

# Reimagining Pre-Service Education:

## *A Study of LMS Adoption and Attitudes among B.Ed. and D.El.Ed. Pupil-Teachers*

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### Abstract

*The integration of Learning Management Systems (LMS) in pre-service teacher education programs such as B.Ed. and D.El.Ed. has become essential for equipping future educators with digital competencies. This study explores the readiness and perspectives of pupil-teachers toward LMS usage in their training. A descriptive survey design was employed, and data were collected from 60 pupil-teachers using a structured questionnaire based on a 4-point Likert scale. The study focused on five key areas: digital competence, access to LMS tools, professional training, attitudes toward LMS, and barriers to usage. Results revealed that while pupil-teachers reported basic familiarity with LMS tools ( $M = 3.42$ ) and showed positive attitudes ( $M = 3.30$ ), they lacked practical experience and confidence in using advanced features such as grading and discussion forums ( $M = 2.30$ ). Access to digital devices was high (95%), but nearly half faced unstable internet connectivity. Only 35% received formal training, with many relying on peer learning. Major challenges included lack of structured orientation, technical issues, limited mentorship, and digital fatigue. The study recommends incorporating LMS-based modules into pedagogy courses, providing hands-on training, and ensuring equitable digital access and institutional support to enhance LMS readiness among pre-service teachers.*

**Keywords:** Learning Management System, Pre-service Teacher Education, B.Ed. and D.El.Ed., Digital Readiness, Educational Technology Integration

### I. INTRODUCTION

Learning Management Systems (LMS) have emerged as indispensable tools in contemporary teacher education, transforming how teaching and learning are designed, delivered, and assessed. These digital platforms support both synchronous and asynchronous modes of instruction, enabling blended learning environments that combine face-to-face engagement with virtual interaction. LMS platforms such as Moodle, Google Classroom, DIKSHA, and Edmodo allow for the seamless integration of multimedia resources, digital assessments, interactive activities, discussion forums, real-time feedback, and progress tracking—all of which are vital in shaping future-ready educators.

In pre-service teacher training programs like B.Ed. (Bachelor of Education) and D.El.Ed. (Diploma in Elementary Education), LMS tools are increasingly employed not only for course content delivery but also for lesson planning, assignment submission, micro-teaching evaluations, peer collaboration, practicum documentation, and reflective practices. These platforms enhance accessibility, promote self-paced learning, and prepare pupil-teachers for the demands of digital-age classrooms.

Aligned with the National Education Policy (NEP) 2020, digital literacy is positioned as a core competency for 21st-century educators. The policy emphasizes that teacher education programs must equip candidates with the ability to integrate ICT and digital platforms meaningfully in pedagogy. This necessitates that pre-

service teachers be competent in using LMS technologies not just as users, but as instructional designers, facilitators, and evaluators in digital environments.

The successful implementation of LMS in teacher education is contingent upon multiple factors, including pupil-teachers' technological readiness, familiarity with LMS functionalities, positive attitudes toward technology, and the extent of institutional support provided in terms of infrastructure, training, and mentoring. Without these enablers, LMS platforms risk becoming underutilized or misapplied tools, thereby failing to achieve their pedagogical potential.

This study aims to examine the readiness, perspectives, and experiences of pupil-teachers in adopting LMS-based instruction during their pre-service training programs. It seeks to understand how future educators perceive LMS use, the challenges they face, and the degree to which their institutions prepare them for digital integration—insights that are critical for developing effective, inclusive, and future-oriented teacher education frameworks.

## II. STATEMENT OF THE PROBLEM

### **“Reimagining Pre-Service Education: A Study of LMS Adoption and Attitudes among B.Ed. and D.El.Ed. Pupil-Teachers”**

## III. OBJECTIVES

1. To assess pupil-teachers' perceived competence in using LMS platforms for tasks such as content access, assignment submission, virtual discussions, and progress monitoring.
2. To examine the level of access to LMS resources and institutional support structures such as internet connectivity, availability of devices, access to licensed LMS platforms (e.g., Moodle, Google Classroom, DIKSHA), and on-site technical assistance provided during their training.
3. To evaluate the adequacy and effectiveness of formal training or orientation sessions offered to pupil-teachers for LMS usage.
4. To understand pupil-teachers' attitudes and perceptions toward LMS integration in classroom instruction
5. To identify the barriers and challenges faced by pupil-teachers in utilizing LMS platforms effectively.

