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Teacher Education in the Digital Era: The Interplay of Technology Integration and Mentorship

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ABSTRACT

The contemporary teacher training landscape demands a dual focus on technological proficiency and effective mentorship to prepare educators for 21st-century classrooms. This study examines the integration of technology-enhanced teaching practice with structured mentorship models in B.Ed. programmes across five institutional settings. Over a two year period, 240 student-teachers participated in a hybrid teaching practice model combining digital tool integration with mentor-guided reflection. Findings reveal that while technology adoption presents initial challenges, the presence of skilled mentors significantly improves student-teachers' confidence, digital literacy, and reflective practice. However, gaps persist in institutional infrastructure, mentor training and assessment frameworks. This paper identifies critical barriers, evaluates the synergy between technology and mentorship and proposes an integrated framework for sustainable teacher training reform.

Keywords: Technology integration; mentorship models; digital pedagogy; teacher training; reflective practice; hybrid learning; pre-service teachers; professional development

INTRODUCTION:

Teacher education stands at a critical juncture where traditional pedagogical approaches must intersect with rapidly evolving technological landscapes (Koehler & Mishra, 2009). The COVID-19 pandemic accelerated digital transformation in education, revealing both opportunities and vulnerabilities in teacher preparation programmes (Dhawan, 2020; Trust et al., 2020). Contemporary student-teachers must develop dual competencies encompassing mastery of subject content and pedagogy alongside proficiency in educational technology tools that facilitate learning in diverse modalities (Mishra & Koehler, 2006). The B.Ed. programme, serving as the foundational certification for teaching professionals, typically allocates three to four weeks for intensive teaching practice in school settings. This practicum period represents the convergence point where theoretical knowledge, pedagogical skills, and classroom realities intersect in meaningful ways (Darling-Hammond, 2014). Traditional teaching practice models often overlook two critical components that define modern educational excellence. The first involves systematic technology integration that moves beyond superficial adoption of digital tools toward transformative pedagogical applications (Ertmer & Ottenbreit-Leftwich, 2013). The second includes structured mentorship support that provides developmental guidance rather than mere evaluative supervision (Hudson, 2013). This study emerged from observing recurring challenges faced by student-teachers across multiple cohorts between 2024 and 2025. Despite participating in microteaching sessions and observing demonstration lessons, student-teachers consistently reported anxiety about integrating digital tools effectively while simultaneously managing complex classroom dynamics, a concern echoed in recent teacher education research (Kessler & Hubbard, 2017). The research examines whether a purposefully designed integration of technology training with robust mentorship models can enhance teaching practice outcomes, reduce student teacher anxiety and better prepare educators for contemporary classroom demands (Tondeur et al., 2018). Unlike previous studies that examine technology integration and mentorship as separate variables, this investigation explores their synergistic potential when implemented as complementary components of a unified framework.

LITERATURE REVIEW:

Educational technology has progressed from a peripheral instructional- aid to a central component of contemporary pedagogy, significantly transforming teaching and learning processes. Central to understanding effective technology integration is the Technological Pedagogical Content Knowledge (TPACK) framework proposed by Mishra and Koehler (2006), which indicates that meaningful teaching emerges from the dynamic intersection of content knowledge, pedagogical knowledge and technological knowledge. This framework describes that technology use in education should not be isolated from subject matter and instructional strategies rather it should be integrated holistically to enhance learning outcomes. Contemporary research continues to affirm TPACK's relevance by showing that how utility-value interventions can bolster pre-service teachers' integration of technological, pedagogical, and content knowledge (Science Direct, 2024). Despite this theoretical clarity, empirical research highlights persistent gaps in technology preparation within teacher education programmes. As a result, student-teachers often struggle to translate technological skills into authentic classroom practices, leading to superficial or instrumental use of digital tools rather than pedagogically meaningful integration. Recent qualitative research confirms this persistent gap, showing that pre-service teachers face pragmatic challenges in applying digital tools to real instructional contexts, confronting with limitations in digital literacy, infrastructure and guided support (Silitonga et al., 2025).

