आणि NPTEL सारख्या डिजिटल प्लॅटफॉर्मचा वापर शिक्षक शिक्षणासाठी करण्याची संकल्पना.
३. ब्लेंडेड आणि हायब्रिड लर्निंग मॉडेल
पारंपरिक वर्ग अध्यापनासोबतच ऑनलाईन साधनसामग्री, डिजिटल फोरम्स आणि फ्लिपड क्लासरूम

सारख्या संकल्पनांचा समावेश.

४. शिक्षकांच्या व्यावसायिक विकासासाठी डिजिटल साधने

शिक्षकांनी तंत्रज्ञानाचा प्रभावी वापर करून आपली अध्यापन कौशल्ये विकसित करावीत. ऑनलाईन रिसर्च जर्नल्स, शिक्षणविषयक ॲप्स, आणि कृत्रिम बुद्धिमत्ता (AI) आधारित साधनांचा उपयोग.

शिक्षक शिक्षणात तंत्रज्ञानाच्या प्रभावीतेची उदाहरणे

१. DIKSHA पोर्टल – भारत सरकारने सुरू केलेले हे पोर्टल शिक्षकांना विविध अभ्यासक्रम, व्हिडिओ, आणि संसाधने उपलब्ध करून देते.
२. SWAYAM – विनामूल्य ऑनलाईन अभ्यासक्रम उपलब्ध करून देणारे व्यासपीठ.
३. NISHTHA कार्यक्रम – शिक्षकांसाठी ऑनलाईन प्रशिक्षण उपक्रम.
४. e-PG Pathshala – उच्च शिक्षणासाठी डिजिटल संसाधने उपलब्ध करणारा मंच.

तंत्रज्ञानाच्या वापराबाबत शिक्षकांसमोरील आव्हाने आणि उपाय

१. शिक्षकांच्या डिजिटल साक्षरतेचा अभाव नियमित डिजिटल प्रशिक्षण कार्यक्रम
२. इंटरनेट आणि तंत्रसुविधांची कमतरता सरकारी आणि खाजगी संस्थांनी डिजिटल पायाभूत सुविधा वाढवणे. तंत्रज्ञानाचा अतिरेक तंत्रज्ञान आणि मानवी संवाद यांचा समतोल राखणे

निष्कर्ष

राष्ट्रीय शिक्षण धोरण २०२० अंतर्गत शिक्षक शिक्षणात तंत्रज्ञानाचा प्रभावी वापर करण्यावर भर दिला आहे. आधुनिक तंत्रज्ञानाच्या मदतीने शिक्षकांचे अध्यापन अधिक प्रभावी, समावेशक आणि नाविन्यपूर्ण होऊ शकते. तंत्रज्ञानाचा सुयोग्य वापर केल्यास शिक्षकांना स्वतःला अद्ययावत ठेवता येईल आणि शिक्षणाची गुणवत्ता सुधारता येईल. भविष्यातील शिक्षण हे तंत्रज्ञान-सक्षम असेल, त्यामुळे शिक्षकांनी या बदलांसाठी सज्ज राहणे आवश्यक आहे.

संदर्भ:

१. राष्ट्रीय शिक्षण धोरण २०२० – भारत सरकार
२. SWAYAM पोर्टल (<https://swayam.gov.in/>)
३. DIKSHA पोर्टल (<https://diksha.gov.in/>)
४. MHRD, भारत सरकारचे शिक्षण क्षेत्रातील अहवाल (2021)

**प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या २५ निकषांच्या कार्यवाहीचा
अभ्यास करणे**

मार्गदर्शक

डॉ. संजय जयराम निंबाळकर

प्राध्यापक,

सेवासदन शिक्षणशास्त्र महाविद्यालय,

उल्हासनगर, जि. उठाणे

संशोधक

श्री. विनोद भागोजी कदम

प्रशासकीय अधिकारी

बृहन्मुंबई महानगरपालिका

● **प्रस्तावना :-**

प्रगत शैक्षणिक महाराष्ट्र कार्यक्रम सन २०१५ -१६ पासून राज्यात सुरु करण्यात येत असून या अंतर्गत राज्यातील सर्व व्यवस्थापनाच्या ,सर्व माध्यमाच्या,मान्यताप्राप्त शाळांमधून इयत्ता पहिली ते आठवीतील सर्व विद्यार्थ्यांसाठी । शैक्षणिक प्रगती चाचण्यांचे आयोजन करण्यात आले आहे. मानवामध्ये परिवर्तन करणारे एकमेव साधन म्हणजे शिक्षण होय. शिक्षण ही एकमेव अशी प्रक्रिया आहे की जी माणसाला ख-या अर्थाने माणूस बनवण्यासाठी मदत करते. मनुष्याच्या बुद्धी व आत्म्याचा विकास म्हणजे शिक्षण होय. मानवी व्यक्तिमत्व विकासामधील चैतन्याचा अविष्कार म्हणजे शिक्षण होय. शिक्षण हे जीवनाच्या सर्व क्षेत्रात प्रभावी दृष्टी देणारे परिवर्तनाचे शक्ती केंद्र आहे.

शाळा हे ज्ञानाचे मंदीर आहे.शाळेत दिले जाणारे शिक्षण हे गुणवत्तापूर्ण असणे गरजेचे आहे. मुख्याध्यापक व शिक्षक विद्यार्थ्यांना गुणवत्तापूर्ण शिक्षण मिळावे म्हणून नेहमी प्रयत्नशील असतात गुणवत्तापूर्ण शिक्षण देण्यासाठी मुख्याध्यापक व शिक्षक वर्ग नेहमी कृतीशील असावा.त्यासाठी शासनामार्फत विविध उपक्रमांचे आयोजन केले जाते.विविध उपक्रमांमार्फत विद्यार्थ्यांच्या गुणवत्तेत वाढ करण्याचा प्रयत्न केला जातो. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या २५ निकषांच्या अंमलबजावणीच्या अभ्यासात सर्व निकषांच्या आधारावर किमान ८० गुण मिळाल्यास आणि संकलित दोन चाचणीत प्रत्येक विद्यार्थ्यास किमान ४० टक्के गुण मिळाल्यास ती शाळा प्रगत समजण्यात येईल असे निकष ठरवण्यात आले – अशा या महत्वपूर्ण प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या २५ निकषांच्या अंमलबजावणीच्या संदर्भातील अभ्यास संशोधकाने केला आहे.

● **संशोधन समस्येचे विधान :-**

प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या २५ निकषांच्या कार्यवाहीचा अभ्यास करणे.

कार्यात्मक व्याख्या :-

१) **प्रगत शैक्षणिक महाराष्ट्र कार्यक्रम** - इयत्ता १ ली ते ८ वीच्या विद्यार्थ्यांची गुणवत्ता वाढविण्यासाठी महाराष्ट्र शासनाद्वारे राबविण्यात आलेला कार्यक्रम. या कार्यक्रमांतर्गत सर्व व्यवस्थापनाच्या ,सर्व माध्यमाच्या मान्यता प्राप्त प्राथमिक शाळेतील इयत्ता २ री ते ८ वीच्या सर्व विद्यार्थ्यांसाठी वर्षभरात तीन राज्यस्तरीय शैक्षणिक प्रगती चाचण्यांचे आयोजन करण्यात येईल.

- २) **प्राथमिक स्तर :-** इयत्ता १ ली ते इयत्ता ८ वी पर्यंतच्या वर्गाचा समावेश असलेला स्तर.
- ३) **२५ निकष :-** प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत शाळा प्रगत समजण्या संदर्भातील निकष .
- **संशोधनाची उद्दिष्टे :-**
 १. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या निकषांचा अभ्यास करणे.
 २. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत असलेल्या प्रथम भाषा विषयाच्या निकषांचा अभ्यास करणे.
 ३. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत असलेल्या शाळा बाह्य बालके व प्रत्यक्ष प्रवेशित बालके यांचा अभ्यास करणे.
 - **गृहितके:-**
 १. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या निकषांचा अभ्यास केला आहे.
 २. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत असलेल्या प्रथम भाषा विषयाच्या निकषांचा अभ्यास केला जातो.
 ३. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत असलेल्या शाळा बाह्य बालके व प्रत्यक्ष प्रवेशित बालके यांचा अभ्यास केला जातो.

- **व्याप्ती व मर्यादा :-**

संशोधनासाठी बृहन्मुंबई परिक्षेत्र निवडल्याने सदर निष्कर्ष बृहन्मुंबई परिक्षेत्रातील शिक्षण तज्ज्ञ, मुख्याध्यापक, शिक्षक, पालक व विद्यार्थी यांना उपयुक्त ठरणारे आहेत. त्यामुळे संशोधनाची व्याप्ती ही प्रथम दर्शनी बृहन्मुंबई परिक्षेत्रापुरतीच मर्यादित आहे. संशोधकाने बृहन्मुंबई महानगरपालिका परिक्षेत्रातील तीन परिमंडळ (झोन)-१ पूर्व उपनगरे, हा भाग निवडला आहे. संशोधनांती निघालेले निष्कर्ष हे यांच्या पुरतेच मर्यादित आहेत.

- **न्यादर्श :-**

प्रस्तुत विषयासाठी प्रतिसाधक म्हणून बृहन्मुंबई महानगरपालिका परिक्षेत्रातील तीन परिमंडळा पैकी (झोन)-१, पूर्व उपनगरे येथील मुख्याध्यापक व शिक्षक यादृच्छिक पद्धतीने निवडले आहेत.

प्रतिसाधक	व्यवस्थापन	जनसंख्या	नमुना आकार
मुख्याध्यापक	महानगरपालिका शाळा	६१	३०
	खाजगी अनुदानित शाळा	८०	४०
	विना अनुदानित शाळा	१६५	८२
एकूण		३०६	१५२
शिक्षक	महानगरपालिका शाळा	२५८	१२९
	खाजगी अनुदानित शाळा	२४०	१२०
	विना अनुदानित शाळा	६६५	३३२
एकूण		११६३	५८१

- **संशोधनाची साधने :-**

प्रस्तुत संशोधनासाठी माहिती संकलित करण्यासाठी प्रश्नावली या साधनाचा वापर केला आहे.

● **संशोधन पद्धती :-**

प्रस्तुत संशोधनासाठी वर्णनात्मक पद्धतीचा वापर केला आहे. प्रस्तुत संशोधन हे वर्तमान काळाशी संबंधित असल्याने सर्वेक्षण पद्धती अभ्यासाठी वापरली आहे.

● **माहिती विश्लेषणसाठी तंत्रे :-**

१. **वर्णनात्मक विश्लेषण :-**

१. सांख्यिकी

२. टक्केवारीची यथार्थता

● **प्रश्नावली :-**

संशोधकाने उद्दिष्टानुसार पडताळा सूची मुख्याध्यापक व शिक्षकांसाठी तयार केली आहे.

● **संकलित माहितीचे विश्लेषण :-**

मुख्याध्यापक व शिक्षक प्रश्नावल्यांचे संकलन करून प्रत्येक प्रश्नांचे कोष्टक करून टक्केवारीची यथार्थता ठरवून शेकडेवारीत रुपांतर केले. टक्केवारीच्या यथार्थतेनुसार मत ग्राह्य धरले आहे.

● **निष्कर्ष :-**

१. महानगरपालिका, खाजगी अनुदानित व विना अनुदानित शाळांमध्ये प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या निकषांचा अभ्यास केला जातो .
२. महानगरपालिका, खाजगी अनुदानित व विना अनुदानित शाळांमध्ये प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत असलेल्या प्रथम भाषा विषयाच्या निकषांचा अभ्यास केला जातो .
३. महानगरपालिका, खाजगी अनुदानित व विना अनुदानित शाळांमध्ये प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत शाळा बाह्य बालके व प्रत्यक्ष प्रवेशित बालके अभ्यास केला जातो .

● **शिफारशी :-**

मुख्याध्यापकांसाठी शिफारशी :-

१. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत राबविण्यात आलेल्या निकषांचा अभ्यास करणे.
२. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत असलेल्या प्रथम भाषा विषयाच्या निकषांचा अभ्यास करणे.
३. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत शाळा बाह्य बालके व प्रत्यक्ष प्रवेशित बालके अभ्यास करणे.

शिक्षकांसाठी शिफारशी :-

१. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत असलेल्या प्रशिक्षणांना उपस्थित रहाणे.
२. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत प्रथम भाषा विषयाच्या निकषांचा अभ्यास करणे.
३. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत शाळा बाह्य बालके व प्रत्यक्ष प्रवेशित बालक यांचा शोध घेणे .

शासनासाठी शिफारशी :-

१. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत शाळा प्रगत समजण्या संदर्भातील निकषांच्या बाबत मार्गदर्शनासाठी शिक्षकांची कार्यशाळा घ्यावी.
२. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत प्रथम भाषा विषयाच्या निकषांचा अभ्यास करण्यासंदर्भात मार्गदर्शक सूचना कराव्यात.

३. प्रगत शैक्षणिक महाराष्ट्र कार्यक्रमांतर्गत शाळा बाह्य बालके व प्रत्यक्ष प्रवेशित बालक यांचा शोध घेण्यासंदर्भात वेळोवेळी सूचना व मार्गदर्शन कार्यशाळा घ्याव्यात.

● संदर्भ ग्रंथसूची -

- १) आगलावे प्रदिप (२०००), संशोधन पद्धती शास्त्र व तंत्रे, विद्याप्रकाशन नागपूर.
- २) कळंदीकर सुमन (२००८), ज्ञानाचा रचयिता, माझा मी, पुणे
- ३) काळपांडे वसंत (१९८९), शैक्षणिक आव्हानाकडून कृती कार्यक्रमाकडे, रुना ग्रीफिक्स, पुणे
- ४) कुंडले मधुकर बी (डिसेंबर २००९-१०), शिक्षण समिक्षा, नागपूर.
- ५) चव्हाण कि.स (२०१०), शिक्षणातील मर्मदृष्टी इनसाईट पब्लिकेशन, नाशिक
- ६) पानसे रमेश (२०१०)- रचनावादी शिक्षण, पुणे



Socio-Economic Conditions of Unsheltered Women: A Case Study of Mumbai City

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Abstract:

This study examines the lives of unsheltered women in Mumbai, focusing on their living conditions, socio-economic status, and educational background. The research highlights the numerous challenges faced by these women due to their Unsheltered, underscoring the importance of addressing this critical issue in the context of social and educational development for women.

