

## A Study of Open Educational Resources (OER) in Teacher Education

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### Abstract

The emergence of Open Educational Resources (OER) has transformed the global educational landscape by enabling unrestricted access to high-quality learning materials. In teacher education, OER plays a significant role in developing digitally competent educators who can design, implement, and facilitate technology-enabled learning environment. This study investigates the awareness, availability, usage, perception, and challenges associated with OER in teacher education. A sample of B.Ed. students enrolled in different colleges at district Meerut, Uttar Pradesh were selected to explore how deeply OER has penetrated their learning experiences. Using a descriptive survey method and a self-constructed questionnaire, qualitative and quantitative insights were gathered. The findings reveal that although teacher training students are positively inclined toward OER and acknowledge its academic value, they still lack sufficient exposure, structured training, and institutional guidance to use OER effectively. The study concludes with recommendations to strengthen OER adoption through policy reforms, curriculum integration, capacity-building programs, and stronger institutional support systems.

**Keywords:** Open Educational Resources (OER), Teacher Education, Prospective Teachers, Digital Learning, ICT in Education

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### Introduction

Teacher education in the 21st century is undergoing a paradigm shift. The integration of Information and Communication Technology (ICT) in learning processes has compelled teacher educators and trainee teachers to upgrade their digital competencies. One of the most influential developments in this direction is the growth of Open Educational Resources (OER) freely available teaching, learning, and research materials distributed with open licenses. OER includes a broad spectrum of educational tools and materials such as digital textbooks, video lectures, interactive modules, scholarly articles, lesson plans, simulation tools, open courses, and MOOCs. Platforms like SWAYAM, DIKSHA, NROER, e-Pathshala, NPTEL, OER, Creative Commons, MERLOT and Coursera (open content) have expanded global access to education. In teacher education, OER plays a crucial role by:

- Offering diverse resources for lesson planning and pedagogy
- Enabling flexible, self-paced learning
- Supporting continuous professional development,
- Strengthening digital literacy and technological confidence.

However, despite the abundance of OER, many teacher education institutions continue to depend primarily on traditional instructional practices. This study focuses on understanding the status of OER awareness and utilisation among prospective teachers to determine how effectively OER contributes to teacher preparation.

### Review of Related Literature

The literature on OER reveals substantial global attention toward technology-enabled education. UNESCO popularised the concept of OER in 2002, emphasising free and equitable access to educational content. Wiley (2014) described the transformative potential of open licensing in education, highlighting its role in driving innovation and reducing costs. Mishra (2017) explored India's national OER initiatives particularly NROER and SWAYAM and their relevance to teacher education. Several studies confirm that OER increases learner autonomy (Lane, 2013), enhances teacher preparedness (Hodgkinson-Williams, 2018), and supports collaborative learning. However, other research findings reveal obstacles such as:

- Limited digital skills (Atenas & Havemann, 2016),
- Lack of institutional policies,

- Low awareness of global OER repositories,
- Absence of structured training for teacher trainees.

In the Indian context, although ICT is integrated into B.Ed. curricula, OER is still not regularly adopted in most teacher education institutions. This gap highlights the need for empirical studies focusing on prospective teachers.

### Need and Significance of the Study

The relevance of this study arises from the increasing emphasis on digital learning in teacher preparation programs. With the National Education Policy (NEP 2020) promoting digital content creation, ICT integration, and academic flexibility, OER has become indispensable in teacher training. The study is significant because-

- Teacher trainees must be skilled in using OER for classroom innovations.
- OER enhances conceptual clarity, reduces textbook dependency, and promotes inquiry-based learning.
- Many B.Ed. students in India lack proper orientation and training regarding OER.
- The study provides insights into redesigning curriculum transactions in teacher education.
- Educational institutions can use the findings to strengthen digital pedagogy.

### Objectives of the Study

- To explore the level of awareness about OER among teacher education students.
- To examine how frequently and effectively OER is used in teacher education.
- To analyze the perception of OER as a learning and professional development tool.
- To identify technological, academic, and institutional barriers in OER usage.
- To propose strategies for enhancing OER adoption in teacher education programs.

### Hypotheses

- Teacher education students demonstrate moderate awareness of OER.
- OER usage is significantly influenced by ICT competency and institutional facilities.
- Teacher education students perceive OER as beneficial for learning and professional growth.

### Delimitations of the Study

- The study is restricted to 200 B.Ed. students.
- Conducted only in a single B.Ed. college affiliated to CCS University, Meerut.
- Restricted to OER relevant to teacher training and ICT in Education curriculum.
- Only selected OER platforms (SWAYAM, DIKSHA, NROER, MOOCs) were included.
- The study focuses on students, not teacher educators.

### Methodology-Descriptive Survey Design

#### Analysis and Interpretation of Data

1. **Awareness of OER:** The analysis indicates that most students are familiar with the term OER, but their understanding remains superficial. Platforms like YouTube and SWAYAM are widely recognised, whereas specialised repositories (NROER, MERLOT, OER Commons) are relatively unknown. Students mostly associate OER with free online videos rather than comprehensive open-licensed academic materials.

2. **Usage of OER:** OER usage is irregular and largely dependent on external requirements such as assignments, lesson planning, and exam preparation. Students prefer easily accessible platforms like YouTube rather than academically structured platforms like SWAYAM. Many lack the skills to identify authentic OER sources, perform advanced searches, or utilise open-licensed materials for instructional design.

3. **Perception toward OER:** Most teacher trainees hold a positive attitude toward OER. They believe OER improves understanding, enables independent learning, and assists in lesson planning. They recognise that OER supports differentiated instruction, provides updated information, and reduces the financial burden of purchasing textbooks.

#### 4. Challenges Identified

The major obstacles include:

- Limited digital literacy
- Insufficient institutional support and guidance
- Lack of technical infrastructure
- Inconsistency in internet connectivity
- Absence of mandatory OER training sessions
- Low awareness of licensing (Creative Commons). These challenges restrict the widespread and effective use of OER.

### Findings of the Study

- Teacher trainees demonstrate partial but inadequate awareness of comprehensive OER platforms.
- OER usage patterns are inconsistent and often depend on immediate academic needs.
- Students positively perceive OER as a valuable academic resource.
- Lack of training programs, inadequate digital competence, and weak ICT infrastructure hinder integration.
- Teacher education institutions do not systematically include OER in their pedagogical processes.

### Educational Implications

The findings emphasise the need for:

- Embedding OER into curriculum and pedagogy,
- Organising regular ICT and OER workshops,
- Training students to curate learning materials using OER,
- Promoting open licensing and digital citizenship awareness,
- Encouraging faculty members to adopt OER-based teaching approaches,
- Creating institutional OER repositories.

### Conclusion

OER has emerged as a transformative approach to knowledge dissemination, offering vast opportunities for innovation in teacher education. This study concludes that although students in teacher training programs hold favourable attitudes toward OER, they lack structured exposure, digital competency, and institutional guidance. For OER to fully benefit teacher education, systematic integration, skill development, and technological enhancement are essential. The future of teacher education depends on empowering prospective teachers with the skills required to navigate digital learning environments. OER can serve as a foundational pathway to achieving the goals of accessible, equitable, and quality teacher education in India.

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