The literature further identifies "technology anxiety" as a significant barrier to effective technology integration during teaching practice. This anxiety encompasses fears of technical malfunction during observed lessons, concerns over loss of instructional time due to troubleshooting and uncertainty regarding the appropriateness of digital tools for specific age groups or learning objectives. Koh and Divaharan (2011) found that such anxiety compounds existing stressors linked with teaching practice including classroom management challenges, content delivery pressures and performance evaluation. Consequently technology anxiety can inhibit experimentation and innovation, counteracting the goals of teacher educators who seek to foster reflective and adaptive practitioners. Moreover, research suggests that the intensity and manifestation of technology anxiety vary across contexts, influenced by factors such as institutional infrastructure, prior technological experience and perceived levels of support from mentors and institutions (Tondeur et al., 2017). Mentorship has been widely recognized as a critical form of scaffolding for novice teachers. Effective mentors provide emotional support to sustain student-teachers through challenging experiences, pedagogical guidance that bridges theory and practice and constructive feedback that promotes reflection and professional growth. Hobson et al. (2009) differentiate between supervisory models of mentoring which focus primarily on evaluation and compliance and developmental models that emphasize professional learning, confidence building and identity formation. Research consistently demonstrates that high-quality mentoring positively influences student teacher outcomes including self-efficacy, instructional competence and long-term retention in the teaching profession. Furthermore, research on pre-service teachers’ acceptance of artificial intelligence (AI) and advanced digital tools reveals that attitudes toward technological complexity can mediate intentions to use AI in future teaching, highlighting that anxiety toward emerging technologies remains a crucial factor shaping integration practices (Runge et al., 2025; Alejandro et al., 2024).

While substantial bodies of literature examine technology integration and mentorship independently, comparatively little research investigates their combined influence within teaching practice contexts. Addressing this gap, the present study explores how structured and intentional mentorship can facilitate meaningful technology integration during the critical teaching practice phase, a period in which student-teachers transition from learning about teaching to enacting teaching in real classroom environments. Emerging research suggests that the combination of mentorship and technology support may address some of these gaps. Studies highlight the benefits of mentorship that provides both technical guidance and psychosocial support, fostering digital confidence and deeper engagement with educational technologies in inclusive learning environments (MDPI, 2025).

RESEARCH METHODOLOGY:

This mixed-methods study employed a quasi-experimental design incorporating qualitative components to capture both measurable outcomes and lived experiences. The research spanned from 2024 through 2025 across five teacher training institutions from Delhi-NCR representing diverse contexts including urban universities, semi-urban colleges and institutions serving predominantly rural practice schools. The participating institutions varied in size, infrastructure quality and student demographics providing heterogeneous settings that enhanced the generalizability of findings while also revealing context-specific factors influencing implementation success. Participants included an experimental group of 120 student-teachers participating in the Technology-Enhanced Mentorship Model alongside a control group of 120 student-teachers following traditional teaching practice protocols. Additionally, 45 experienced teachers received training and served as mentors for the experimental group while eight institutional coordinators oversaw teaching practice programmes at their respective institutions. Selection of participants employed stratified random sampling to ensure representation across subject specializations, gender, and institutional contexts. Informed consent procedures adhered to ethical research standards and participants could withdraw at any point without consequences.

The intervention designated as the Technology-Enhanced Mentorship Model integrated four sequential components designed to build competencies progressively. The pre-practice technology boot camp extended over one week while providing intensive training in Learning Management Systems including Moodle and Google Classroom, interactive presentation tools such as Nearpod and digital assessment platforms including Google Forms and classroom management applications. This boot camp employed hands-on learning approaches where student-teachers created actual lesson materials they would subsequently use during teaching practice. The mentor training programme spanned three intensive days, preparing mentor teachers through modules covering technology integration pedagogy based on the TPACK framework, coaching techniques emphasizing questions over directives, facilitation of reflective dialogue that promotes analytical thinking and formative assessment strategies. The hybrid teaching practice extended over four weeks with student-teachers conducting lessons using blended approaches that combined physical classroom instruction enhanced with digital tools alongside supplementary virtual sessions and asynchronous learning activities.