Keywords: Unsheltered, living conditions, socio-economic status, poverty, safety, vulnerability etc.

1. Introduction:

Unsheltered has been a problem throughout the world for centuries. The problem continues to grow every year, but there is still no solution. The phenomenon of Unsheltered is one of the worst forms of urban poverty and social vulnerability, and a glaring indicator of the failure of governance and the state's commitment to a welfare state. It is tragic and unacceptable in a civilised society and independent India that a large percentage of our poor are Unsheltered. No one wants to be unsheltered by choice – it is a situation people are forced into – like endemic poverty. Women constitute one of the groups worst affected by Unsheltered. While the phenomenon of Unsheltered violates the most basic of human rights for all populations, women without housing and living on the streets suffer the most severe kinds of abuse and violence. State response to the needs of unsheltered women is grossly inadequate and the majority of unsheltered women are left to fend for themselves.

Unsheltered is the condition of lacking stable, safe, and adequate housing. People can be categorized as Unsheltered if they are: living on the streets (primary Unsheltered), moving between temporary shelters, including houses of friends, family, and emergency accommodation (secondary Unsheltered) and living in private boarding houses without a private bathroom or security of tenure (tertiary Unsheltered).

Unsheltered is a major issue in [India](#). The [Universal Declaration of Human Rights](#) defines 'Unsheltered' as those who do not live in a regular residence due to lack of adequate housing, safety, and availability. The United Nations Economic and Social Council Statement have a broader definition for Unsheltered; it defines Unsheltered as follows: 'When we are talking about housing, we are not just talking about four walls and a roof. The right to adequate housing is about security of tenure, affordability, access to services and cultural adequacy. It is about protection from forced eviction and displacement, fighting Unsheltered, poverty and exclusion. [India](#) defines 'Unsheltered' as those who do not live in [Census](#) houses, but rather stay on pavements, roadsides, railway platforms, staircases, temples, streets, in pipes, or other open spaces. There are 1.77 million unsheltered people in India, or 0.15% of the country's total population, according to the 2011 census consisting of single men, women, mothers, the elderly, and the

disabled. (<https://censusindia.gov.in>)

The number of people living in slums in India has more than doubled in the past two decades and now exceeds the entire population of Britain, the Indian Government has announced. About 78 million people in India live in [slums](#) and tenements. 17% of the world's slum dwellers reside in India. There is no single identifiable cause of Unsheltered. While migration and lack of employment opportunities are some of the reasons for Unsheltered, there could be many others such as poverty, failure of the housing supply system, violence, and the erosion of family support, political, ethnic and social turmoil, natural calamity, physical disability and mental illness among others. Sometimes, social constraints like rigid caste hierarchies and religious discrimination push people out of villages.

Women constitute one of the groups worst affected by Unsheltered. While the phenomenon of Unsheltered violates the most basic of human rights for all populations, women without housing and living on the streets suffer the most severe kinds of abuse and violence. State response to the needs of unsheltered women is grossly inadequate and the majority of unsheltered women are left to fend for themselves. Indian city streets are extremely unsafe for women, with rape, theft, murder, kidnapping, sexual exploitation and gender-based violence being common. Most Unsheltered women are involved in roadside vending and related activities. They face harassment from local bodies and the police who snatch their goods and displace them at will. Many women then have no option but to take to begging. Most of them beg at religious places and sleep there, as they feel more secure. Among Unsheltered women there are two categories of women: one that stays with her family and the other who is without any family. The Unsheltered women without any family are among the most vulnerable. While all unsheltered women suffer multiple forms of abuse, gender-based violence and discrimination; there are certain groups within unsheltered women who are even more vulnerable. These include: women with disabilities and mental health problems; single women and single Unsheltered mothers; women living with HIV/AIDS; chemically dependent women and victims of substance abuse; pregnant and lactating women; and girls and adolescents. Other factors contributing to Unsheltered of women are: lack of secure tenure, lack of information about women's human rights, lack of access to affordable social services as a result of privatisation, lack of access to credit and housing subsidies, bureaucratic barriers preventing access to housing programmes, rising poverty and unemployment and discriminatory cultural and traditional practices.

2. Need of the Research:

Shelter is the basic human requirement. Housing provides the stability to the peoples. A Home provides roots, identity & a sense of belongingness and a place of emotional wellbeing. Housing is a basic human right and is central to everyone's daily lives. Good housing can contribute to improved living standards, increased opportunities and wellbeing, while poor housing can contribute to poverty, disadvantage and poor health. Housing is also an area of life which women experience differently to men – from their pathways into and out of Unsheltered and their interactions with housing services, to their access to adequate standards of living and the private market – and recent literature shows a multitude of ways in which gender can shape, define and influence the experience of housing instability. For many women, often for reasons relating directly to their gender, a stable, affordable and habitable home remains out of reach.

Imagine a world where food is a struggle to obtain, hygiene is a forgotten afterthought and safety is desperately hoped for. While this may sound like the backdrop for dystopian literature, it is instead the tragic reality for so many people. There are countless people in this world who live without a permanent shelter over their heads or enough money to purchase the basic essentials of life, such as food, hygienic

materials or clothing. These people, regardless of circumstance, are collectively called the Unsheltered. They come from all walks of life, with no restriction on race, sex, age, colour or creed.

In the Mumbai, Unsheltered women were always been estimated to be increasing exponentially. Food, shelter, and safety are highlighted as street children's everyday problems. Besides, often one reads reports of various Non-Government Organisations (NGOs) about how these women face the risk of abuse and discrimination by others. Interestingly, some reports also highlight unsheltered women's resilience in their struggle for survival. Unsheltered women deal with lot of issues for survival, by this study we understand the various challenges faced by unsheltered women and their living condition.

3. Objective of the Study:

To understand the Socio-Economic Conditions of Unsheltered women.

4. Research Questions:

- 1) What factors lead on the Socio-Economic Conditions of Unsheltered women?
- 2) What Unsheltered women do for their day to day livelihood?

5. Review of Literature:

1. Violence And Violations: The Reality of Unsheltered Women in India” (Shivani Chaudhry, Amita Joseph, Indu Prakash Singh, 2018) - The interlink age between violence against women and women's right to adequate housing is well established around the world. Lack of adequate housing can make women more vulnerable to various forms of violence and, conversely, violence against women can lead to the violation of women's rights to adequate housing. The Special Rapporteurs on adequate housing have presented a series of reports on women and housing to the UN Commission on Human Rights and the UN Human Rights Council. The reports highlighted that the widespread prevalence of gender-based violence is a central thread in the fabric of human rights violations faced by women, including in violations of the right to adequate housing and land. Women also suffer more from forced evictions and Unsheltered as both situations subject them to greater violence as well as violation of personal dignity and health. They also asserted that persistent poverty, where women and others are forced to live in inadequate and insecure housing and living conditions, also exposes women to forms of gender-based violence, and arguably is itself a form of violence.

2. Causes, Effects and issues of Unsheltered People (Dr. Osama Alowaimer, Northern Border University, Arar, Saudi Arabia 2020) - Unsheltered people have a lot of issues which they have to deal with. Poverty is one of these issues. Unsheltered people have a lot of issues which they should deal with. Poverty is one of these issues. They do not have the money which ensures to them accommodation and food. Where that most of them do not have jobs and they find it difficult to get jobs. This goes back to that they are non-eligible to get jobs which means there are no sources of income for them. Most institutions and companies do not accept them because of lack of education. Also, some unsheltered people do have the motivation for work. As mentioned previously, poverty is the core cause for unsheltered people. “Unsheltered is rooted hard and deep in poverty. Unsheltered are poor people they come overwhelmingly from poor families”. So, according to Lie bow, it shows us that poverty is the only major problem for Unsheltered. This issue is very important, so it necessary to solve it. There are many solutions for this issue. One of them is supporting charities. The charities are the nearest to Unsheltered people for ease their suffering.

7. Research Methodology:

A Descriptive Research is used. The researcher used purposive sampling technique in Non-Probability Sampling method for this study. Convenience sampling is a non-probability sampling technique

where samples are selected from the population only because they are conveniently available to the researcher.

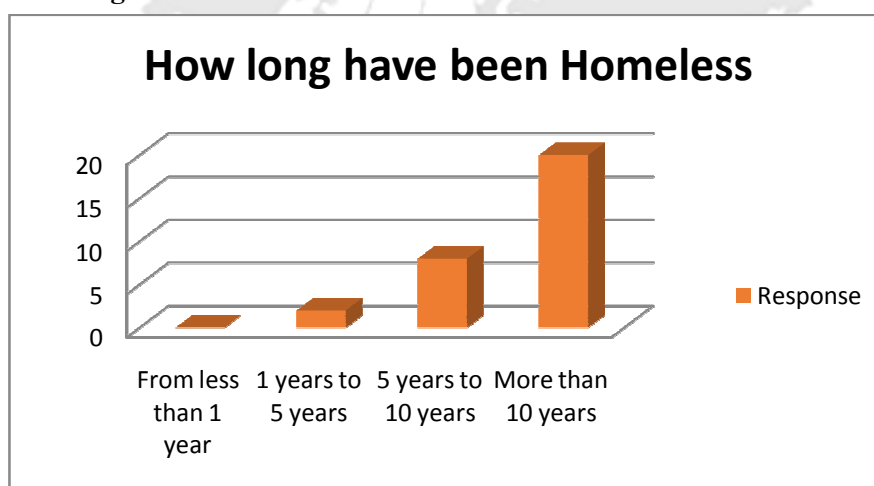
8. Data collection Tools:

Data collection tools refer to the devices / Instruments used to collect data, such as paper questionnaires or computer-assisted interviewing system. Case studies, checklists, interviews, observations sometimes, and survey or questionnaires are tools used to collect data. The core forms in which data can be collected are primary and secondary data. The researcher has used primary data for this study.

Table No.1: How long women affected as a Unsheltered.

Sr.No	Detail	Frequency	Frequency (%)
1	From less than 1 year	0	0.00
2	1 years to 5 years	2	6.67
3	5 years to 10 years	8	26.67
4	More than 10 years	20	66.67
	Total	30	100.00

Diagram No.1: How long women affected as a Unsheltered.



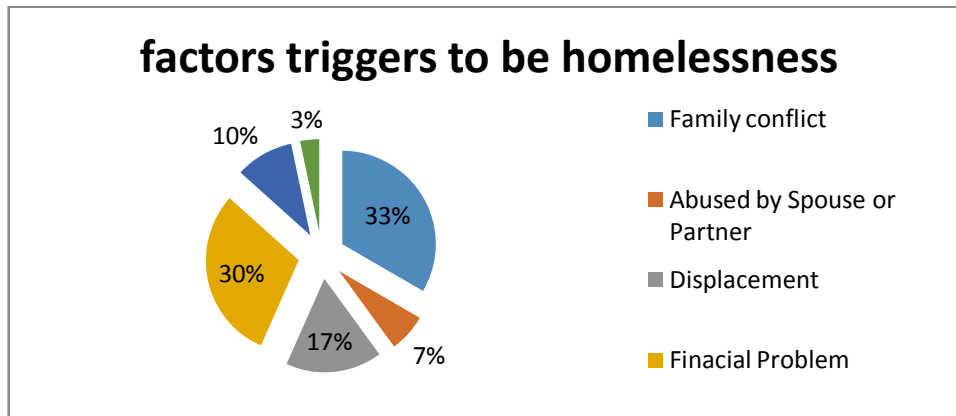
Interpretation: Table No.1 shows, from how many year women affected by problem of Unsheltered. |

Conclusion: Above table and diagram shows, from how many year women affected by Unsheltered. Over 20 women faced unsheltered problem since more than 10 years. 8 women faced problem of Unsheltered from 5 to 10 years and only 2 women faced problem of Unsheltered from 1 to 5 year. No one responded as less than 1 year Unsheltered.

Table No.2: Factors leads to be Unsheltered.

Sr.No	Detail	Frequency	Frequency (%)
1	Family conflict	10	33.33
2	Abused by Spouse or Partner	2	6.67
3	Displacement	5	16.67
4	Financial Problem	9	30.00
5	Migration For Job	3	10.00
6	After Marriage Migration	1	3.33
	Total	30	100.00

Diagram No.2: Factors leads to be Unsheltered.



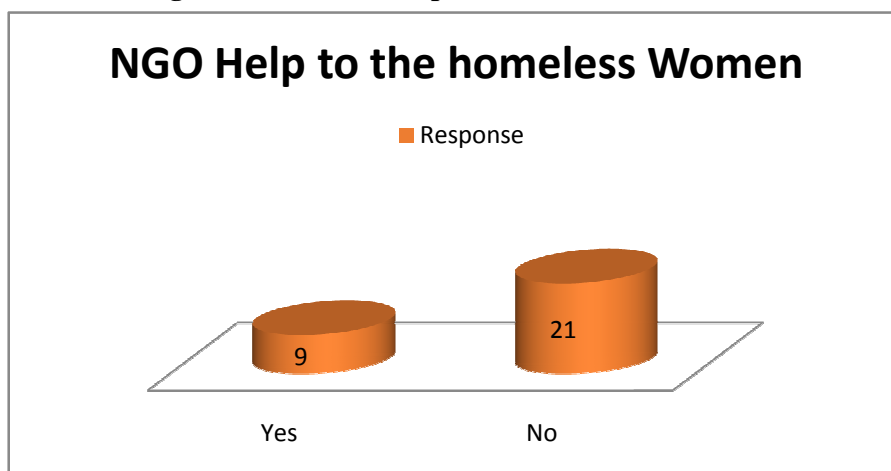
Interpretation: Table No.2 shows which factors triggers to be unsheltered to the women. And Diagram No.2 interprets the ratio of reason of unsheltered women in different colours.

Conclusion: The above Diagram and table which factors lead to be Unsheltered to the women. Over 33% women faced Unsheltered because of family conflict which is more in number, 30% women faced financial problem which lead Unsheltered to them, because of displacement 17% women get Unsheltered, because of migration for job 10% women get Unsheltered, because of abused by spouse or partner 7% women get Unsheltered and only 3% women faced Unsheltered because of migration after marriage from village to urban area.

Table No.3: NGO helps to the unsheltered women

Sr. No	Detail	Frequency	Frequency (in %)
1	Yes	9	30.00
2	No	21	70.00
	Total	30	100.00

Diagram No.3: NGO helps to the unsheltered women



Interpretation: Table 3 is showing number of unsheltered women get help from Ngo for their any need.