## IV. RESEARCH METHODOLOGY

### ***Research Design***

This study adopted a descriptive survey research design, which is appropriate for systematically gathering information about respondents' perceptions, attitudes, and levels of readiness related to a specific phenomenon—in this case, the use of Learning Management Systems (LMS) in pre-service teacher education. The design enabled the researchers to quantify and describe the current status of pupil-teachers' digital competence, access to LMS tools, training experiences, attitudes, and perceived challenges.

The study was conducted in a teacher education institution located in Uttar Pradesh, India. A purposive sampling technique was employed to select 60 pupil-teachers, comprising 30 Bachelor of Education (B.Ed.) and 30 Diploma in Elementary Education (D.El.Ed.) students. These individuals were selected based on their enrollment in the final semester of their respective programs, ensuring that they had adequate exposure to digital tools and LMS during their training.

A structured questionnaire was developed as the primary instrument for data collection. The tool was designed based on a review of existing literature on digital readiness and LMS usage in teacher education, ensuring relevance to the current educational context. The questionnaire included closed-ended items using a 4-point Likert scale (1 = Strongly Disagree, 4 = Strongly Agree) and was divided into five thematic domains:

1. **Digital Competence** – Assessed the pupil-teachers' self-perceived skills and confidence in using LMS features.
2. **Access to LMS Tools** – Explored the availability and adequacy of LMS platforms, internet connectivity, and supporting infrastructure.
3. **Professional Training** – Examined the nature, frequency, and effectiveness of training received on LMS usage.
4. **Attitudes towards LMS** – Measured the participants' perceptions, enthusiasm, and acceptance of LMS integration in teacher training.
5. **Barriers and Challenges** – Identified practical, technical, and psychological challenges in LMS adoption.

To ensure the instrument's validity, the draft questionnaire was reviewed by two experts in educational technology and teacher education. Their feedback was incorporated to improve the clarity, cultural relevance, and academic rigor of the tool. For reliability, a pilot test was conducted with 10 pre-service teachers not included in the main sample. The questionnaire's internal consistency was measured using Cronbach's Alpha, yielding a value of 0.82, which is considered statistically acceptable and indicates high reliability of the instrument.

### ***Procedure***

The data collection process was carried out in April 2025 during the final phase of the academic year when pupil-teachers were engaged in coursework, practicum, and final assessments. The researchers coordinated with faculty members to distribute the questionnaire during scheduled academic sessions. Participation in the study was voluntary, and all respondents were provided with a brief explanation of the study's objectives, procedures, and ethical considerations. Informed consent was obtained from all participants. Anonymity and confidentiality were maintained throughout the study. The average time required to complete the questionnaire was approximately 20–25 minutes. Upon collection, responses were screened, coded, and entered into a data analysis program for further statistical processing. The responses were then interpreted using descriptive statistical techniques to address the research questions and objectives.

## **V. RESULTS AND DISCUSSION**

This section presents the findings of the study in alignment with its five key focus areas: perceived competence in LMS use, access to LMS infrastructure, professional training, attitudes toward LMS, and challenges faced by pupil-teachers. The results are supported by descriptive statistics and are discussed in the context of current educational literature.

### ***1. Perceived Competence in LMS Use***

The data revealed that the majority of pupil-teachers possessed a basic level of familiarity with LMS platforms, such as Google Classroom, DIKSHA, and Moodle. The weighted mean score of 3.42 indicated that respondents generally agreed with statements related to their conceptual knowledge of LMS tools. This included their ability to navigate the dashboard, access learning materials, and participate in digital classrooms. Only 38% of the respondents expressed confidence in independently managing advanced LMS features like content uploading, assignment tracking, grading, or moderating discussion forums. These more complex tasks received a significantly lower weighted mean score of 2.30, suggesting a lack of hands-on

experience and operational competence. This gap between theoretical understanding and practical execution points to a critical need for guided exposure, scaffolded learning experiences, and supervised LMS-based teaching practice. These findings align with existing research (e.g., Mishra & Koehler, 2006) which highlights the importance of bridging technological knowledge with pedagogical application—often lacking in teacher preparation programs.

