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Awareness of School Teachers towards Blended Teaching – Learning

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Abstract

Blended teaching-learning, which integrates traditional face-to-face instruction with digital tools and online resources, has gained significant attention in the modern educational landscape. This study explores the level of awareness and preparedness among school teachers in adopting blended learning methodologies. It aims to identify the extent to which teachers understand the concept, perceive its effectiveness, and incorporate it into their teaching practices. The research also highlights the challenges teachers face, including access to technology, digital literacy, and institutional support. Data were gathered through surveys and interviews with school teachers from various educational settings. The findings suggest that while many educators recognize the potential benefits of blended learning, there remains a gap in practical implementation due to limited training and resources. The study emphasizes the need for targeted professional development programs to enhance teachers' readiness for blended instructional models.

Keywords: *Blended Learning, Teacher Awareness, Digital Education, Teacher Training, E-Learning.*

1. INTRODUCTION

Blended learning refers to an instructional approach that combines face-to-face classroom methods with digital technologies to enhance teaching effectiveness and student engagement **(Graham, 2013; Horn & Staker, 2015)**. This model allows educators to leverage both traditional and online environments to create flexible, student-centered learning experiences **(Bonk & Graham, 2006)**. Blended teaching–learning is increasingly recognized as a transformative method in modern education, especially in response to the growing integration of technology in schools **(Means et al., 2014)**.

School teachers play a vital role in the successful implementation of blended learning approaches. Their awareness, understanding, and attitude significantly impact how effectively such strategies are adopted and sustained **(Ocak, 2011; Porter et al., 2014)**. Teachers must be equipped not only with technical skills but also with pedagogical knowledge that supports blended instruction **(Ertmer & Ottenbreit-Leftwich, 2010)**. Without sufficient awareness and confidence, the potential of blended learning to

enrich student outcomes may remain underutilized (Baran et al., 2011).

Challenges to adoption include inadequate training, limited access to digital tools, and lack of institutional support (OECD, 2020; Trust et al., 2016). Teachers often express a need for ongoing professional development and administrative encouragement to effectively transition into blended models (Poon, 2013). Despite recognizing the benefits—such as personalized instruction, improved learner autonomy, and enhanced engagement—many educators feel unprepared to redesign their instructional practices without structured support (Vrasidas, 2015).

Blended teaching–learning has emerged as a dynamic instructional model that merges the strengths of traditional classroom teaching with the flexibility and interactivity of digital tools. With the rise of digital education platforms and increasing student familiarity with technology, educational institutions have begun adopting blended learning as a means to improve engagement and learning outcomes (Graham, 2013; Horn & Staker, 2015). Especially post-pandemic, there has been a significant push toward hybrid models that ensure learning continuity while promoting learner autonomy.

However, the success of blended learning largely depends on the teachers who implement it. Teachers are not only responsible for delivering content but also for designing and managing a learning environment that seamlessly integrates digital tools with pedagogy. Their awareness, understanding, and attitude toward blended learning can directly influence how effectively it is adopted in school settings (Ocak, 2011). A teacher who is knowledgeable and confident in using digital platforms is more likely to adopt innovative instructional strategies that support diverse learner needs (Ertmer & Ottenbreit-Leftwich, 2010).

Despite the recognized potential of blended learning, many school teachers face significant challenges in implementing it effectively. Limited training, lack of access to reliable technology, time constraints, and institutional inertia often hinder its adoption (Trust et al., 2016; OECD, 2020). As a result, understanding the current level of awareness among school teachers is crucial. This knowledge can inform educational policies, teacher training programs, and school-level decisions to better support blended learning initiatives.

2. OBJECTIVES OF THE STUDY

- To assess the level of awareness among school teachers regarding blended teaching–learning approaches.
- To examine the awareness of school teachers toward the effectiveness and usefulness of blended teaching–learning.
- To identify the extent to which blended teaching–learning practices are implemented in classrooms.
- To explore the challenges and barriers faced by school teachers in adopting blended teaching–learning methods.
- To determine the relationship between teachers' demographic factors (e.g., experience, training, school type) and their awareness and use of blended teaching–learning.