Conclusion: The above Table no. 3 and Diagram 3 is showing number of unsheltered women get help from

Ngo. Over 9 responded as Yes, they get help from Ngo whereas 21 women do not get any help from Ngo, which is more in number.

Table No.4: Unsheltered Women belonging State

Sr.No.	Detail	Frequency	Frequency (%)
1	Maharashtra	16	53.33
2	Karnataka	5	16.67
3	Bihar	3	10.00
4	Gujarat	3	10.00
5	Andhra Pradesh	3	10.00
	Total	30	100.00

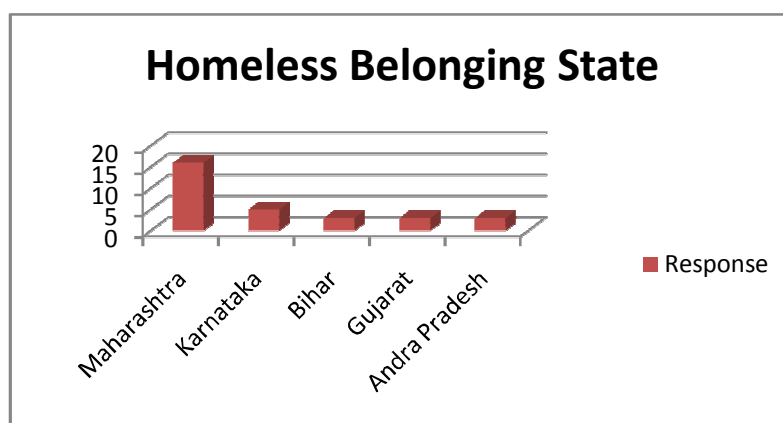


Diagram No.4: Unsheltered Women belonging State.

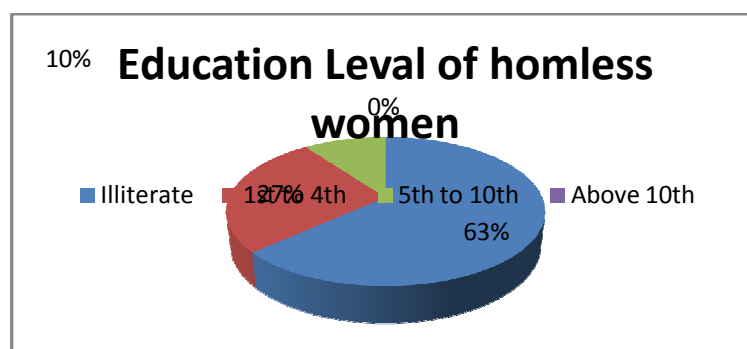
Interpretation: Table No. 4 shows the score of belonging state of unsheltered women in Mumbai city.

Conclusion: Table No.4 shows that more Unsheltered women belong from Maharashtra state (53%) whereas from Karnataka 5 women (16%), Bihar 3 women (10%), and Gujarat 3 women (10%) and Andhra Pradesh 3 (10%) women belong respectively.

Table No.5: Education level of unsheltered women.

Sr.No	Detail	Frequency	Frequency (%)
1	Illiterate	19	63.33
2	1st to 4 th	8	26.66
3	5th to 10 th	3	10
4	Above 10th	0	0
	Total	30	100.00

Diagram No. 5: Education level of unsheltered women.



Interpretation: Table No. 5 interpreted the education level of unsheltered women. It shows how many unsheltered women are illiterate, educated till the 4th grade, educated till the 10th grade and educated above 10th grade.

Conclusion: The above table and Diagram shows the education level of unsheltered women. Most of respondent are illiterate. Over 63% Unsheltered women are illiterate which is more in number, 27% Unsheltered women are educated till the 4th grade whereas 10% Unsheltered women are literate and no any women responded as a educated above 10th grade

9. Conclusion:

- 1) **Family composition and connection:** Nearly 66.67 per cent respondents are married. However 20 per cent respondents lived by themselves, indicating movement away from the home or family relations. About 50 per cent women live in spouse / partner's house before affecting as Unsheltered.
- 2) **Living Condition:** About 50 per cent of the respondents were living on the roadside. This is the most vulnerable category with nothing to protect themselves and sleeping 'under the sky'. Only 33.33% Unsheltered women get two times meal in a day. 36.67 per cent respondent addicted by tobacco. Over 40 per cent respondent aware and take free government medical services when they are sick. About 40 per cent women willing to live in government shelter.
- 3) **Socio-economic condition:** About 9 per cent respondent said that they get help from Ngo sometimes in getting food, clothes and education to their children. Over 20% respondents celebrate festivals as per their economic condition. 43.33% respondent work for money and their average per day income is 20 – 100. Over 40 per cent respondent look after their children and financially depend on their husband and nearly 16.67 per cent respondents beg for their livelihood.
- 4) **Challenges:** About 66.67% respondent does not feel safe at where they recently live. Over 30% respondents face challenges during menstrual cycle. Respondent face problem of safe toilet, adequate water, pad, hygiene etc. 26.67 per cent respondent faced physical or sexual abuse in their life. Some respondent struggle to obtain day to day food, problem of getting job, addiction of their spouse or partner, varied about their child's safety, Natural disaster, difficulty in accessing affordable health facilities, problem during monsoon, poverty, fear of police and BMC etc. The Unsheltered should be come under legal framework. Effective Laws and policies should be made for Unsheltered.

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आजच्या संदर्भात विशेषतः एनईपी २०२० अंतर्गत शिक्षक शिक्षणात तंत्रज्ञानाची भूमिका**डॉ. एल. पी. डोंगरे****प्रतिभाताई पाटील शिक्षणशास्त्र महाविद्यालय, अमरावती.****प्रस्तावना****एनईपी 2020 अंतर्गत शिक्षक शिक्षणात तंत्रज्ञानाची भूमिका**

राष्ट्रीय शैक्षणिक धोरण (एनईपी) 2020 ही एक परिवर्तनशील सुधारणा आहे ज्याचा उद्देश भारताच्या शिक्षण व्यवस्थेत बदल घडवून आणणे हा आहे. शिक्षणाच्या गुणवत्तेचा विद्यार्थ्यांच्या शिकण्याच्या परिणामांवर थेट परिणाम होतो हे ओळखून शिक्षक शिक्षण हे त्याचे मुख्य लक्ष केंद्रित क्षेत्र आहे. हे साध्य करण्यासाठी, एनईपी 2020 शिक्षक प्रशिक्षण आणि व्यावसायिक विकासामध्ये तंत्रज्ञानाच्या एकीकरणाला प्रोत्साहन देते. शिक्षक शिक्षण अधिक सुलभ, प्रभावी आणि सर्वसमावेशक बनविण्यात, शिक्षक आधुनिक शिक्षण पद्धतींनी सुसज्ज आहेत हे सुनिश्चित करण्यात तंत्रज्ञान महत्त्वपूर्ण भूमिका बजावते. हा निबंध एनईपी 2020 अंतर्गत शिक्षक शिक्षणातील तंत्रज्ञानाच्या भूमिकेचा शोध घेतो, डिजिटल साधने, एआय, ऑनलाइन प्लॅटफॉर्म आणि मिश्रित शिक्षण पद्धती शिक्षक प्रशिक्षण आणि व्यावसायिक विकासाला कसे आकार देत आहेत यावर चर्चा करतो.

राष्ट्रीय शैक्षणिक धोरण 2020 सादर करणे हा देशासाठी एक महत्त्वाचा टप्पा आहे, जे 34 वर्षांतील शिक्षण क्षेत्रातील पहिल्या मोठ्या सुधारणांचे प्रतिनिधित्व करते. एनईपी 2020 मध्ये सर्वांगीण विकासाला चालना देण्यात तंत्रज्ञानाची महत्त्वपूर्ण भूमिका ओळखून तंत्रज्ञानाच्या एकीकरणावर भर देण्यात आला आहे. ई-अभ्यासक्रमांच्या विकासाद्वारे आणि आभासी प्रयोगशाळांच्या स्थापनेद्वारे प्रादेशिक भाषांना प्रोत्साहन देण्याची वचनबद्धता हा या धोरणाचा एक उल्लेखनीय पैलू आहे. याव्यतिरिक्त, राष्ट्रीय शैक्षणिक तंत्रज्ञान मंचाची (एनईटीएफ) निर्मिती सध्या प्रगतीपथावर आहे, जी देशातील शिक्षणाच्या भवितव्याला आकार देण्यात महत्त्वपूर्ण भूमिका बजावण्यासाठी सज्ज आहे 100 टक्के साक्षरता साध्य करण्याच्या उद्देशाने शिक्षणात तंत्रज्ञानाचा समावेश करणे ही एनईपी 2020 ची मध्यवर्ती संकल्पना आहे. हे धोरण सामाजिक प्रगतीवर तंत्रज्ञानाचा खोल परिणाम मान्य करते आणि शिक्षणाचा दर्जा वाढवण्याची त्याची क्षमता अधोरेखित करते. ही दृष्टी पूर्णपणे साकार करण्यासाठी, तंत्रज्ञानाच्या अखंड एकीकरणासाठी आणि विद्यमान शिक्षण व्यवस्थेतील व्यापक बदलांचा स्वीकार करण्यासाठी भरीव प्रयत्न करणे आवश्यक आहे. एनईपी 2020 खुल्या सार्वजनिक डिजिटल पायाभूत सुविधांच्या स्थापनेत गुंतवणूक करून तंत्रज्ञानाचा न्याय्य वापर सुनिश्चित करण्यासाठी वचनबद्ध आहे

उद्दिष्टे:

अभ्यासाची मुख्य उद्दिष्टे खालीलप्रमाणे आहेत. शिक्षण क्षेत्रात तंत्रज्ञानाद्वारे साध्य होऊ शकणाऱ्या उद्दिष्टांचा अभ्यास करणे शिक्षणात तंत्रज्ञानाच्या एकीकरणासंदर्भात एनईपी 2020 ने केलेल्या शिफारशींचा अभ्यास करणे.

शिक्षकांना आणि अध्यापन-शिक्षणाला सहाय्य:

यामध्ये वर्धित सहकार्य, विद्यार्थी-शिक्षक सहभाग, पालक-शिक्षक संवाद, खुल्या शैक्षणिक

संसाधनांमध्ये सुधारित प्रवेश आणि शिक्षण आणि शिक्षणाच्या विविध पैलूंना मदत करण्यासाठी उपकरणे यांचा समावेश आहे. प्रणाली-व्यापी समर्थनात मोठ्या डेटाचे विश्लेषण, भाषा संपादन आणि कौशल्य विकास यांचा समावेश आहे. तंत्रज्ञान क्षेत्रातील उपकरणे. हे लक्षात घेणे महत्वाचे आहे की शैक्षणिक गरजांना थेट प्रतिसाद म्हणून तंत्रज्ञान क्वचितच विकसित झाले आहे. तथापि, वैयक्तिक शाळांपासून ते राज्य शैक्षणिक प्रणालींपर्यंतचे सामान्य प्रशासन आणि व्यवस्थापन, सर्व स्तरांवरील शिक्षक आणि कर्मचारी क्षमता आणि शिक्षण-शिक्षण प्रक्रिया यासह विविध उद्योग आणि क्षेत्रांमधील त्यांच्या वैविध्यपूर्ण अनुप्रयोगांमधून संभाव्य उपयोगांची इच्छा यादी तयार केली जाऊ शकते. व्यापकपणे, प्राधान्याच्या क्रमाने खालील उद्दिष्टे पूर्ण करण्यासाठी तंत्रज्ञानाचे समर्थन मागितले जाते:

- डेटा आणि माहिती व्यवस्थापन प्रणाली
- निरंतर व्यावसायिक विकास प्रणाली
- अभ्यासक्रम समर्थन प्रणाली

शाळा, शिक्षक आणि इतर यंत्रणेतील कार्यकर्त्यांना सातत्याने सहाय्य तंत्रज्ञानाच्या माध्यमातून आणि व्यावसायिकदृष्ट्या:

येथे शिक्षकांसाठी, विशेषतः लहान शहरे आणि गावांमध्ये काम करणाऱ्यांसाठी व्यावसायिक अलगीकरण होण्याची शक्यता आहे. शिक्षण विभाग अनेकदा प्रशिक्षण कार्यक्रम देणाऱ्यांना प्रशिक्षण देतो, परंतु सर्व शिक्षकांना त्यांच्या संपूर्ण कारकिर्दीत त्यांना पाठिंबा देण्यासाठी पुरेसे वारंवार मिळत नाही. शालेय व्यवस्थेतील प्रशासकीय आणि शैक्षणिक भूमिकांसाठी व्यावसायिक सहाय्य देखील फायदेशीर आहे. राज्याच्या व्यापक खाजगी शाळा व्यवस्थेतील शिक्षक आणि कर्मचारी यांचाही प्रशिक्षण हस्तक्षेप जाळ्यामध्ये समावेश नाही. तांत्रिक उपयोगांच्या नियोजित संचाचा वापर करण्यासाठी सर्व कार्यकर्त्यांना विशेष प्रशिक्षण आणि श्रेणीकरणाच्या व्यापक श्रेणीची आवश्यकता असेल. अत्यंत आवश्यक असलेली निरंतर मदत पुरवण्यात तंत्रज्ञान लक्षणीय योगदान देऊ शकते. ऑनलाईन अभ्यासक्रम मंच, ऑनलाईन परस्परसंवादी मंच आणि डिजिटल ग्रंथालये हे शिक्षक आणि शाळा प्रशासकांच्या अनेक मागण्या पूर्ण करण्यासाठी वापरले जाऊ शकतात कारण ते एक सुलभ आणि परवडणारे माध्यम आहे. संपूर्ण राज्यात, विषय शिक्षक मंचाची चाचणी घेण्यात आली आहे आणि ती उपयुक्त आणि आकर्षक असल्याचे दिसून आले आहे. प्रशिक्षकांनी स्वतःला सुधारण्यासाठी दाखवलेल्या उपक्रमाचा वापर केला जाऊ शकतो आणि तंत्रज्ञानाद्वारे सक्षम केलेला समवयस्क गट अतिशय उपयुक्त कम्युनिटीज ऑफ प्रॅक्टिसमध्ये विकसित होऊ शकतो.