Structured reflection protocols organized weekly mentor-mentee conferences while utilizing digital portfolios where student-teachers curated evidence of their practice, video-recorded lesson analysis by employing specific protocols for systematic examination, collaborative reflection journals exchanged between mentors and student-teachers and peer feedback sessions via online platforms enabling asynchronous professional dialogue. Data collection employed multiple instruments capturing different dimensions of the phenomenon under investigation. Quantitative data included a Technology Acceptance Survey administered before and after the intervention measuring perceived usefulness, perceived ease of use, and behavioural intention regarding educational technology. The Teaching Practice Anxiety Scale administered weekly tracked changes in anxiety levels across domains including classroom management, content mastery, technology use, and evaluation pressure. A Digital Competence Self-Assessment completed before and after teaching practice evaluated confidence and proficiency across technology selection, integration, troubleshooting and pedagogical application. Mentor Feedback Rubrics employed standardized evaluation forms rating student teacher performance across traditional and technology-enhanced dimensions.

Qualitative data collection included semi-structured interviews with 40 purposefully selected student-teachers representing diverse experiences and outcomes, focus group discussions with eight mentor groups of five to six participants each, , lesson observation field notes recorded by researchers during practice school visits and video recordings of selected teaching sessions enabling detailed analysis of classroom interactions and technology integration patterns. Data analysis for quantitative measures employed SPSS software conducting paired t-tests comparing pre- and post-intervention scores, analysis of variance examining differences between experimental and control groups and correlation analysis exploring relationships between variables such as mentor quality and technology adoption rates. Statistical significance was set at p less than 0.05, with effect sizes calculated to determine practical significance beyond mere statistical significance. Qualitative data underwent thematic coding. Multiple researchers independently coded subsets of data, meeting regularly to discuss emerging themes, resolve discrepancies, and refine the coding scheme iteratively.

DATA ANALYSIS AND INTERPRETATION:

This section presents a quantitative analysis of data collected from student-teachers and mentors to examine the effectiveness of the Technology-Enhanced Mentorship Model. The analysis supports with the identified research objectives, methodology and key outcome variables.

1. Demographic Profile of Student-teachers: A total of 240 student-teachers participated in the study, with 120 in the experimental group and 120 in the control group. In the experimental group, 52 participants (43.3%) were male and 68 (56.7%) were female. In the control group, 49 participants (40.8%) were male and 71 (59.2%) were female. Overall, the sample consisted of 101 males (42.1%) and 139 females (57.9%). Both groups demonstrated comparable gender representation, indicating demographic equivalence between the experimental and control groups.

2. Institutional Context of Participants: Participants were drawn from urban, semi-urban and rural teacher training institutions. In the experimental group, 46 student- teachers (38.3%) were from urban institutions, 39 (32.5%) from semi-urban institutions, and 35 (29.2%) from rural institutions. In the control group, 44 participants (36.7%) were from urban institutions, 41 (34.2%) from semi-urban institutions and 35 (29.1%) from rural institutions. Overall, 37.5% of participants were from urban settings, 33.3% from semi-urban settings, and 29.2% from rural settings. This distribution enhances the contextual validity and generalizability of the findings.

3. Pre- and Post-Intervention Digital Competence Scores: The experimental group recorded a pre-test mean score of 2.84 in digital competence which increased to 4.12 in the post-test, resulting in a mean gain of 1.28. The improvement was statistically significant ($t = 9.46$, $p < 0.001$). The control group showed a smaller improvement, with a pre-test mean of 2.79 increasing to 3.21 in the post-test, yielding a mean gain of 0.42 ($t = 3.12$, $p < 0.05$). These results indicate that the experimental group demonstrated significantly greater improvement in digital competence compared to the control group, confirming the effectiveness of the integrated technology-mentorship intervention.

4. Teaching Practice Anxiety Levels across Groups: Teaching practice anxiety was measured over four weeks. In Week 1, both groups reported similarly high anxiety levels (Experimental = 4.01; Control = 4.03). By Week 2, anxiety decreased to 3.42 in the experimental group and 3.89 in the control group. In Week 3, the experimental group's anxiety reduced sharply to 2.64, whereas the control group recorded 3.61. By Week 4, the experimental group further reduced anxiety to 2.53, while the control group remained comparatively higher at 3.55. Although both groups experienced reduced anxiety over time, the experimental group exhibited a sharper and more sustained decline, consistent with mentor-supported confidence development.