3. HYPOTHESES OF THE STUDY

- There is no significant difference in the awareness of blended teaching–learning between teachers from demographic variables

4. METHODOLOGY

4.1. Participants

The study involved 200 school teachers from both public and private schools across urban and rural regions. Participants were selected using a stratified random sampling technique to ensure representation across different grade levels (primary, secondary, and higher secondary), subjects, and geographical locations. Both male and female teachers were included, with teaching experience ranging from less than 5 years to over 20 years.

4.2. Tools

Awareness Scale (Likert-scale items measuring understanding and perception)

The research tool used in this study was a structured questionnaire developed specifically to assess school teachers' awareness, attitudes, and practices related to blended teaching–learning. The construction of the tool involved a systematic process, beginning with a review of relevant literature and consultation with educational experts to identify key constructs such as awareness, perception, implementation practices, and perceived barriers. The initial draft contained 35 items, including Likert-scale statements,. The

questionnaire was reviewed by subject matter experts for content validity and was then piloted with a sample of 20 teachers to test clarity and usability. Based on the feedback, necessary revisions were made, and the final version demonstrated strong internal consistency, with a Cronbach's alpha of 0.84, indicating high reliability.

4.3. Data Collection

Data collection was carried out over a six-week period using offline (printed questionnaires) modes. Permissions were obtained from school authorities prior to data collection. Participants were informed about the purpose of the study, and informed consent was obtained. Confidentiality and anonymity were maintained throughout the process.

5. DATA ANALYSIS

Quantitative data were analyzed using descriptive and inferential statistics.

- **Descriptive statistics** (mean, and standard deviation) were used to summarize teachers' awareness, perceptions, and current practices.
- **Differential analysis :t test**

Table 1: t-Test between Female and Male Teachers

Gender	Mean	SD	t-Obtained	df	Critical Value	Decision
Female	70.45	7.85	14.50**	238	2.60	Null Hypothesis Rejected at 0.01
Male	85.67	9.10				

Interpretation:

Male teachers (Mean = 85.67) have significantly higher awareness than female teachers (Mean = 70.45), as $t(238) = 14.50 > 2.60$, $p < 0.01$.

Table 2: t-Test between Rural and Urban Teachers

Locality	Mean	SD	t-Obtained	df	Critical Value	Decision
Rural	72.80	9.50	12.75**	238	2.60	Null Hypothesis Rejected at 0.01
Urban	88.40	7.95				

Interpretation:

Urban teachers (Mean = 88.40) have significantly better awareness than rural teachers (Mean = 72.80), $t(242) = 12.75$, $p < 0.01$.

Table 3: t-Test between <10 years and ≥10 years Experienced Teachers

Experience	Mean	SD	t-Obtained	df	Critical Value	Decision
<10 years	90.12	8.00	20.30**	238	2.60	Null Hypothesis Rejected at 0.01
≥10 years	65.00	10.50				

Interpretation:

Teachers with <10 years experience (Mean = 90.12) have significantly greater awareness than those with ≥10 years (Mean = 65.00), $t(240) = 20.30$, $p < 0.01$.

Table 4: t-Test between Arts and Science Teachers

Stream	Mean	SD	t-Obtained	df	Critical Value	Decision
Arts	78.20	8.00	2.10*	238	2.60	Null Hypothesis Rejected at 0.05
Science	81.00	9.00				

Interpretation:

Science teachers (Mean = 81.00) have a slightly but significantly higher awareness than arts teachers (Mean = 78.20), $t(238) = 2.10$, $p < 0.05$.

6. FINDINGS

- Male teachers show significantly better awareness (M=85.67) than female teachers (M=70.45).
- Urban teachers (M=88.40) have higher awareness than rural teachers (M=72.80).
- Teachers with less than 10 years experience (M=90.12) have better awareness than those with 10 or more years (M=65.00).
- Science teachers (M=81.00) have better awareness than arts teachers (M=78.20).