एनईपी 2020 अंतर्गत शिक्षक शिक्षणातील तंत्रज्ञानाचे प्रमुख पैलू:

1) डिजिटल साक्षरता प्रशिक्षण:

प्रभावीपणे सूचना देण्यासाठी शिक्षकांनी ऑनलाईन शिक्षण मंच, शैक्षणिक सॉफ्टवेअर आणि डिजिटल सामग्री भांडार यासारख्या डिजिटल साधनांचा वापर करण्यात पारंगत असणे अपेक्षित आहे.

2) मिश्रित शिक्षण पद्धती:

एनईपी ऑनलाईन आणि ऑफलाईन शिक्षणाच्या एकत्रीकरणाला प्रोत्साहन देते, ज्यामध्ये शिक्षकांना वर्गात डिजिटल साधनांचा समावेश असलेल्या मिश्रित शिक्षण पद्धतींमध्ये सोयीस्कर असणे आवश्यक आहे.

3) वैयक्तिकृत शिक्षण:

लक्षित अभिप्राय आणि भिन्न सूचना प्रदान करून, अनुकूल शिक्षण मंचांद्वारे वैयक्तिक विद्यार्थ्यांसाठी शिकण्याचे मार्ग तयार करण्यास तंत्रज्ञान शिक्षकांना अनुमती देते.

4) व्यावसायिक विकास मंच:

एनईपी 2020 शी सुसंगत नवीन तंत्रज्ञान, शैक्षणिक पद्धती आणि अभ्यासक्रम विकासावर चालू शिक्षक प्रशिक्षण प्रदान करण्यासाठी ऑनलाइन प्लॅटफॉर्म आणि अभ्यासक्रमांचा वापर केला जातो.

5) मूल्यांकन आणि डेटा विश्लेषण:

विद्यार्थ्यांच्या प्रगतीचा मागोवा घेण्यासाठी आणि निर्देशात्मक निर्णयांची माहिती देण्यासाठी रिअल-टाइम फीडबॅक, डेटा विश्लेषणासाठी डिजिटल मूल्यांकन साधनांचा वापर करण्यास तंत्रज्ञान शिक्षकांना सक्षम करते.

6) आभासी प्रयोगशाळा आणि अनुकरण:

भौतिक प्रयोगशाळा सहज उपलब्ध नसतानाही, आभासी प्रयोगशाळा आणि तंत्रज्ञानाच्या माध्यमातून अनुकरणे विज्ञान आणि अभियांत्रिकीसारख्या विषयांमध्ये प्रत्यक्ष शिकण्याचा अनुभव घेण्यास अनुमती देतात.

7) सहकार्य आणि ज्ञानाचे आदान-प्रदान:

ऑनलाइन समुदाय आणि व्यासपीठे शिक्षकांमध्ये सहकार्य सुलभ करतात, ज्यामुळे त्यांना सर्वोत्तम पद्धती सामायिक करता येतात आणि समवयस्कांकडून पाठिंबा मिळतो.

पायाभूत सुविधांच्या मर्यादा:

डिजिटल साधनांच्या वापरास समर्थन देण्यासाठी शालेय पायाभूत सुविधांमधील मर्यादा दूर करणे. एकूणच, एनईपी 2020 शिक्षक शिक्षणात तंत्रज्ञानाच्या वापराला प्राधान्य देते, आधुनिक, विद्यार्थी-केंद्रित शिक्षण वातावरण तयार करते, शिक्षकांना प्रभावी शिक्षण आणि वैयक्तिकृत शिक्षण अनुभवांसाठी डिजिटल साधनांचा वापर करण्यास सक्षम करते.

निष्कर्ष-

राष्ट्रीय शैक्षणिक धोरण (एनईपी) 2020 नाविन्यपूर्ण संकल्पना सादर करते आणि शिक्षणाला पुढे नेण्यात, विशेषतः अध्यापन आणि शिक्षण वाढविण्यात तंत्रज्ञानाची महत्त्वपूर्ण भूमिका मान्य करते. काही राज्यांनी आधीच नवीन धोरण लागू केले आहे, तर इतर असे करण्याच्या प्रक्रियेत आहेत, हे अधोरेखित करते की अजूनही बरेच काही आहे.

त्याची उद्दिष्टे पूर्णपणे साध्य करण्यासाठी पुढचा प्रवास करा. एनईपी 2020 ची एक उल्लेखनीय ताकद म्हणजे केंद्र आणि राज्य सरकारांमधील सहकार्य आणि सहकार्य वाढवण्यावर भर देणे. शैक्षणिक सॉफ्टवेअर, कृत्रिम बुद्धिमत्ता, ब्लॉकचेन, अनुकूली संगणक चाचणी इत्यादी तंत्रज्ञानाच्या विविध प्रगतीला एनईपी 2020 मान्यता देते. शाळांमध्ये विद्यार्थी काय आणि कसे शिकतात हे बदलण्यात ते महत्त्वाची भूमिका बजावतील. त्यांच्या सहयोगी दृष्टिकोनामध्ये भविष्यासाठी आवश्यक असलेली आवश्यक कौशल्ये आणि तांत्रिक क्षमता शिकणाऱ्यांना सुसज्ज करण्याची क्षमता आहे, ज्यामुळे सतत बदलत्या जगात शिक्षण प्रासंगिक राहील याची खात्री होते. तंत्रज्ञान शिक्षकांना वैयक्तिक विद्यार्थ्यांच्या गरजा पूर्ण करण्यासाठी

सूचना तयार करण्याचे नवीन मार्ग प्रदान करते. अनुकूली शिक्षण सॉफ्टवेअर विद्यार्थ्यांच्या प्रगतीवर आधारित सामग्रीची अडचण समायोजित करू शकते, तर डेटा विश्लेषण साधने ज्यांना अतिरिक्त समर्थनाची आवश्यकता असू शकते अशा विद्यार्थ्यांना ओळखण्यास मदत करू शकतात. याव्यतिरिक्त, हितधारकांना सहभागी करून घेण्यासाठी आणि त्यांना राष्ट्रीय शैक्षणिक धोरण 2020 च्या दृष्टीकोनाची आणि ध्येयाची ओळख करून देण्यासाठी सरकारने सक्रिय उपाययोजना केल्या आहेत. त्यांच्या सक्रिय सहभागामुळे शिक्षक, प्रशासक, पालक आणि विद्यार्थ्यांसह विविध भागधारकांमध्ये लक्षणीय स्वारस्य आणि सहभाग निर्माण झाला आहे, ज्यामुळे धोरणाची उद्दिष्टे आणि तत्त्वांची सामायिक समज निर्माण झाली आहे. शेवटी, एनईपी 2020 भारताच्या शिक्षण व्यवस्थेला आकार देण्यासाठी एक महत्त्वपूर्ण झेप दर्शवित असताना, त्याची यशस्वी अंमलबजावणी निरंतर सहकार्य, प्रभावी संवाद आणि केंद्र आणि राज्य अधिकारी तसेच शिक्षण क्षेत्रातील सर्व भागधारकांच्या एकत्रित प्रयत्नांवर अवलंबून असेल.

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A study of digital habits of secondary school students**Dr. Sanjay Nimbalkar***Research Guide**Seva Sadan's college of education,
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Introduction:

In today's digital age, technology has become integral in our day-to-day lives, particularly for secondary school students. The widespread availability of smart phones, tablets, and computers has transformed how students access information, communicate, and engage in entertainment. With digital platforms offering instant connectivity, interactive learning opportunities, and social networking, students spend more time online. While technology plays a vital role in modern education, facilitating access to e-learning resources, research materials, and collaborative tools, excessive or uncontrolled digital consumption creates worries about its effects on students' academic achievements, mental well-being, and social behaviour.

The growing dependency on digital devices has led to a shift in students' daily routines, with many spending hours on social media, online gaming, and other digital distractions. Studies suggest that prolonged screen time can contribute to issues such as sleep disturbances, reduced concentration, and increased anxiety levels among adolescents. Furthermore, digital distractions can hinder students' academic progress, making it difficult to focus on schoolwork and maintain a productive study routine. On the other hand, digital tools, when used effectively, can enhance learning experiences, improve time management, and foster creativity. Thus, it is crucial to examine the digital habits of secondary school students to understand the balance between beneficial and potentially harmful usage.

This research aims to analyze the digital habits of secondary school students by assessing their screen time, online activities, and the overall effects of technology on their academic and personal lives. This study looks at how students use technology, how much they rely on it, and how it affects their thinking and social development. By gaining insights into students' digital habits, this research will provide valuable information for educators, parents, and policy-makers to develop strategies that encourage responsible digital usage. Establishing a balance between digital engagement and offline activities is essential to ensure that students maximize the benefits of technology while minimizing its potential drawbacks.

Objectives:

1. To analyze the extent of digital device usage among secondary school students.
 2. To assess how digital habits impact students' academic performance and daily routines.
 3. To identify patterns of social media usage and online engagement.
 4. To examine students' dependence on digital devices and potential signs of digital addiction.
 5. To provide recommendations for educators and parents to promote balanced technology
-

use.

Scope & Limitations of the Study

Scope:

- The study focuses on secondary school students, specifically those aged between 10 and 15 years.
- It examines the frequency and purpose of digital device usage.
- It analyzes the impact of digital habits on academics, mental health, and social interactions.
- The study provides recommendations for responsible digital consumption.

Limitations:

- The study is limited to students from selected schools and may not reflect broader student populations.
- The data is self-reported, which may lead to response bias.
- The study does not account for the long-term impact of digital habits.

Methodology : A survey-based quantitative research method was used to analyze digital habits. A structured questionnaire with 10 Yes/No questions was distributed among the students. Data was collected, analyzed, and interpreted to identify trends and patterns in digital usage.

Tools of Study : A structured questionnaire consisting of 10 Yes/No questions was used to assess digital habits. The questionnaire covered aspects of screen time, digital learning, social media usage, and digital dependency.

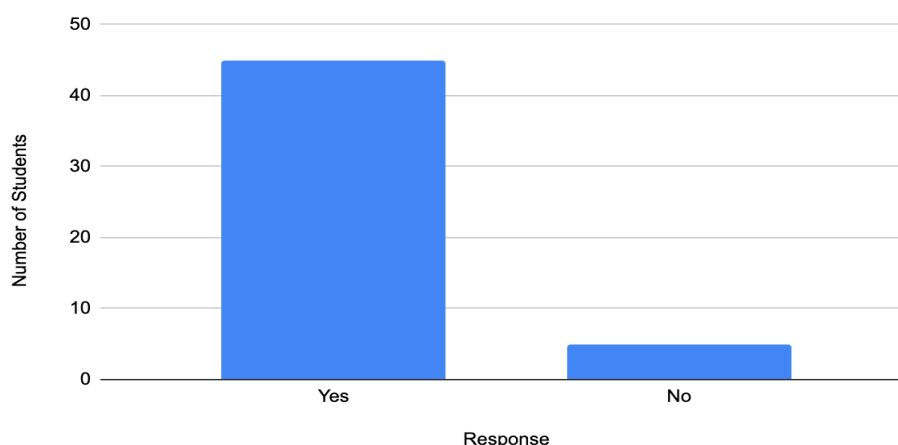
Sample Size: The study was conducted with a sample size of 50 secondary school students from multiple schools to ensure diversity and accuracy in findings.

Data Analysis & Interpretation

Question 1: Do you use a smartphone or tablet daily?

Response	Number of Students	Percentage
Yes	45	90%
No	5	10%

Number of Students vs. Response

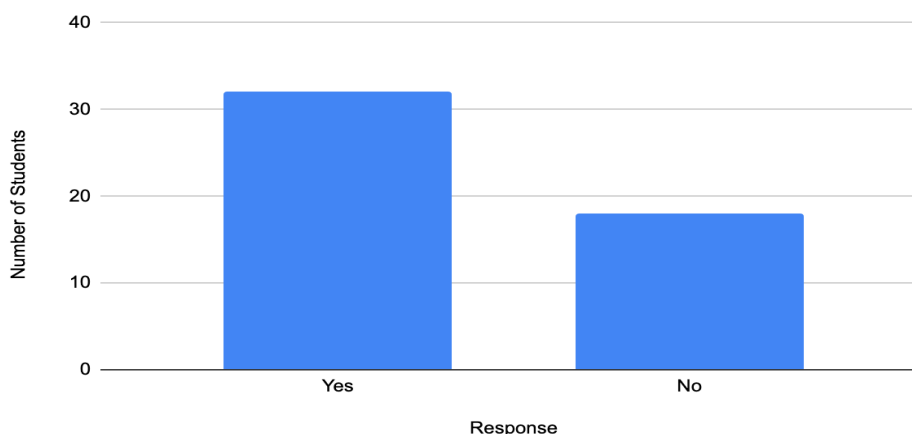


Observation & Interpretation: A significant majority (90%) of students use a smartphone or tablet daily, indicating a high dependence on digital devices.

Question 2: Do you spend more than 3 hours a day on social media?

Response	Number of Students	Percentage
Yes	32	64%
No	18	36%

Number of Students

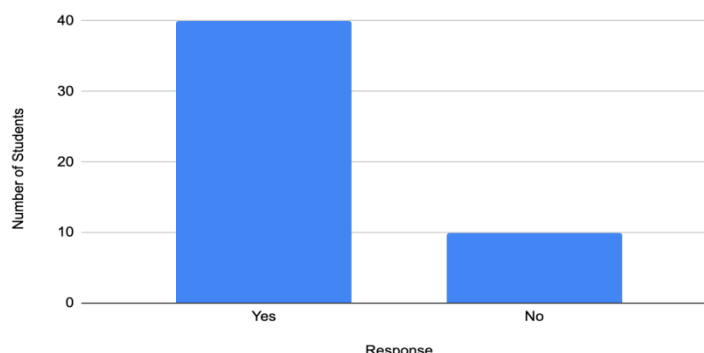


Observation & Interpretation: More than half (64%) of the students spend over 3 hours daily on social media, highlighting a potential overuse concern.

Question 3: Do you use your digital devices for school-related activities?

Response	Number of Students	Percentage
Yes	40	80%
No	10	20%

Number of Students



Observation & Interpretation: A large proportion (80%) of students use digital devices for educational purposes, reflecting the increasing role of technology in learning.