5. Technology Acceptance Levels: Post-intervention technology acceptance scores were consistently higher in the experimental group. For perceived usefulness, the experimental group scored a mean of 4.38 compared to 3.56 in the control group. For perceived ease of use, the experimental group scored 4.11, while the control group scored 3.41. In terms of Behavioural intention, the experimental group recorded 4.45 compared to 3.62 in the control group. These findings indicate that student-teachers exposed to structured mentorship demonstrated stronger acceptance of educational technology across all measured dimensions.

6. Mentor Support and Quality of Feedback: Student perceptions of mentor support revealed substantial differences between groups. In the experimental group, 78% reported collaborative lesson planning compared to 34% in the control group. Constructive feedback was reported by 85% of the experimental group and 43% of the control group. Technology-specific guidance was acknowledged by 82% of experimental participants, whereas only 31% of control participants reported receiving such guidance. Emotional support was reported by 88% in the experimental group compared to 47% in the control group. These findings suggest that trained mentors in the experimental group provided significantly higher levels of pedagogical, technical and emotional support than traditional supervisors.

7. Time Investment in Lesson Preparation: The experimental group spent an average of 210 minutes preparing technology-integrated lessons, compared to 95 minutes in the control group. For traditional lessons, the experimental group spent 85 minutes on average, while the control group spent 90 minutes. This indicates that technology-integrated lessons require substantially greater preparation time.

8. Overall Teaching Practice Performance Scores: Mentor evaluation scores at the end of teaching practice showed consistent superiority of the experimental group. In lesson planning, the experimental group scored a mean of 4.32 compared to 3.61 in the control group. For classroom management, scores were 4.08 (experimental) and 3.74 (control). In technology integration, the experimental group achieved 4.41, significantly higher than the control group's 3.02. Reflective practice scores were 4.36 for the experimental group and 3.48 for the control group. These results demonstrate that the experimental group outperformed the control group across all evaluated dimensions, particularly in technology integration and reflective practice.

9. Analysis of Variance (ANOVA) Between Groups

Table 9

One-Way ANOVA Comparing Experimental and Control Groups on Key Outcome Variables

Variable	Group	Mean	SD	F-value	p-value
Digital Competence	Experimental	4.12	0.46	28.74	<0.001
	Control	3.21	0.51		
Teaching Practice Anxiety	Experimental	2.53	0.48	19.36	<0.001
	Control	3.55	0.57		
Technology Acceptance	Experimental	4.31	0.42	31.08	<0.001
	Control	3.53	0.49		
Overall Teaching Performance	Experimental	4.29	0.44	26.15	<0.001
	Control	3.46	0.52		

ANOVA results indicate statistically significant differences between experimental and control groups across all major outcome variables, confirming the superior effectiveness of the Technology-Enhanced Mentorship Model.

10. Effect Size Analysis: Effect size analysis using Cohen's d demonstrated very large practical significance across all outcome variables. For digital competence, the mean difference was 0.91 with a pooled standard deviation of 0.49, resulting in a Cohen's d of 1.86 (very large). Teaching practice anxiety showed a mean difference of 1.02, pooled SD of 0.53, and Cohen's d of 1.92 (very large). Technology acceptance yielded a mean difference of 0.78, pooled SD of 0.46 and Cohen's d of 1.70 (very large). Overall teaching performance showed a mean difference of 0.83, pooled SD of 0.48, and Cohen's d of 1.73 (very large). These findings indicate that the observed differences are not only statistically significant but also educationally meaningful.

11. Correlation Analysis among Key Variables: Pearson correlation analysis within the experimental group revealed strong positive relationships between mentor support quality, digital competence, and technology acceptance. Mentor support quality correlated positively with digital competence ($r = 0.62, p < 0.01$) and technology acceptance ($r = 0.58, p < 0.01$). Digital competence was also positively correlated with technology acceptance ($r = 0.66, p < 0.01$). Significant negative correlations were found between teaching practice anxiety and mentor support quality ($r = -0.55, p < 0.01$), digital competence ($r = -0.61, p < 0.01$) and technology acceptance ($r = -0.57, p < 0.01$). These relationships highlight the central role of mentorship in mediating technology integration outcomes and reducing teaching practice anxiety.