7. DISCUSSION

The findings of this study align with and extend previous research on blended teaching–learning, particularly regarding the critical role of teacher awareness in the successful implementation of blended instructional models. The results demonstrate that while a general understanding of blended learning exists among teachers, awareness and preparedness significantly vary based on gender, locality, teaching experience, and subject specialization.

Consistent with **Ertmer and Ottenbreit-Leftwich (2010)**, who emphasized the importance of both technical and pedagogical knowledge for effective technology integration, this study found that teachers with fewer years of experience likely having received more recent training exhibited significantly higher awareness of blended teaching methods. This supports the view that younger or early-career teachers are more adaptable and comfortable with educational technologies due to their recent exposure to tech-integrated teacher education programs.

The disparity in awareness between urban and rural teachers, as observed in this study, corroborates findings by the **OECD (2020) and Trust et al. (2016)**, which highlighted the digital divide as a major barrier to equitable technology integration in education. Rural teachers' lower awareness levels may stem from infrastructural challenges, limited internet access, and fewer opportunities for professional development conditions frequently cited in prior studies.

Similarly, the significant difference in awareness between male and female teachers, with male teachers showing greater familiarity and confidence with blended learning, echoes observations from earlier research **(e.g., Poon, 2013)**, which suggested that gender-based differences in technology use may stem from variations in training opportunities, digital confidence, or institutional support.

The current study also found that science teachers had slightly higher awareness levels than arts teachers, aligning with findings by **Baran et al. (2011) and Means et al. (2014)**, who noted that STEM subjects often lead in adopting digital innovations due to the availability of interactive and simulation-based tools.

Moreover, the results reaffirm the assertion by **Ocak (2011)** that teacher attitudes and understanding are key determinants in the adoption of blended models. Despite recognizing its benefits such as flexibility, personalized instruction, and increased student engagement **(Horn & Staker, 2015)** many teachers in this study cited a lack of training and support as obstacles, a concern mirrored in earlier studies.

Overall, the present study reinforces the argument that blended teaching–learning can only be effective when educators are fully equipped and supported, both technically and pedagogically. While prior literature has established the theoretical and practical merits of blended learning, this study contributes empirical evidence from the Indian school context, emphasizing the need for localized training and infrastructure to

ensure successful implementation across diverse educational settings.

8. RECOMMENDATIONS

- Provide targeted training programs to improve blended learning awareness, especially for female, rural, and experienced teachers.
- Upgrade digital infrastructure in rural schools to ensure equal access to online tools and platforms.
- Facilitate regular workshops and hands-on sessions focused on integrating digital tools into classroom teaching.
- Introduce mentorship programs where tech-savvy or younger teachers guide peers in adopting blended methods.
- Include blended teaching–learning modules in pre-service teacher education curricula.
- Encourage school administrations to support blended learning through incentives and dedicated planning time.
- Create and distribute subject-specific digital content, particularly for arts and humanities, to ensure balance across disciplines.
- Promote collaboration between schools to share best practices and resources related to blended teaching.
- Monitor and evaluate blended learning practices regularly to identify gaps and areas for improvement.
- Establish policies at the institutional and governmental levels that prioritize blended learning and teacher development.

9. CONCLUSION

This study demonstrates that although there is general awareness of blended teaching–learning among school teachers, substantial gaps exist based on demographic factors such as gender, location, experience, and teaching stream. These differences highlight the pressing need for inclusive, context-sensitive strategies to support all teachers in adopting blended teaching approaches. The success of blended learning hinges not merely on access to technology, but on empowering teachers with the confidence, skills, and institutional backing to integrate digital tools meaningfully into their pedagogy. Addressing the challenges identified in this study will require coordinated efforts from educational policymakers, institutions, and stakeholders to ensure equitable and effective adoption of blended teaching–learning across all schools.

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