
RE-SKILLING AND UP-SKILLING IN DIGITAL PEDAGOGY FOR TEACHER EDUCATORS

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ABSTRACT

The National Education Policy (NEP 2020) marks a paradigm shift in the Education system of India by emphasizing digital technology integration, competency based learning and professional development of teachers and teacher educators. Education sector is transforming rapidly due to integration of Digital technology in teaching-learning process. Re-skilling and Up-skilling are very important for professional development of Teacher Educators in today's era. Re-skilling and Up-skilling in Digital Technology means adapting teaching through technology. This paper focuses on ways to improve digital tools integration for Up-skilling and innovative ways which can be taken for Re-skilling. This paper explores National initiatives for Digital Education and teacher preparation. Major National initiatives for digital education are National Digital Education Architecture (NDEAR), PM e-VIDYA, DIKSHA, SWAYAM, SWAYAM PRABHA. Some of the innovative ways for Re-skilling and up-skilling are Continuous Professional Development through National Digital Platforms, Research integrated digital training, focus on inclusive education, and Integration of Emerging Technology. This paper deliberates upon the necessity of Re-skilling and Up-skilling of teacher educators in digital pedagogy in alignment with NEP 2020. By addressing these aspects, the paper discusses how empowered teacher educators can lead the transformation towards inclusive, innovative and future-ready teacher education in India.

Key-words: Digital Pedagogy, Re-skilling, Up-skilling, Artificial Intelligence, Professional Development, Learning Management System, e-Learning

INTRODUCTION:

Re-skilling and Up-skilling are very important for Teacher Educators in today's era for their Professional development. Major National initiatives for digital education are National Digital Education Architecture (NDEAR), PM e-VIDYA, DIKSHA, SWAYAM, SWAYAM PRABHA. Some of the innovative ways for Re-skilling and up-skilling are Continuous Professional Development through National Digital Platforms, Research integrated digital training, focus on inclusive education, Integration of Emerging Technology. Re-skilling will equip teacher educators with entirely new skills to perform different roles often required during digital shifts like AI adoption or automation. Upskilling will help teacher educators to improve existing skills to adopt to new technology and workflow. There is a necessity of Re-skilling and Up-skilling of teacher educators in digital pedagogy in alignment with NEP 2020.

NATIONAL INITIATIVES FOR DIGITAL EDUCATION:

Various initiatives have been taken by Government of India for Digital Education; Major initiatives are discussed below-

- **National Digital Education Architecture (NDEAR)**- NDEAR was launched on 29th July, 2021, with a vision to create a unifying digital infrastructure to energize and catalyze the education ecosystem.
- **PM e-VIDYA**- A flagship initiative has been launched with the objective to provide online/on-air digital education to enable multi-mode teaching-learning. It will benefit nearly 25 crore school going children across the country. PM e-VIDYA educational programmes are accessible through its various platforms like TV, Internet Radio, Community Radio and Podcasts. Two hundred PM e-Vidya TV Channels on One Class One Channel are broadcasting the content related to 1st- 12th grades.
- **DIKSHA (Digital Infrastructure for Knowledge Sharing)**- DIKSHA national online portal was launched on 5th September, 2017 for students, teachers and parents. Important features of this portal for easy access of e-resources are-
 1. **Language**- This portal provides e-resources in varied 18 languages that include English, Hindi, Marathi, Tamil, Telugu and others. Learners can choose any language of their choice for convenience.
 2. **Location based**- This portal provides location-based courses that are going on in a particular region from that learners can choose courses of their choice or skill set.

DIKSHA in future has provision for providing advanced technology like Artificial Intelligence, Machine Learning.

- **SWAYAM** - To achieve the three cardinal principles of National Education Policy 2020 which are access, equity and quality education, Government of India initiated SWAYAM portal of free online education with Massive Open Online Courses (MOOCs). This portal facilitates hosting of all courses taught from 9th grade till Post Graduation. It is designed to support Inclusive, accessible, quality education across the disciplines.
- **SWAYAM PRABHA**- The SWAYAM PRABHA contains forty DTH Channels, broadcasting educational programmes using GSAT-15 Satellite on 24x7 basis. Programmes are repeated in a day so that students can watch them at their convenient time slot. The contents are provided by IITs, UGC, CEC and IGNOU.