Findings & Conclusion

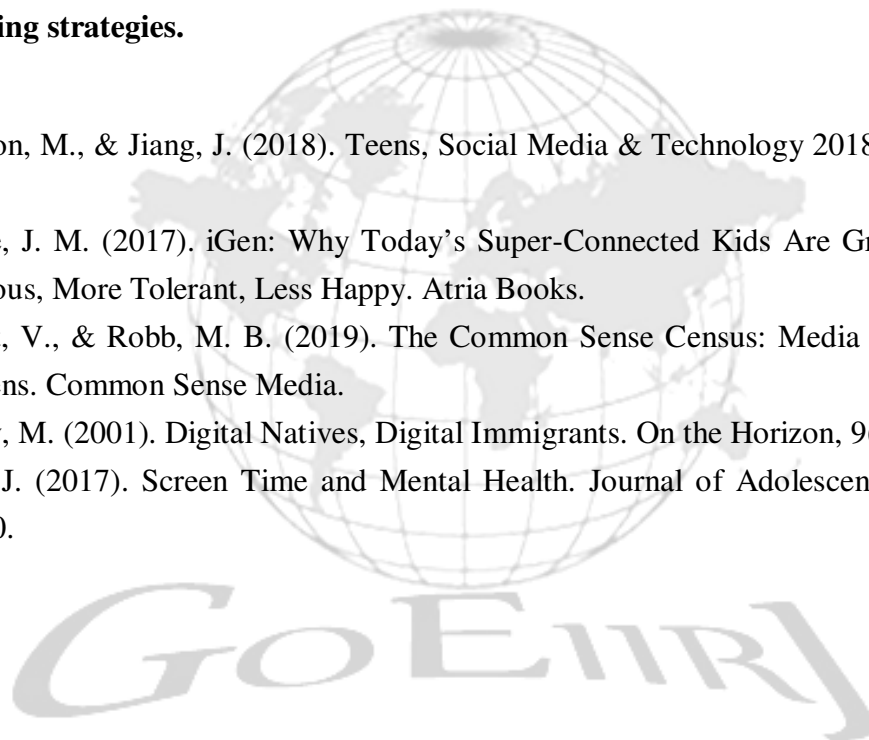
- A majority of secondary school students use smartphones and tablets daily, with high engagement in digital activities.
- Over half of the students spend significant time on social media, which may impact productivity and mental well-being.
- Digital devices are widely used for educational purposes, indicating the positive role of technology in learning.

- Many students feel distracted by their devices while studying, suggesting a need for better digital discipline.
- A notable percentage of students experience discomfort when away from digital devices, pointing towards signs of digital dependency.

This study highlights the increasing role of digital technology in the lives of secondary school students. While digital tools provide academic benefits, excessive use may lead to distractions, social challenges, and digital dependency. The findings suggest that educators and parents should implement guidelines to promote a balanced digital lifestyle among students. Further research is recommended to explore long-term impacts and effective digital well-being strategies.

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Continuous Professional Development: A Lifelong Learning Approach for Teachers

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Abstract:

Continuous Professional Development (CPD) is a critical aspect of educators' professional growth, emphasizing the need for lifelong learning to enhance teaching practices and educational outcomes. This paper explores the concept of CPD as an ongoing process that supports teachers in acquiring new skills, knowledge, and teaching strategies throughout their careers. It examines the relationship between CPD and lifelong learning, highlighting the importance of teachers engaging in continuous learning to adapt to the evolving educational landscape. The paper also reviews various models and theories of CPD, such as mentoring, collaborative learning, and action research, while addressing the challenges teachers face in accessing and benefiting from CPD programs, including time constraints, lack of institutional support, and resistance to change. The impact of CPD on teaching quality and student outcomes is discussed, supported by case studies and research findings. Furthermore, the paper presents strategies for implementing effective CPD programs, including the role of technology and policymaking in fostering a culture of professional development. Drawing on global perspectives, the paper compares CPD practices across different countries, offering insights for improving teacher development. The research concludes with recommendations for further research and policy improvements to enhance CPD and ensure teachers' continuous growth for the betterment of education systems worldwide.

Keywords: Continuous Professional Development (CPD), Lifelong Learning, Teacher Development, Educational Outcomes, Professional Growth

Introduction

Continuous Professional Development (CPD) is a crucial process through which teachers engage in learning activities throughout their careers to enhance their teaching effectiveness. CPD enables educators to acquire new skills and knowledge, keeping them updated with advancements in pedagogy, technology, and subject knowledge. It includes various activities like workshops, peer learning, and self-directed learning. CPD is significant because it contributes to improved student learning outcomes and fosters a culture of continuous improvement within educational systems.

Lifelong learning is essential for teachers in today's dynamic educational environment. As teaching demands evolve and new challenges emerge, teachers must continuously update their skills to remain adaptable and innovative. Lifelong learning enhances teacher motivation, job

satisfaction, and professional identity, ensuring they stay informed about best practices and new technologies. This research aims to explore CPD as a lifelong learning approach for teachers, analysing its benefits, challenges, and best practices while investigating how CPD influences teaching quality and student performance. It also examines the role of institutions, policies, and technology in facilitating effective CPD.

The Concept of Continuous Professional Development

Continuous Professional Development (CPD) is vital for teachers to enhance their skills, knowledge, and competencies throughout their careers. CPD enables educators to remain proficient and adapt to evolving educational challenges, leading to improved teaching practices and better student outcomes. It includes a range of learning activities, both formal and informal, designed to promote continuous professional growth.

Key components of CPD include formal learning, such as academic courses and certifications, which deepen subject knowledge and pedagogical skills. Informal learning, like self-directed research or engaging with digital platforms, allows teachers to explore personal interests at their own pace. Workshops and seminars provide opportunities to learn new teaching methods, collaborate with peers, and engage with experts. Peer learning, through teaching circles and mentoring, fosters the sharing of best practices and a supportive learning community.

CPD enhances teaching effectiveness by equipping teachers with updated knowledge, innovative strategies, and tools to manage classrooms and engage students. This continuous development fosters adaptability, inclusivity, and motivation, ultimately improving teaching practices and student success.

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The Lifelong Learning Approach

Lifelong learning is the ongoing pursuit of knowledge and skills throughout an individual's life, particularly for educators who continue learning beyond initial training. It emphasizes adaptability, curiosity, and commitment to personal and professional growth, ensuring teachers evolve in response to changing educational demands. Lifelong learning integrates formal, informal, and experiential learning, helping educators stay current with student needs and pedagogical trends.

Continuous Professional Development (CPD) plays a vital role in supporting lifelong learning by focusing on specific skills and competencies. While CPD offers structured learning opportunities, lifelong learning promotes a broader mindset of continuous improvement. The relationship between CPD and lifelong learning is symbiotic: CPD provides the framework for professional growth, while lifelong learning motivates teachers to seek continual development in their practice.

Adopting a lifelong learning approach offers several benefits, such as enhanced teaching skills, increased adaptability, and career advancement. Teachers embracing lifelong learning are better equipped to meet diverse student needs, leading to improved student success. Additionally, it fosters job satisfaction and a proactive approach to career development, ensuring teachers remain effective, motivated, and innovative in their profession.

Impact of CPD on Teaching Quality and Student Outcomes

Research on How CPD Enhances Teaching Practices: Continuous Professional Development (CPD) is crucial for enhancing teaching quality. It helps teachers refine their skills, deepen subject knowledge, and improve teaching methods. Teachers engaged in CPD are more confident, innovative, and effective. CPD activities focused on active learning, differentiated instruction, and formative assessments allow teachers to engage students better and meet diverse learning needs. CPD programs that incorporate technology help teachers create interactive learning environments. Additionally, CPD fosters reflective practice, encouraging teachers to assess and improve their teaching strategies and classroom management.

Link Between Teacher Development and Student Performance: There is a strong connection between teacher development and student performance. Research shows that well-trained teachers implement effective strategies that foster a positive learning environment, leading to improved student outcomes. CPD, particularly in areas like literacy, numeracy, and classroom management, has been linked to better student performance. Teachers who enhance their assessment skills through CPD can track student progress, offer targeted feedback, and adjust instruction to meet individual needs, improving overall student success.

Case Studies of Successful CPD Initiatives: Successful CPD initiatives, such as the Teach First Program in the UK and the KIPP Schools in the USA, demonstrate how CPD improves teacher effectiveness and student achievement. In Singapore, a focus on peer collaboration and leadership in CPD has resulted in high teaching standards and strong student performance. In conclusion,

CPD is vital for improving teaching quality and student outcomes.

Challenges and Barriers to Effective CPD

A key challenge to effective CPD is time constraints and workload. Teachers often have heavy responsibilities, such as lesson planning, grading, and extracurricular duties, leaving little time for professional development. This limits their ability to engage in CPD and reduces its effectiveness. Another barrier is the lack of institutional support. Many schools fail to allocate sufficient resources, time, or encouragement for CPD. Without proper funding, time within the school schedule, or leadership backing, teachers struggle to access quality CPD. If CPD is not integrated into the school's mission, it may be seen as optional, reducing its relevance.

Resistance to change and motivation issues also hinder CPD success. Teachers may hesitate to adopt new methods or technologies introduced through CPD due to a lack of confidence or satisfaction with current practices. Additionally, without immediate results, teachers may feel demotivated, which affects their participation. Finally, socioeconomic factors limit access to CPD, especially for teachers in underfunded or rural schools. Financial and logistical barriers prevent teachers in these areas from attending quality CPD programs, exacerbating educational disparities. Addressing these challenges is crucial for making CPD accessible, relevant, and impactful for all educators.

Strategies for Effective Implementation of CPD

Approaches to Integrate CPD into Teachers' Routines: Integrating CPD effectively into teachers' routines requires alignment with daily responsibilities. One approach is to incorporate CPD into school schedules, allowing time for professional learning communities, peer observations, and collaborative planning. Micro-learning offers short, focused sessions that can be completed during free periods, making it easy to apply in the classroom. Job-embedded CPD, such as co-teaching or mentoring, helps teachers implement new concepts immediately. Personalized development plans align CPD with teachers' career goals, enhancing engagement and relevance.

Role of Schools, Educational Institutions, and Policymakers in Promoting CPD: Successful CPD requires active support from schools, educational institutions, and policymakers. School leaders must allocate resources, encourage participation, and foster a supportive CPD culture. Policymakers should establish clear CPD guidelines, integrate them into teacher certification, and offer financial incentives for equitable access. Collaboration and networking opportunities, such as conferences, help teachers exchange ideas and stay informed. Professional development leaders in schools ensure that CPD aligns with both individual and institutional goals.

Technology-Enhanced Learning Opportunities for CPD: Technology enhances CPD with online courses and MOOCs (Coursera, edX), enabling teachers to learn at their own pace. Webinars and virtual workshops provide interactive learning, while Learning Management Systems (LMS) track progress and improve the CPD experience.

In conclusion, integrating CPD into routines, supporting it institutionally, and utilizing technology ensures sustained teacher growth and improved teaching practices.

Global Perspectives on CPD

International Trends and Best Practices in Teacher Professional Development: The importance of Continuous Professional Development (CPD) for teachers is recognized globally. Key trends include collaborative learning, with countries like the US, UK, and Australia promoting professional learning communities (PLCs) and peer mentoring. Technology integration is also a significant trend, with countries like Canada and Finland offering CPD through online courses and webinars. Countries such as Singapore and Japan emphasize subject-specific development, ensuring teachers remain current in their fields. In the UK and Finland, CPD is linked to long-term career progression, playing a pivotal role in teacher advancement.

Comparison of CPD Approaches in Different Countries: CPD approaches differ across countries. In the UK, CPD is structured through frameworks like Teacher Standards. Finland focuses on individualized CPD, promoting teacher autonomy. Singapore integrates CPD into career progression, offering structured mentoring programs. In the United States, CPD is decentralized, with states controlling programs focused on student achievement. Australia uses the Australian Professional Standards for Teachers (APST) to incorporate technology into CPD.

Lessons from Global Initiatives: Global initiatives like the International Summit on the Teaching Profession (ISTP) stress institutional support, integrating CPD with career progression, and fostering collaborative learning.

In conclusion, CPD approaches globally share principles like collaboration, technology integration, and career progression, all crucial for enhancing teaching quality.

Recommendations for Future Research and Policy

Areas for Further Exploration in CPD Research: Although CPD has been extensively studied, there are areas that need further exploration. Long-term studies are essential to understand its impact on teacher retention, job satisfaction, and student outcomes. Research should also examine the effectiveness of various CPD models, such as workshops, mentoring, and online courses, in different contexts like urban and rural schools. Additionally, exploring teachers' perceptions of CPD, including motivations and challenges, is crucial. Investigating how CPD can align with broader educational reforms, like curriculum changes and technology integration, will help integrate professional development with systemic educational goals.

Policy Recommendations for Fostering a Culture of Lifelong Learning Among Teachers: Policymakers should integrate CPD into career progression, making it a requirement for career advancement, performance appraisals, and salary increments. Ensuring equitable access to CPD, particularly for teachers in underserved areas, is essential. This can be achieved with financial support and flexible learning options. School leaders should be trained to recognize the importance of CPD and foster a culture of professional learning. Additionally, incentivizing CPD through financial rewards or recognition will encourage greater teacher engagement.

Recommendations for Enhancing CPD Programs: CPD programs should allocate dedicated time for activities and offer on-demand learning options like online courses or micro-learning.

Strengthening peer collaboration and mentoring through professional learning communities (PLCs) will promote growth. Incorporating technology into CPD will enhance accessibility and relevance. Maximizing CPD's impact requires ongoing research and policy changes to support teachers and improve educational outcomes.

Conclusion

Summary of Key Findings: This paper emphasizes the importance of Continuous Professional Development (CPD) in enhancing teachers' growth and improving student outcomes. CPD refines teaching practices, boosts motivation, and helps educators stay adaptable to changing educational demands. Research indicates that well-trained teachers positively impact student performance. However, challenges like time constraints, lack of institutional support, and resistance to change continue to hinder CPD's effectiveness.

The Future of CPD and Lifelong Learning in Education: The future of CPD will involve greater technology integration, online learning, and personalized pathways for teachers. As digital platforms become more widely used, CPD will be more accessible, especially in underserved areas. Lifelong learning will be increasingly important for teachers to update their skills and meet the needs of diverse classrooms.