**Table 1**  
**Perceived Competence in LMS use**

| Statement                                                            | SD | D  | A  | SA | Weighted Mean | Interpretation             |
|----------------------------------------------------------------------|----|----|----|----|---------------|----------------------------|
| I can navigate basic LMS functions (e.g., login, access materials).  | 1  | 4  | 40 | 15 | 3.15          | Agree                      |
| I can upload assignments or learning materials on LMS independently. | 6  | 18 | 30 | 6  | 2.60          | Agree (Low Confidence)     |
| I can manage discussion forums and class announcements.              | 8  | 22 | 25 | 5  | 2.48          | Disagree                   |
| I can assess and grade assignments using LMS tools.                  | 9  | 20 | 25 | 6  | 2.47          | Disagree                   |
| I feel confident using LMS tools during teaching practicum.          | 10 | 24 | 20 | 6  | 2.37          | Disagree                   |
| <b>Average</b>                                                       |    |    |    |    | <b>2.51</b>   | <b>Moderate Competence</b> |

## 2. Access to LMS Infrastructure

Infrastructure access emerged as a mixed finding in the study. While 95% of pupil-teachers reported ownership of mobile devices suitable for accessing LMS platforms, a significant 47% of participants cited inconsistent internet connectivity, especially in rural and semi-urban areas. This limitation poses a serious challenge to the uninterrupted and equitable use of digital platforms. Institutional support for LMS use appeared to be uneven. While some teacher education institutions subscribed to structured platforms like Moodle, the majority of pupil-teachers depended on freely available tools such as Google Classroom and WhatsApp for academic interaction. Lack the comprehensive features of full LMS platforms and often offer limited data privacy and assessment capabilities. The disparity in infrastructure access underscores the digital divide in pre-service education and emphasizes the need for policy-level interventions to ensure equitable digital access, as advocated in the NEP 2020 and UNESCO's (2021) framework for inclusive digital learning.

**Table 2**  
**Access to LMS Infrastructure**

| <b>Statement</b>                                          | <b>Never</b> | <b>Rarely</b> | <b>Sometimes</b> | <b>Often</b> | <b>Weighted Mean</b> | <b>Interpretation</b>         |
|-----------------------------------------------------------|--------------|---------------|------------------|--------------|----------------------|-------------------------------|
| I have consistent access to a smartphone or computer.     | 1            | 2             | 12               | 45           | 3.68                 | Often                         |
| I have regular internet connectivity to use LMS features. | 7            | 20            | 20               | 13           | 2.65                 | Sometimes                     |
| My institution provides access to a standard LMS platform | 12           | 22            | 18               | 8            | 2.30                 | Rarely                        |
| I rely on free platforms for coursework.                  | 2            | 5             | 20               | 33           | 3.40                 | Often                         |
| I receive IT or technical support when needed.            | 10           | 26            | 16               | 8            | 2.27                 | Rarely                        |
| <b>Average</b>                                            |              |               |                  |              | <b>2.86</b>          | <b>Moderate Accessibility</b> |

### ***3. Professional Training for LMS Use***

The study found that only 35% of pupil-teachers had received any formal training in LMS usage during their pre-service programs. Most respondents relied on peer learning, informal support, or self-exploration to navigate the platforms. The mean satisfaction score for LMS-related professional development was 2.45, reflecting general dissatisfaction and signaling the inadequacy of structured training opportunities. The lack of subject-specific and pedagogically aligned training limited the ability of pupil-teachers to integrate LMS tools meaningfully into lesson planning or classroom delivery. This result is consistent with prior literature which identifies training quality and contextual relevance as major enablers in the successful integration of educational technology (UNESCO, 2021; Kumar, 2023). To enhance teacher preparedness, it is recommended that LMS training be incorporated as a mandatory component of the B.Ed. and D.El.Ed. curriculum, with practical modules that simulate real teaching contexts.

**Table 3**  
**Professional Training for LMS Use**

| <b>Statement</b>                                               | <b>SD</b> | <b>D</b> | <b>A</b> | <b>SA</b> | <b>Weighted Mean</b> | <b>Interpretation</b>          |
|----------------------------------------------------------------|-----------|----------|----------|-----------|----------------------|--------------------------------|
| I received formal training on LMS use during coursework.       | 14        | 25       | 18       | 3         | 2.17                 | Disagree                       |
| LMS training was hands-on and practically oriented.            | 11        | 20       | 24       | 5         | 2.38                 | Disagree                       |
| I learned to use LMS through peer sharing or informal sources. | 4         | 9        | 35       | 12        | 2.92                 | Agree                          |
| I feel the training was sufficient for classroom application.  | 10        | 27       | 20       | 3         | 2.25                 | Disagree                       |
| More LMS-specific workshops are needed.                        | 2         | 5        | 28       | 25        | 3.27                 | Agree                          |
| <b>Average</b>                                                 |           |          |          |           | <b>2.60</b>          | <b>Limited Formal Training</b> |