Re-skilling and Up-skilling for Inclusive Education:

Major strategies required for Inclusive schools and higher institutions are -

- **Teacher Educator Empowerment**- Teacher educators require training in emerging technologies such as Artificial Intelligence, Virtual Reality, and inclusive pedagogy practices, which can be of individual needs to support diverse classroom. Integration of Programmed learning methodology is important to cater to the needs of the learners present in the inclusive classroom.
- **ICT based teaching aids Integration**- In an Inclusive classroom, Information and Communication Technologies (ICTs) play an important role to support the teaching learning process in an effective way. Utilization of Learning Management Systems (LMS), Blended learning classes, e-learning, virtual labs, e-Assessment all these are important to support the inclusive learning.

Innovative ways for Re-skilling and Up-skilling in Digital Pedagogy for Teacher Educators:

- **Digital Pedagogy Labs in Teacher Training Institutions**- Establishment of dedicated Digital Pedagogy Labs will encourage teacher educators to experiment with Learning Management Systems, AI based tools, Virtual classrooms and immersive technology. These labs will encourage hands-on practice in instructional design, blended learning, and technology integrated assessment.
- **Collaborative engagement in Digital content creation**- Teacher Educators should engage in creation of digital content with collaboration. Collaboration process brings people with multiple discipline backgrounds and they share their different viewpoints, insights, skills with one another. Individuals contribute their distinctive ideas, and these diverse perspectives are transformed into exceptional e-content.
- **Research Integrated Digital training**- The NEP 2020 emphasizes the use of digital technology in the classroom. Various organizations such as CIET, NCERT conduct online training to promote use of technology in teaching learning process.
- **AI supported personalized professional development**- Personalized learning tailors' pace, content and assessment to each individual's needs, their interest and strength. This is a shift from standardized to personalized learning experiences. Each teacher educator has unique strength, knowledge gaps and learning preferences. AI in personalized learning supports individual to transform these challenges into opportunity by tailoring learning experiences according to their needs.

Benefits of Re-skilling and Up-skilling in Digital Pedagogy for Teacher Educators:

- **Increase students' engagement**- Learner centric approach can engage the students in classroom teaching learning process more with the help of digital tools powered with AI technology.
- **Develop competencies in Teacher Educators**- Teacher Educators learn new teaching skills to upgrade their skills by using digital technological tools and platforms.
- **Enhance Teacher Confidence**- Well trained teachers in any field feel more confident in their day-to-day work because of updated skills and knowledge. This confidence contributes to their positive classroom environment with learners' motivation to learn the concepts.
- **Create Professional Growth Opportunities**- Teachers with training through workshops, conferences, diploma courses, or short-term courses build their expertise in concern fields and these specializations contribute to their career and professional growth.
- **Become a Reflective Teacher**- Through Re-skilling and Up-skilling, teachers evaluate their teaching methodologies, classroom environment, and acquired competencies. This kind of self-assessment fosters the environment of continuous improvement and refinement in their skills.



Fig-1: Major Benefits of Re-skilling and Up-skilling in Digital Pedagogy for Teacher Educators

Challenges in Re-skilling and Up-skilling in Digital Transformation:

Employee Resistance to a Change- Teacher Educators may be reluctant to change due to several reasons such as feeling complacent with their existing role, fear to perform new role, lack of time for training with existing workload.

Budget Constrains- When any Institute undergoes digital transformation, allocation of budget is required for training and resources. Limited allocation of budget can lead to less available resources for ICT based Workshop or training.

Physical Infrastructure and Access Issues- Physical infrastructure containing ICT based devices such as LCD projector, desktop, data storage devices, digital camera, printer are some of the important basic multimedia resources. Limited ICT based multimedia may interrupt the integration of ICT in teaching different subjects.



Fig-2: Challenges in Re-skilling and Up-skilling in Digital Transformation

Conclusion: Empowered teacher educators can lead the transformation towards inclusive, innovative and future-ready teacher education in India. Important innovative ways for Re-skilling and Up-skilling are Continuous Professional Development through National Digital Platforms, Research integrated digital training, focus on inclusive education, integration of emerging technology. Re-skilling will equip teacher educators with entirely new skills to perform different roles often required during digital shifts like AI adoption or automation. Upskilling will help teacher educators to improve existing skills to adopt to new technology and workflow.

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