Final Thoughts on the Importance of CPD for Teachers' Growth and Student Success: CPD is crucial for the success of both teachers and students. It equips educators with essential skills to create effective learning environments and ensures they remain responsive to educational changes. By investing in CPD, educational institutions foster a culture of lifelong learning, benefiting both teachers and students and contributing to the future of education.

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शिक्षक प्रशिक्षणामध्ये भारतीय ज्ञान प्रणालींचा समावेश: एक अभ्यासात्मक दृष्टीकोन**डॉ. राकेश अशोक रामराजे****सहाय्यक प्राध्यापक****पी. व्ही. डी. टी. कॉलेज ऑफ एज्युकेशन फॉर वूमेन,****एस. एन. डी. टी. महिला विद्यापीठ, चर्चगेट, मुंबई २०.****प्रस्तावना**

भारतीय ज्ञान प्रणाली (Indian Knowledge Systems - IKS) ही हजारो वर्षांपासून विकसित झालेली एक समृद्ध परंपरा आहे. यामध्ये वेद, उपनिषदे, योग, आयुर्वेद, नाट्यशास्त्र, वास्तुशास्त्र, ज्योतिषशास्त्र, गणित, तर्कशास्त्र, शिक्षणशास्त्र आदी विविध क्षेत्रांचा समावेश आहे. शिक्षक प्रशिक्षणामध्ये भारतीय ज्ञान प्रणालींचा समावेश केल्यास शिक्षण अधिक समग्र, मूल्याधारित आणि संस्कारक्षम होऊ शकते.

भारतीय ज्ञान प्रणाली आणि शिक्षण

भारतीय शिक्षण परंपरा गुरुकुल पद्धतीवर आधारित होती, जिथे शिक्षण हे आचार, विचार आणि व्यवहार या त्रिसूत्रीवर आधारलेले होते. यामध्ये खालील बाबी महत्त्वाच्या होत्या—

1. संपूर्ण शिक्षणदृष्टिकोन: व्यक्तिमत्त्व विकास, आत्मशुद्धी आणि समाजकल्याण यांचा मिलाफ.
2. योग व ध्यानधारणा: मानसिक आणि शारीरिक आरोग्यासाठी आवश्यक.
3. मूल्यशिक्षण: नैतिकता, शिस्त, स्वावलंबन यांचा विकास.
4. व्यावहारिक ज्ञान: हस्तकला, कृषि, संगीत, नाट्यशास्त्र आदींचा समावेश.

शिक्षक प्रशिक्षणामध्ये भारतीय ज्ञान प्रणालींचा समावेश

आजच्या शिक्षणप्रणालीमध्ये भारतीय ज्ञान प्रणाली प्रभावीपणे अंतर्भूत करण्यासाठी खालील गोष्टी करता येऊ शकतात—

1. अभ्यासक्रमामध्ये समावेश

- शिक्षक प्रशिक्षण अभ्यासक्रमात वेद, उपनिषद, भगवद्गीता, पंचतंत्र, जातक कथा यांचा समावेश करणे.
- भारतीय तत्त्वज्ञानातील शिक्षणविषयक विचार, जसे की तर्कशास्त्र, न्याय, मीमांसा, अध्यात्म यांचा अभ्यास.

2. अध्यापन पद्धतीत बदल

- गुरुकुल पद्धतीचा आधुनिक संदर्भात अवलंब - विद्यार्थ्यांना अनुभवाधारित आणि संवादात्मक शिकवणी देणे.
- योग, ध्यान, श्लोक पठण यांचा उपयोग विद्यार्थ्यांच्या स्मरणशक्ती व तणाव व्यवस्थापनासाठी करणे.

3. स्थानिक ज्ञान प्रणालींचा समावेश

- भारताच्या विविध भागांतील स्थानिक ज्ञान प्रणाली, लोककला, परंपरागत शिक्षणप्रणाली समजून घेणे आणि त्यांचा उपयोग अध्यापनात करणे.

- पर्यावरण शिक्षणासाठी आयुर्वेद आणि निसर्गोपचारांचा वापर करणे.
- 4. मूल्याधारित शिक्षण
- शिक्षकांना भारतीय ज्ञान परंपरेतील मूल्ये (कर्तव्य, सत्य, अहिंसा, संयम, परोपकार) शिकवणे आणि त्याद्वारे विद्यार्थ्यांचा सर्वांगीण विकास घडवणे.
- भारतीय संतांचे विचार आणि त्यांचे शिक्षणातील योगदान समजावून सांगणे.

भारतीय ज्ञान प्रणाली आणि राष्ट्रीय शिक्षण धोरण (NEP 2020)

राष्ट्रीय शिक्षण धोरण २०२० (NEP 2020) मध्ये भारतीय ज्ञान प्रणालींचा समावेश करण्यावर भर देण्यात आला आहे. यात—

- बहुभाषिक शिक्षणावर भर.
- पारंपरिक ज्ञान आणि आधुनिक तंत्रज्ञान यांचा समतोल.
- शिक्षक प्रशिक्षणासाठी भारतीय दृष्टीकोनाचा स्वीकार.

निष्कर्ष

भारतीय ज्ञान प्रणाली शिक्षणाच्या प्रत्येक स्तरावर प्रभावीपणे लागू करता येईल. शिक्षक प्रशिक्षणामध्ये याचा समावेश केल्याने शिक्षण अधिक समृद्ध, संस्कारक्षम आणि उपयुक्त होईल. भविष्यात भारतीय ज्ञान प्रणालींचा अभ्यास आणि संशोधन अधिक प्रमाणात व्हावा, यासाठी शिक्षकांनी सक्रिय भूमिका घ्यावी.

संदर्भ:

1. राष्ट्रीय शिक्षण धोरण २०२० - भारत सरकार
2. वेद, उपनिषदे आणि भारतीय शिक्षण परंपरा
3. योग आणि भारतीय तत्त्वज्ञानावर आधारित ग्रंथ

Competency-Based Education: Preparing Teachers for Outcome-Oriented Learning

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Abstract

Competency-Based Education (CBE) is a student-centered approach that focuses on learners' ability to demonstrate knowledge, skills, and attitudes in real-world situations. This paper explores the role of CBE in teacher education, emphasizing the need for competency-driven pedagogy, assessment strategies, and professional development. It also discusses how teachers can be equipped to facilitate outcome-oriented learning in classrooms, ensuring students develop not only academic proficiency but also essential life skills.

Introduction

Education is shifting from traditional content-based learning to competency-based models, where the emphasis is on students mastering specific skills and competencies rather than merely completing coursework. Competency-Based Education (CBE) ensures that learners achieve predefined learning outcomes at their own pace. For teachers, this means adopting innovative teaching strategies, personalized learning methods, and performance-based assessments. This paper examines how teacher training programs can integrate CBE principles to prepare educators for an outcome-oriented learning environment.

Understanding Competency-Based Education

CBE focuses on the following key principles:

1. **Student-Centered Learning:** Learners progress based on their ability to demonstrate competencies rather than on time spent in classrooms.
2. **Mastery of Skills:** Students must show proficiency in specific competencies before moving to the next level.
3. **Personalized Learning Paths:** Education is tailored to individual learning needs.
4. **Flexible Assessment Strategies:** Traditional exams are replaced by formative and summative assessments based on real-world applications.
5. **Integration of Soft Skills:** Critical thinking, problem-solving, communication, and collaboration are emphasized alongside academic knowledge.

To implement CBE effectively, teachers must be trained to adopt new pedagogical approaches that focus on learning outcomes rather than rote memorization.

Role of Teachers in Competency-Based Education

Teachers play a crucial role in designing and implementing competency-based curricula. Their responsibilities include:

1. Defining Clear Learning Outcomes: Establishing measurable and achievable learning objectives for students.
2. Developing Student-Centered Pedagogies: Using active learning techniques such as project-based learning, experiential learning, and problem-solving activities.
3. Assessing Competencies Effectively: Designing rubrics, portfolios, and performance-based assessments to evaluate student progress.
4. Providing Continuous Feedback: Guiding students with formative assessments and feedback mechanisms to help them achieve mastery.
5. Using Technology in Teaching: Integrating digital tools for adaptive learning and real-time performance tracking.

Teacher training programs must equip educators with these competencies to ensure effective implementation of CBE in classrooms.

Integrating Competency-Based Education in Teacher Training

For teachers to successfully implement CBE, their training must focus on the following aspects:

1. Curriculum Design Based on Competencies

- Teacher education programs should shift from theoretical frameworks to skill-based training.
- Course modules should align with practical teaching competencies required in modern classrooms.

2. Outcome-Oriented Teaching Strategies

- Incorporating active learning techniques such as flipped classrooms, case studies, and collaborative projects.
- Encouraging reflective teaching practices to enhance self-improvement among educators.

3. Assessment Methods for Competency-Based Learning

- Training teachers to design and implement rubrics for competency assessment.
- Using formative assessment tools such as peer reviews, self-assessments, and authentic tasks.

4. Technology Integration in Competency-Based Learning

- Introducing digital platforms and AI-based personalized learning tools.
- Using Learning Management Systems (LMS) for tracking student progress and providing individualized feedback.

5. Professional Development and Continuous Learning

- Establishing mentorship programs where experienced educators guide new teachers in CBE implementation.
- Encouraging participation in workshops, online courses, and action research projects to keep educators updated on best practices.

Challenges in Implementing Competency-Based Education

Despite the benefits of CBE, several challenges must be addressed:

- Resistance to Change: Many educators and institutions still prefer traditional lecture-based teaching.
- Assessment Standardization: Measuring competencies can be subjective without well-defined rubrics.
- Teacher Preparedness: Many teacher training programs do not yet incorporate CBE methodologies.
- Resource Constraints: Implementation of personalized learning models requires technological and infrastructural support.

To overcome these challenges, policymakers and educators must work together to reform teacher training and school curricula, ensuring a smooth transition to competency-based education.

Conclusion

Competency-Based Education is a transformative approach that prioritizes learning outcomes, mastery of skills, and real-world application. To successfully implement CBE, teacher training programs must focus on developing educators' competencies in student-centered learning, competency assessment, and technology integration. Overcoming challenges such as resistance to change and assessment standardization will require a collaborative effort from educational institutions, policymakers, and teachers. By preparing educators for an outcome-oriented learning approach, we can ensure that students develop the necessary skills to succeed in an ever-evolving world.

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तंत्रज्ञानाच्या प्रभावी वापराबाबत राष्ट्रीय शैक्षणिक धोरण-2020 पुढील आव्हाने व समस्या

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रूपरेखा

राष्ट्रीय शैक्षणिक धोरण 2020 (NEP 2020) हे भारताच्या शिक्षण क्षेत्रात मोठे परिवर्तन घडवून आणणारे धोरण आहे. या धोरणात तंत्रज्ञानाच्या प्रभावी वापरावर विशेष भर दिला आहे. डिजिटल शिक्षण, ऑनलाईन शिक्षणव्यवस्था, कृत्रिम बुद्धिमत्ता (AI), आभासी प्रयोगशाळा (Virtual Labs), बिग डेटा (Big Data) यांसारख्या तंत्रज्ञानाच्या मदतीने शिक्षण अधिक सुलभ आणि गुणवत्तापूर्ण बनवण्याचा प्रयत्न करण्यात आला आहे. तथापि, या धोरणाच्या अंमलबजावणीसाठी अनेक आव्हाने आणि अडचणी उद्भवत आहेत. तंत्रज्ञानाच्या प्रवेशयोग्यतेचा अभाव, शिक्षकांचे अपयादी तांत्रिक कौशल्य, डिजिटल विभागणी (Digital Divide), वित्तीय मर्यादा आणि डेटा सुरक्षेसारख्या समस्यांवर उपाययोजना करणे आवश्यक आहे. हा लेख NEP 2020 अंतर्गत तंत्रज्ञानाच्या प्रभावी वापराबाबतच्या आव्हाने, समस्या आणि संभाव्य उपायांवर प्रकाश टाकतो.

Keywords : NEP 2020, तंत्रज्ञान, डिजिटल शिक्षण, कृत्रिम बुद्धिमत्ता, ऑनलाईन शिक्षण, डिजिटल विभागणी, शैक्षणिक धोरण

प्रस्तावना

शिक्षण क्षेत्रातील आधुनिकरण ही काळाची गरज आहे. भारतातील शिक्षणव्यवस्था अधिक सुदृढ आणि समावेशक करण्यासाठी सरकारने 2020 मध्ये नवीन राष्ट्रीय शैक्षणिक धोरण (NEP 2020) सादर केले. या धोरणात पारंपरिक शिक्षणपद्धतीमध्ये मूलभूत सुधारणा करण्याबरोबरच तंत्रज्ञानाचा प्रभावी वापर करण्यावर भर देण्यात आला आहे. परंतु, या सुधारणा अंमलात आणताना काही मोठी आव्हाने आणि समस्या समोर येत आहेत. तंत्रज्ञानाच्या अभावामुळे आणि त्याच्या प्रभावी अंमलबजावणीसाठी आवश्यक असलेल्या संसाधनांच्या कमतरतेमुळे शैक्षणिक क्षेत्रासमोर नवे प्रश्न उभे राहतात. त्यामुळे या धोरणाचा यशस्वीपणे स्वीकार करण्यासाठी या आव्हानांवर उपाय शोधणे महत्त्वाचे आहे.

१. राष्ट्रीय शैक्षणिक धोरण -2020 ची प्रमुख वैशिष्ट्ये

राष्ट्रीय शैक्षणिक धोरण 2020 (NEP 2020) हे भारताच्या शिक्षण व्यवस्थेत मूलभूत सुधारणा घडवणारे धोरण आहे. हे धोरण सर्वसमावेशक, लवचिक आणि भविष्यकालीन शिक्षण पद्धतीच्या विकासावर भर देते.

• शालेय शिक्षणातील सुधारणा

• ५+३+३+४ शिक्षण प्रणाली :

राष्ट्रीय शैक्षणिक धोरण अंतर्गत पारंपरिक १०+२ प्रणाली ऐवजी ५+३+३+४ अशी नवीन शैक्षणिक रचना लागू करण्यात आली आहे.

1. फाउंडेशनल स्टेज (५ वर्षे) - अंगणवाडी, बालवाडी आणि इयत्ता १ व २ (वय ३-८ वर्षे)
2. प्राथमिक स्टेज (३ वर्षे) - इयत्ता ३ ते ५ (वय ८-११ वर्षे)

3. मध्य स्टेज (३ वर्ष) - इयत्ता ६ ते ८ (वय ११-१४ वर्ष)

4. द्वितीयक स्टेज (४ वर्ष) - इयत्ता ९ ते १२ (वय १४-१८ वर्ष)

ही नवीन रचना विद्यार्थ्यांच्या मानसिक आणि बौद्धिक वाढीनुसार बनवली गेली आहे.