#### **4. Attitudes towards LMS in Education**

Pupil-teachers exhibited a generally positive attitude toward the integration of LMS in education. With a weighted mean score of 3.30, a significant majority (72%) agreed that LMS tools enhance engagement, accessibility, and flexibility in learning. Respondents appreciated features like self-paced learning, instant feedback, access to multimedia resources, and ease of communication with instructors and peers. They viewed LMS not as a replacement, but as a valuable extension of traditional classroom methods. Such optimism reflects a growth mindset among future educators and indicates the potential for rapid adaptation—provided that institutional and instructional support mechanisms are strengthened.

**Table 4**  
**Attitudes towards LMS in Education**

| Statement                                                         | SD | D  | A  | SA | Weighted Mean | Interpretation            |
|-------------------------------------------------------------------|----|----|----|----|---------------|---------------------------|
| LMS tools make learning more engaging and interactive.            | 1  | 3  | 36 | 20 | 3.25          | Agree                     |
| I prefer blended learning using LMS over only classroom teaching. | 5  | 12 | 28 | 15 | 2.88          | Agree                     |
| LMS enhances flexibility and access to learning.                  | 1  | 2  | 34 | 23 | 3.32          | Agree                     |
| I feel confident recommending LMS to peers.                       | 3  | 12 | 30 | 15 | 2.95          | Agree                     |
| LMS supports reflective and independent learning.                 | 2  | 4  | 33 | 21 | 3.22          | Agree                     |
| <b>Average</b>                                                    |    |    |    |    | <b>3.12</b>   | <b>Positive Attitudes</b> |

### 5. Barriers and Challenges

Several practical challenges hindered the full-scale adoption of LMS tools by pupil-teachers. The key challenges identified were:

- Lack of structured LMS orientation (reported by 68%)
- Technical difficulties and slow internet connectivity (55%)
- Limited digital pedagogical support from mentors and faculty (46%)
- Digital fatigue and screen overuse due to prolonged online sessions (33%)

These findings are consistent with global research, which highlights that technical infrastructure alone is insufficient; successful digital integration also requires continuous pedagogical guidance, motivation, and adaptability support (Holmes et al., 2022; Luckin et al., 2016). Many pupil-teachers reported a lack of alignment between LMS use and their teaching practicum, indicating the need for greater synchronization between digital platforms and curriculum delivery.

**Table 5**  
**Barriers and Challenges in LMS Use**

| Challenge Area                                          | Reported by (%) | Rank |
|---------------------------------------------------------|-----------------|------|
| Lack of structured LMS orientation and onboarding       | 68%             | 1    |
| Technical issues and slow/unstable internet             | 55%             | 2    |
| Inadequate guidance from faculty/mentors                | 46%             | 3    |
| Difficulty in integrating LMS into practicum activities | 40%             | 4    |
| Digital fatigue/screen overuse                          | 33%             | 5    |
| Lack of confidence in managing LMS independently        | 30%             | 6    |

**Note:** Multiple responses were allowed per participant.

### ***Summary of Findings***

The study clearly establishes a readiness gap in LMS integration among B.Ed. and D.El.Ed. pupil-teachers. While the intent and attitude toward digital tools are positive, practical competence, institutional support, and professional development remain areas of concern. These findings reinforce the necessity for holistic interventions that encompass training, infrastructure, and curriculum redesign to fully realize the potential of LMS in pre-service teacher education.

## **VI. CONCLUSION**

The findings of this study provide meaningful insights into the current state of readiness and perception of pupil-teachers regarding the use of Learning Management Systems (LMS) in pre-service teacher education programs (B.Ed. and D.El.Ed.). While the data indicates a promising level of conceptual awareness and positive attitude among pupil-teachers toward LMS tools, it also reveals a critical gap between theoretical familiarity and practical application. Many pupil-teachers are aware of the basic functionalities of LMS platforms such as Google Classroom, DIKSHA, and Moodle. They recognize their potential to enhance the teaching-learning process through features like content sharing, self-paced learning, assessment tools, and digital communication. Their confidence and competence in using LMS tools independently for instructional purposes remain limited, largely due to insufficient training and lack of hands-on experience. Several systemic barriers emerged as significant constraints, including inadequate infrastructure, intermittent internet connectivity, lack of institutional LMS policies, and minimal pedagogical support from mentors or faculty. The absence of structured, subject-specific LMS training programs leaves pre-service teachers underprepared for integrating digital platforms into real classroom settings. To bridge this readiness gap and to ensure the successful integration of LMS into pre-service teacher training, the study recommends the following strategic interventions:

- ***Curriculum Integration:*** LMS tools should be embedded into pedagogy courses as practical modules, where pupil-teachers are required to design, deliver, and assess lessons using LMS platforms. This hands-on exposure will build confidence and competence over time.
- ***Targeted, Practical Training:*** Institutions must move beyond one-time orientations and provide ongoing, skill-based training sessions on LMS usage. These sessions should include simulations, guided practice, troubleshooting exercises, and digital lesson planning.
- ***Equitable Access to Digital Tools:*** To prevent digital exclusion, infrastructure upgrades are essential. Institutions should invest in high-speed internet access, licensed LMS platforms, digital devices, and IT support, especially in under-resourced settings.
- ***Continuous Mentorship and Support:*** Teacher educators should play a more active role in modeling effective LMS use, mentoring pupil-teachers through digital lesson planning, classroom management via LMS, and reflective digital teaching practices.

Most importantly, there is a pressing need to develop a structured, context-sensitive digital readiness framework within teacher education institutions. Such a framework should address not only technical competence but also pedagogical integration, ethical digital practices, and inclusive digital education strategies aligned with NEP 2020 guidelines.

Preparing future teachers for technology-enhanced education requires a collaborative effort among policymakers, teacher educators, and institutions to create environments that promote innovation, digital fluency, and adaptive teaching practices. Only then can LMS tools be harnessed to their full potential in shaping the classrooms of tomorrow.

## REFERENCES:

- Basilaia, G., & Kvavadze, D. (2020). Transition to online education in schools during a SARS-CoV-2 coronavirus (COVID-19) pandemic in Georgia. *Pedagogical Research*, 5(4), em0060. <https://doi.org/10.29333/pr/7937>
- Dwivedi, Y. K., Hughes, D. L., Coombs, C., Constantiou, I., Duan, Y., Edwards, J. S., ... & Raman, R. (2020). Impact of COVID-19 pandemic on information management research and practice: Transforming education, work and life. *International Journal of Information Management*, 55, 102211. <https://doi.org/10.1016/j.ijinfomgt.2020.102211>
- Holmes, W., Bialik, M., & Fadel, C. (2022). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign. <https://curriculumredesign.org>
- Kumar, R. (2023). LMS integration in teacher education: Practices and policies. *Indian Journal of Educational Technology*, 11(2), 34–48.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson Education. <https://www.pearson.com>
- Mishra, S., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054.
- National Education Policy. (2020). *National Education Policy 2020*. Ministry of Education, Government of India. <https://www.education.gov.in>
- OECD. (2021). *Teachers and technology: The digital transition in education*. OECD Publishing. <https://doi.org/10.1787/918cabb5-en>
- Raj, U., & Fatima, A. (2021). Stress in students during the COVID-19 pandemic: A perspective from India. *Asian Journal of Psychiatry*, 54, 102271. <https://doi.org/10.1016/j.ajp.2020.102271>
- Reimers, F. M., & Schleicher, A. (2020). *A framework to guide an education response to the COVID-19 pandemic of 2020*. OECD. [https://globaled.gse.harvard.edu/files/geii/files/framework\\_guide\\_v1\\_002.pdf](https://globaled.gse.harvard.edu/files/geii/files/framework_guide_v1_002.pdf)
- Singh, J., & Sahu, P. K. (2022). Effectiveness of Google Classroom as an LMS tool in teacher education during COVID-19. *International Journal of Educational Research and Technology*, 13(1), 1–8.
- UNESCO. (2021). *Reimagining our futures together: A new social contract for education*. <https://unesdoc.unesco.org/ark:/48223/pf0000379707>
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478. <https://doi.org/10.2307/30036540>
- DIKSHA Platform. (2024). *Digital Infrastructure for Knowledge Sharing*. Ministry of Education, Government of India. <https://diksha.gov.in>