• मातृभाषा किंवा प्रादेशिक भाषेतून शिक्षण :

प्राथमिक शिक्षण (इयत्ता ५ किंवा शक्य असल्यास इयत्ता ८ पर्यंत) मातृभाषा किंवा स्थानिक भाषेतून देण्यावर भर.

• संपूर्ण शिक्षण व्यवस्थेचा समावेश : सर्वसमावेशक आणि विद्यार्थ्यांच्या गतीनुसार शिकण्यावर भर.

• उच्च शिक्षणातील सुधारणा

• बहुविषयक शिक्षण प्रणाली (Multidisciplinary Education) :

प्रत्येक विद्यार्थ्याला वेगवेगळ्या शाखांमधून (Arts, Science, Commerce) विषय निवडण्याची मुभा देण्यात आली आहे. याद्वारे विद्यार्थ्यांच्या सर्जनशीलता, संशोधन आणि रोजगारक्षमतेला परिपूर्ण करण्यावर भर दिला आहे .

• एकाधिक प्रवेश आणि निर्गमन प्रणाली (Multiple Entry and Exit System) :

विद्यार्थ्यांना एका विशिष्ट टप्प्यावर अभ्यासक्रम सोडल्यास प्रमाणपत्र (Certificate), पदविका (Diploma) किंवा पदवी (Degree) मिळण्याची संधी मिळणार असून विद्यार्थ्यांने पहिल्या वर्षी सोडल्यास सर्टिफिकेट, दुसऱ्या वर्षी सोडल्यास डिप्लोमा आणि संपूर्ण अभ्यासक्रम पूर्ण केल्यास पदवी देण्याची सोय करण्यात आली आहे .

• संशोधन आणि नवोपक्रमाला चालना :

संशोधनासाठी नवीन धोरणे आणि वित्तीय सहाय्य देण्याबरोबर संशोधनास चालना देण्यासाठी राष्ट्रीय संशोधन प्रतिष्ठान (National Research Foundation - NRF) ची स्थापना करण्यात आली आहे.

२. राष्ट्रीय शैक्षणिक धोरण मध्ये तंत्रज्ञानाचा प्रभावी आणि व्यापक उपयोग बाबत सुचविलेल्या बाबी :

राष्ट्रीय शैक्षणिक धोरण २०२० मध्ये शिक्षण प्रणालीत तंत्रज्ञानाचा प्रभावी आणि व्यापक उपयोग करण्यास विशेष महत्त्व दिले आहे. डिजिटल शिक्षण, ऑनलाइन साधने आणि कृत्रिम बुद्धिमत्ता (AI) यांचा उपयोग करून शिक्षण अधिक समतोल, सहज उपलब्ध आणि प्रभावी करण्याचा प्रयत्न करण्यात आला आहे. तंत्रज्ञानाच्या मदतीने शिक्षणाला अधिक समावेशक, सर्जनशील आणि नाविन्यपूर्ण करण्यावर या धोरणात भर देण्यात आला आहे. खाली राष्ट्रीय शैक्षणिक धोरण मध्ये तंत्रज्ञान संदर्भात सुचविलेल्या महत्त्वाच्या बाबी नमूद केल्या आहेत:

१. राष्ट्रीय शैक्षणिक तंत्रज्ञान मंच (NETF) ची स्थापना

• डिजिटल शिक्षणाला प्रोत्साहन देण्यासाठी National Educational Technology Forum (NETF) ची स्थापना करण्याचा प्रस्ताव मांडण्यात आला आहे.

• NETF च्या माध्यमातून शिक्षक, विद्यार्थी आणि शैक्षणिक संस्थांना नवीनतम तंत्रज्ञानाची माहिती व मार्गदर्शन दिले जाईल.

• ऑनलाइन शिक्षणातील सर्वोत्तम पद्धतींचा प्रचार आणि चालना देण्यासाठी हे मंच कार्य करेल.

२. डिजिटल शिक्षणाचा प्रसार आणि सुधारणा

- ग्रामीण आणि दुर्गम भागातील विद्यार्थ्यांसाठी डिजिटल शिक्षणाच्या सुविधा उपलब्ध करून देण्यासाठी ई-लर्निंग प्लॅटफॉर्म विकसित करणे.
- ई-पाठ्यपुस्तक, ऑडिओ-व्हिड्युअल शिक्षण सामग्री आणि आभासी प्रयोगशाळा (Virtual Labs) विकसित करणे.
- SWAYAM, DIKSHA आणि NPTEL सारख्या ई-लर्निंग प्लॅटफॉर्मचा अधिक प्रभावी उपयोग करणे.

३. कृत्रिम बुद्धिमत्ता (AI) आणि बिग डेटा चा उपयोग

- शिक्षण व्यवस्थापन, विद्यार्थ्यांच्या प्रगतीचे मूल्यमापन आणि वैयक्तिकृत शिक्षणासाठी AI आणि Big Data Analytics चा उपयोग करणे.
- विद्यार्थ्यांच्या शिकण्याच्या गतीनुसार वैयक्तिकृत शिक्षण देण्यासाठी Adaptive Learning Systems विकसित करणे.
- AI आधारित मूल्यमापन प्रणालीचा उपयोग करून परीक्षांचे विश्लेषण करणे आणि शिक्षण प्रक्रियेत सुधारणा करणे.

४. शिक्षकांसाठी डिजिटल प्रशिक्षण आणि तंत्रज्ञानस्नेही अध्यापन

- शिक्षकांना डिजिटल साधनांचा योग्य वापर करण्यासाठी प्रशिक्षण देणे.
- Massive Open Online Courses (MOOCs) आणि ऑनलाईन कार्यशाळांद्वारे शिक्षकांना सतत अद्ययावत ठेवणे.
- DIKSHA सारख्या ऑनलाईन प्लॅटफॉर्मच्या माध्यमातून शिक्षकांसाठी ई-सामग्री उपलब्ध करून देणे.

५. शाळा आणि महाविद्यालयांमध्ये तंत्रज्ञानावर आधारित पायाभूत सुविधा

- शाळा आणि महाविद्यालयांमध्ये स्मार्ट क्लासरूम, डिजिटल बोर्ड आणि उच्च गती इंटरनेट सुविधा उपलब्ध करून देणे.
- ग्रामीण भागातील विद्यार्थ्यांना तंत्रज्ञानावर आधारित शिक्षण देण्यासाठी Community Digital Learning Centers स्थापन करणे.

६. ऑनलाईन आणि मिश्र शिक्षण प्रणालीचा विकास

- पारंपरिक वर्गखोल्यांमध्ये ऑनलाईन शिक्षण समाविष्ट करून Blended Learning चा अवलंब करणे.
- ऑनलाईन आणि ऑफलाईन शिक्षण पद्धतींचे मिश्रण करून उच्च शिक्षणासाठी Hybrid Model विकसित करणे.

७. विद्यार्थी, शिक्षक आणि पालक यांच्यासाठी डिजिटल साधनांचा उपयोग

- एक विद्यार्थी-एक डिजिटल साधन (One Student-One Device) धोरणाद्वारे प्रत्येक विद्यार्थ्याला डिजिटल उपकरणे उपलब्ध करून देणे.
- विद्यार्थ्यांना आणि पालकांना शिक्षणासंदर्भात आवश्यक माहिती देण्यासाठी डिजिटल प्लॅटफॉर्म विकसित करणे.

८. विकलांग विद्यार्थ्यांसाठी डिजिटल शिक्षणाच्या संधी

- दिव्यांग विद्यार्थ्यांसाठी Accessible Digital Content विकसित करणे.
- संगणकीय सहाय्यक तंत्रज्ञान (Assistive Technology) चा उपयोग करून अपंग विद्यार्थ्यांना शिक्षण सुलभ करणे.

९. राष्ट्रीय डिजिटल ग्रंथालय आणि शिक्षणसाहित्याचे डिजिटायझेशन

- राष्ट्रीय डिजिटल ग्रंथालय तयार करून प्रत्येक विद्यार्थ्याला ऑनलाईन अभ्यास सामग्री उपलब्ध करून देणे.
- भारतातील सर्व शैक्षणिक संसाधने एकत्रित करण्यासाठी National Repository of Educational Content (NREC) ची निर्मिती करणे.

१०. ऑनलाईन परीक्षांची अंमलबजावणी आणि मूल्यमापन प्रक्रिया सुधारणा

- ऑनलाईन परीक्षांचे प्रमाण वाढवणे आणि डिजिटल मूल्यमापन प्रणालीचा अवलंब करणे.
- ऑनलाईन प्रॉक्ट्रिंग (Online Proctoring) तंत्रज्ञानाचा वापर करून पारदर्शक आणि सुरक्षित परीक्षा घेणे.

३. राष्ट्रीय शैक्षणिक धोरण २०२० मध्ये तंत्रज्ञान बाबत आव्हाने आणि समस्या

राष्ट्रीय शैक्षणिक धोरण २०२० अंतर्गत तंत्रज्ञानाच्या प्रभावी वापरावर भर दिला गेला असला तरी, त्याच्या अंमलबजावणीमध्ये अनेक आव्हाने आणि समस्या आहेत. भारतासारख्या विविधतेने नटलेल्या देशात तंत्रज्ञानस्नेही शिक्षण प्रणाली निर्माण करणे हे एक मोठे आव्हान आहे. आर्थिक, सामाजिक, तांत्रिक आणि प्रशासनिक अडचणीमुळे या धोरणाच्या संकल्पनांच्या अंमलबजावणीत अनेक अडथळे येऊ शकतात. खालीलप्रमाणे तंत्रज्ञान वापराबाबत मुख्य आव्हाने आणि समस्या स्पष्ट केली आहेत.

१. तंत्रज्ञानावर आधारित शिक्षणातील प्रमुख आव्हाने**डिजिटल साधनांची उपलब्धता आणि प्रवेशयोग्यता (Accessibility and Availability)**

- भारतातील ग्रामीण आणि दुर्गम भागांमध्ये इंटरनेट सुविधांचा अभाव दिसून येतो.
- अनेक विद्यार्थ्यांकडे स्मार्टफोन, लॅपटॉप किंवा संगणक यांसारखी मूलभूत डिजिटल साधने उपलब्ध नाहीत.

शिक्षक आणि विद्यार्थ्यांची डिजिटल साक्षरता (Digital Literacy)

- बहुतांश शिक्षक आणि विद्यार्थी डिजिटल तंत्रज्ञानाचा प्रभावी वापर करण्यास अद्याप सक्षम नाहीत.
- ग्रामीण आणि निमशहरी भागात शिक्षक प्रशिक्षण आणि ई-लर्निंग साधनांचा अभाव दिसून येतो.
- ऑनलाईन शिक्षणासाठी आवश्यक तांत्रिक कौशल्ये नसल्यामुळे शिक्षक आणि विद्यार्थ्यांना तंत्रज्ञानाचा उपयोग करताना अडचणी येतात.

डिजिटल शिक्षणावरील विश्वासार्हता आणि गुणवत्ता (Reliability and Quality of Digital Education)

- डिजिटल शिक्षणाच्या गुणवत्तेबाबत अनेक प्रश्न उपस्थित होतात, कारण ऑनलाईन शिक्षणाची प्रभावीता अजूनही प्रत्यक्ष वर्गशिक्षणाइतकी दिसून येत नाही.
- ऑनलाईन शिक्षणात संवादात्मकता (Interactivity) कमी असते, ज्यामुळे विद्यार्थ्यांचा सहभाग आणि शिकण्याचा उत्साह कमी होऊ शकतो.

तंत्रज्ञानावर आधारित मूल्यांकन आणि परीक्षा प्रणालीतील आव्हाने

- ऑनलाइन मूल्यमापन करताना विद्यार्थ्यांची अचूक प्रगती मोजण्याची पद्धत विकसित होताना अडचणी निर्माण होतात.
- ग्रामीण भागातील विद्यार्थ्यांना ऑनलाइन परीक्षा देताना तांत्रिक समस्या येण्याची शक्यता.

बहुभाषिक शिक्षणासाठी तंत्रज्ञानाची मर्यादा

- डिजिटल शिक्षणसामग्री प्रामुख्याने इंग्रजी किंवा हिंदीमध्ये उपलब्ध असल्यामुळे स्थानिक आणि प्रादेशिक भाषांमधील विद्यार्थ्यांना अडचणी येतात.
- ऑनलाइन शिक्षणासाठी विकसित केलेल्या प्लॅटफॉर्मवर बहुभाषिक सपोर्ट कमी आहे.

२. तंत्रज्ञानाच्या अंमलबजावणीत येणाऱ्या प्रमुख समस्या**आर्थिक आणि धोरणात्मक अडचणी (Financial and Policy Challenges)**

- तंत्रज्ञानावर आधारित शिक्षणासाठी आवश्यक भांडवलाची कमतरतादिसून येते.
- शिक्षण क्षेत्रात तंत्रज्ञान वापरण्यासाठी पुरेसा निधी आणि सरकारी अनुदान मिळत नाही .

माहिती सुरक्षेविषयक आणि गोपनीयतेसंबंधी समस्या

- ऑनलाईन शिक्षणासाठी वापरल्या जाणाऱ्या तंत्रज्ञानावर सरकारी नियंत्रण आणि देखरेखीचा अभावदिसून येतो.

शहरी आणि ग्रामीण शिक्षणामधील दरी (Urban-Rural Divide)

- ग्रामीण भागातील शाळा आणि महाविद्यालये अजूनही पारंपरिक शिक्षण पद्धतीवर अवलंबून आहेत.
- शहरी विद्यार्थ्यांना डिजिटल शिक्षणाचे अधिक फायदे मिळत असताना ग्रामीण विद्यार्थ्यांना पुरेशी साधने मिळत नाहीत.

४. राष्ट्रीय शैक्षणिक धोरण २०२० मध्ये तंत्रज्ञान प्रभावी वापराबाबत उपाययोजना**१. डिजिटल शिक्षणासाठी पायाभूत सुविधा मजबूत करणे**

- ग्रामीण आणि दुर्गम भागांमध्ये उच्च गती इंटरनेट सेवा उपलब्ध करून देणे.
- सर्व शाळा आणि महाविद्यालयांमध्ये स्मार्ट क्लासरूम, प्रोजेक्टर आणि डिजिटल बोर्ड यांसारख्या सुविधा प्रदान करणे.
- सर्व विद्यार्थ्यांना डिजिटल शिक्षणसामग्री सहज उपलब्ध होण्यासाठी ई-लायब्ररी आणि ऑनलाईन शिक्षण पोर्टल विकसित करणे.
- वीजपुरवठा नसलेल्या किंवा अस्थिर असलेल्या भागांसाठी सौरऊर्जा आणि पर्यायी ऊर्जास्रोतांचा उपयोग करणे.

२. शिक्षकांसाठी तांत्रिक कौशल्यविकास आणि प्रशिक्षण कार्यक्रम

- शिक्षकांना ऑनलाईन अध्यापन आणि डिजिटल साधनांच्या वापराचे प्रशिक्षण देण्यासाठी कार्यशाळा आणि वेबिनार आयोजित करणे.
- DIKSHA, SWAYAM आणि NPTEL यांसारख्या प्लॅटफॉर्मचा उपयोग करून शिक्षकांसाठी ऑनलाईन कोर्सेस उपलब्ध करून देणे.
- शिक्षकांना तांत्रिक कौशल्यांसोबतच डिजिटल साक्षरता, कृत्रिम बुद्धिमत्ता (AI) आणि डेटा

अॅनालिटिक्स संदर्भात प्रशिक्षण देणे.

- डिजिटल अध्यापनासाठी शिक्षकांना आर्थिक आणि तांत्रिक सहाय्य उपलब्ध करून देणे.

३. विद्यार्थ्यांसाठी डिजिटल उपकरणे आणि संसाधने उपलब्ध करणे

- सर्व विद्यार्थ्यांना स्मार्टफोन, टॅबलेट किंवा लॅपटॉपसाठी अनुदान किंवा सवलतीच्या दरात उपकरणे उपलब्ध करून देणे.
- अत्यंत गरीब विद्यार्थ्यांसाठी 'One Student, One Device' उपक्रम सुरू करणे.
- विद्यार्थ्यांना ऑनलाईन अभ्यासक्रम विनामूल्य किंवा सवलतीच्या दरात उपलब्ध करून देणे.
- मुक्त स्रोत शैक्षणिक साधनांचा (Open Educational Resources - OER) अधिकाधिक वापर करणे.

४. राष्ट्रीय शैक्षणिक तंत्रज्ञान मंच (NETF) ची प्रभावी अंमलबजावणी

- NETF च्या माध्यमातून नवीन तंत्रज्ञान, नवकल्पना आणि सर्वोत्तम अध्यापन पद्धतींची माहिती शिक्षक आणि विद्यार्थ्यांना उपलब्ध करून देणे.
- शिक्षणातील तंत्रज्ञानाच्या प्रभावी वापराबाबत संशोधन आणि नवकल्पना प्रोत्साहन देणे.
- AI आणि Big Data चा वापर करून शिक्षणाचे प्रमाणित आणि गुणवत्तापूर्ण धोरण विकसित करणे.
- NETF द्वारे शिक्षण तंत्रज्ञानासंदर्भात धोरणात्मक मार्गदर्शन देणे.

५. बहुभाषिक डिजिटल शिक्षणसाहित्य विकसित करणे

- ग्रामीण आणि प्रादेशिक भाषांमध्ये ऑनलाईन शिक्षण सामग्री उपलब्ध करून देणे.
- ऑडिओ-व्हिड्युअल तंत्रज्ञानाचा उपयोग करून विद्यार्थ्यांना मातृभाषेत शिकवण्यासाठी व्हिडिओ आणि इंटरॲक्टिव्ह साधने विकसित करणे.
- विविध विषयांवर भारतीय भाषांमध्ये उपयुक्त शैक्षणिक सामग्री तयार करणे आणि ती ऑनलाईन प्लॅटफॉर्मवर उपलब्ध करून देणे.

६. ऑनलाईन शिक्षण आणि मिश्र शिक्षण प्रणालीचा प्रसार

- पारंपरिक शिक्षणपद्धतीसह ऑनलाईन शिक्षणाचा समावेश करून मिश्र शिक्षण (Blended Learning) प्रणाली लागू करणे.
- MOOCs (Massive Open Online Courses) चा प्रभावी वापर करून उच्च शिक्षणातील प्रवेशास मदत करणे.
- विद्यार्थ्यांना ऑनलाईन कोर्स पूर्ण केल्यानंतर प्रमाणपत्रे आणि क्रेडिट ट्रान्सफर करण्याची सुविधा उपलब्ध करून देणे.

७. डिजिटल मूल्यमापन आणि परीक्षा प्रणाली सुधारणा

- ऑनलाईन परीक्षांच्या सुरक्षिततेसाठी कृत्रिम बुद्धिमत्ता आणि ब्लॉकचेन तंत्रज्ञानाचा उपयोग करणे.
- विद्यार्थ्यांच्या सततच्या मूल्यमापनासाठी AI आधारित टेस्टिंग आणि ॲडॅप्टिव्ह लर्निंग प्रणालीचा अवलंब करणे.
- ऑनलाईन परीक्षा प्रणाली अधिक पारदर्शक आणि फसवणूकविरोधी करण्यासाठी प्रॉक्ट्रिंग

(Proctoring) तंत्रज्ञानाचा उपयोग करणे.

८. दिव्यांग विद्यार्थ्यांसाठी तंत्रज्ञानाचा प्रभावी वापर

- दिव्यांग विद्यार्थ्यांसाठी डिजिटल सामग्री अधिक सुलभ करण्यासाठी सहाय्यक तंत्रज्ञान (Assistive Technology) विकसित करणे.
- व्हॉईस रिकग्निशन, स्क्रीन रीडर, ब्रेल तंत्रज्ञान आणि इतर डिजिटल सहाय्यकांचा प्रभावी वापर करणे.
- विशेष शिक्षण गरजा असलेल्या विद्यार्थ्यांसाठी ऑनलाइन शिक्षण पद्धती सुधारित करणे.

९. शहरी आणि ग्रामीण शिक्षणातील तंत्रज्ञानदरी कमी करणे

- ग्रामीण भागात शिक्षणासाठी तंत्रज्ञानाच्या प्रसारासाठी विशेष योजना लागू करणे.
- सरकारी आणि खासगी क्षेत्रातील सहकार्याने डिजिटल शिक्षणासाठी विशेष प्रकल्प हाती घेणे.
- ग्रामीण आणि आदिवासी भागातील विद्यार्थ्यांना डिजिटल शिक्षणाच्या संधी उपलब्ध करून देण्यासाठी 'Community Digital Learning Centers' स्थापन करणे.

निष्कर्ष

राष्ट्रीय शैक्षणिक धोरण २०२० अंतर्गत शिक्षण क्षेत्रात तंत्रज्ञानाचा प्रभावी वापर करून मोठे परिवर्तन घडवता येऊ शकते. मात्र, त्यासाठी डिजिटल विभागणी, शिक्षकांचे तांत्रिक प्रशिक्षण, आर्थिक मर्यादा आणि डेटा सुरक्षेसारख्या समस्यांवर उपाय शोधणे अत्यावश्यक आहे. योग्य धोरण आणि तंत्रज्ञानाचा समतोल वापर केल्यास भारतीय शिक्षणव्यवस्था अधिक सक्षम आणि समावेशक होईल.

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राष्ट्रीय शिक्षा नीति 2020 के माध्यम से शिक्षक शिक्षा में शहरी-ग्रामीण अंतर को कम करना

कुमारी राजप्रिया

सहायक प्रोफेसर

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सारांश

राष्ट्रीय शिक्षा नीति (NEP) 2020 भारतीय शिक्षा प्रणाली में व्यापक सुधार लाने की दिशा में एक महत्वपूर्ण पहल है। इस नीति का मुख्य उद्देश्य समावेशी और समान शिक्षा प्रणाली का निर्माण करना है, जिसमें शहरी और ग्रामीण क्षेत्रों के बीच शिक्षा की गुणवत्ता में अंतर को कम करना भी शामिल है। शिक्षक शिक्षा प्रणाली में यह अंतर कई कारकों, जैसे संसाधनों की कमी, प्रशिक्षित शिक्षकों की अनुपलब्धता और डिजिटल विभाजन के कारण उत्पन्न हुआ है। यह शोध पत्र विश्लेषण करता है कि NEP 2020 के अंतर्गत कौन-कौन से सुधार प्रस्तावित किए गए हैं, और वे शिक्षक शिक्षा में शहरी-ग्रामीण अंतर को कैसे कम कर सकते हैं।

परिचय

भारत की शिक्षा व्यवस्था में शहरी और ग्रामीण क्षेत्रों के बीच एक महत्वपूर्ण असमानता देखने को मिलती है। ग्रामीण क्षेत्रों में शिक्षा का स्तर अपेक्षाकृत कम होता है, जिसका प्रभाव शिक्षकों की गुणवत्ता और प्रशिक्षण पर भी पड़ता है। ग्रामीण विद्यालयों में आधारभूत सुविधाओं की कमी, योग्य शिक्षकों की अनुपलब्धता और आधुनिक शिक्षण विधियों का अभाव इस अंतर को और बढ़ा देता है (Azim Premji Foundation, 2021)। NEP 2020 इस समस्या को दूर करने के लिए विभिन्न सुधारात्मक कदमों का प्रस्ताव करती है, जिनमें शिक्षक प्रशिक्षण को मजबूत करना, डिजिटल शिक्षा को बढ़ावा देना और स्थानीय भाषा में शिक्षा प्रदान करना शामिल है।

शहरी-ग्रामीण अंतर के कारण

शिक्षक शिक्षा में शहरी और ग्रामीण क्षेत्रों के बीच असमानता के पीछे निम्नलिखित प्रमुख कारण देखे गए हैं:-

1. संसाधनों की कमी – ग्रामीण विद्यालयों में पुस्तकालय, प्रयोगशालाएँ और डिजिटल उपकरणों जैसी बुनियादी सुविधाओं का अभाव देखा जाता है (Drishti IAS, 2023)।
2. प्रशिक्षित शिक्षकों की कमी – योग्य शिक्षकों की अनुपलब्धता और उनकी अनियमित उपस्थिति ग्रामीण शिक्षा प्रणाली की प्रमुख समस्याएँ हैं (NCERT, 2022)।
3. प्रशिक्षण की अनुपलब्धता – शिक्षकों को नवीनतम शिक्षण तकनीकों से अवगत कराने के लिए प्रशिक्षण और कार्यशालाओं की कमी है।
4. डिजिटल विभाजन – ग्रामीण क्षेत्रों में इंटरनेट और तकनीकी सुविधाओं की कमी के कारण ऑनलाइन शिक्षा और प्रशिक्षण में कठिनाइयाँ आती हैं (UNESCO, 2022)।

NEP 2020 के तहत शिक्षक शिक्षा में सुधार

NEP 2020 शिक्षक शिक्षा में सुधार हेतु कई प्रमुख पहलुओं पर ध्यान केंद्रित करती है:-

1. चार वर्षीय एकीकृत शिक्षक शिक्षा कार्यक्रम (ITEP) – NEP 2020 के तहत, एकीकृत बी.एड. पाठ्यक्रम को

लागू किया जा रहा है, जिससे शिक्षकों को व्यावसायिक और व्यवहारिक प्रशिक्षण प्राप्त होगा (MHRD, 2020)।

2. डिजिटल शिक्षा का विस्तार – ग्रामीण विद्यालयों में डिजिटल इन्फ्रास्ट्रक्चर को मजबूत करने के लिए ई-लर्निंग संसाधन, ऑनलाइन प्रशिक्षण और स्मार्ट कक्षाएँ विकसित की जा रही हैं (NITI Aayog, 2021)।
3. स्थानीय भाषा में शिक्षा – नीति के अनुसार, शिक्षकों को मातृभाषा या क्षेत्रीय भाषा में शिक्षा देने के लिए प्रोत्साहित किया जाएगा, जिससे छात्रों की समझ और सीखने की प्रक्रिया आसान होगी (Government of India, 2020)।
4. शिक्षकों का सतत व्यावसायिक विकास (CPD) – शिक्षकों के लिए नियमित प्रशिक्षण कार्यशालाएँ, ऑनलाइन कोर्स और प्रोफेशनल डेवलपमेंट प्रोग्राम शुरू किए जा रहे हैं (National Education Policy, 2020)।

चुनौतियाँ और समाधान

हालाँकि NEP 2020 शिक्षकों के प्रशिक्षण और शिक्षा प्रणाली में सुधार लाने के लिए कई महत्वपूर्ण कदम उठा रही है, फिर भी इसके क्रियान्वयन में कुछ प्रमुख चुनौतियाँ सामने आ सकती हैं:

चुनौती संभावित समाधान

- इन्फ्रास्ट्रक्चर की कमी सरकार और निजी क्षेत्र के सहयोग से ग्रामीण विद्यालयों में आधारभूत सुविधाओं का विकास
- डिजिटल विभाजन इंटरनेट कनेक्टिविटी और डिजिटल उपकरणों की उपलब्धता सुनिश्चित करना
- शिक्षकों की कमी ग्रामीण शिक्षकों को आकर्षित करने के लिए प्रोत्साहन योजनाएँ और बेहतर वेतनमान
- प्रशिक्षण की कमी शिक्षकों के लिए ऑनलाइन एवं ऑफलाइन प्रशिक्षण कार्यक्रमों की शुरुआत

निष्कर्ष

NEP 2020 के तहत प्रस्तावित सुधार, विशेष रूप से शिक्षक प्रशिक्षण कार्यक्रम, डिजिटल शिक्षा, और स्थानीय भाषा में शिक्षण, ग्रामीण और शहरी शिक्षा प्रणाली के बीच की खाई को कम करने में सहायक हो सकते हैं। हालाँकि, इन सुधारों के प्रभावी क्रियान्वयन के लिए सरकारी संस्थानों, शिक्षकों, और समाज के संयुक्त प्रयासों की आवश्यकता होगी। यदि ये सुधार उचित रूप से लागू किए जाते हैं, तो भारत में एक अधिक समावेशी और समान शिक्षा प्रणाली की स्थापना संभव हो सकती है।

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