FINDINGS:

Student-teachers in both experimental and control groups faced predictable challenges associated with teaching practice including lesson planning uncertainties, classroom management concerns and evaluation anxiety. However, the nature, intensity and resolution of these challenges differed substantially between groups in ways that illuminate the value of integrated technology and mentorship support. Technology integration presented multifaceted challenges that manifested across infrastructure, competence and pedagogical dimensions. Infrastructure and access barriers emerged as significant constraints with 35 percent of practice schools lacking reliable internet connectivity sufficient for streaming video or enabling multiple simultaneous device connections. A substantial majority of student-teachers, specifically 62 percent, relied on personal devices including laptops, tablets, and smartphones because institutional resources remained unavailable or inaccessible. Notably, 28 percent of practice schools restricted student teacher access to computer laboratories that were reserved for regular teachers or specific courses, creating barriers that supervision alone could not overcome. These infrastructure challenges disproportionately affected student-teachers placed in under-resourced schools, typically serving economically disadvantaged communities, thereby perpetuating educational inequities at both student and teacher levels.

Technical competence gaps persisted despite pre-practice training, revealing the difference between exposure to tools and fluency in their pedagogical application. Learning Management Systems posed difficulties for 42 percent of student-teachers particularly regarding initial course setup, student enrolment processes and organization of learning materials in intuitive navigation structures. Interactive whiteboards challenged 55 percent of participants who required multiple teaching sessions to achieve comfortable fluency moving beyond simply using them as projection screens to leveraging interactive features that engaged students actively. Video editing tools presented particularly steep learning curves with 68 percent finding the process of recording, editing, and producing polished lesson components excessively time-intensive given the compressed teaching practice timeline. Digital assessment platforms created difficulties for 37 percent of student-teachers in designing assessments that tested higher-order thinking rather than mere recall while also configuring scoring and feedback mechanisms appropriately. These findings revealed that while student-teachers possessed basic digital literacy enabling personal technology use, translating this competence into pedagogically sound classroom applications required sustained practice and support extending beyond brief workshops.

The quality of mentor support varied dramatically based on whether mentors had received specific training in developmental coaching versus traditional supervision. Collaborative lesson planning occurred for 78 percent of experimental group participants as mentors helped think through technology integration strategies, anticipate potential challenges and develop contingency plans. Crucially, 85 percent felt their mentors genuinely understood the unique challenges of technology integration rather than dismissing difficulties or expecting seamless implementation. Student-teachers in the control group working with traditional supervisors painted considerably different portraits of their experiences. Only 43 percent described supervisors as supportive, with the majority experiencing interactions as primarily evaluative and occasionally judgmental particularly when lessons deviated from conventional formats supervisors expected. Only 31 percent supervisors understood or valued digital pedagogy, with many reporting that feedback focused exclusively on traditional skills like blackboard writing and questioning techniques while ignoring technology integration entirely or treating it as distraction from real teaching. Untrained supervisors focused primarily on traditional teaching skills that dominated their own professional socialization including blackboard organization, questioning patterns and classroom arrangement while rarely referencing technology use in their feedback.

Anxiety levels measured weekly revealed that experimental group participants experiencing the Technology-Enhanced Mentorship Model showed a 34 percent reduction in teaching practice anxiety by week three as they developed confidence and routines, compared to only 12 percent reduction in the control group where anxiety remained elevated throughout the practice period. Confidence gains paralleled anxiety reductions with 89 percent of experimental participants reporting increased confidence in both teaching ability and technology integration by practice conclusion, substantially exceeding the 56 percent of control group participants expressing similar confidence growth. During weeks one and two, both groups showed similar levels of technology anxiety and technical difficulties as they navigated unfamiliar tools and classroom contexts. However, by weeks three and four, the experimental group demonstrated markedly improved integration characterized by purposeful tool selection, seamless incorporation into lesson flow and effective troubleshooting, while the control group plateaued at basic technology use often limited to occasional PowerPoint presentations.

The presence of supportive mentors created psychological safety necessary for innovation by establishing that experimentation was expected and valued. This finding underscored that technology integration ultimately depends more on human factors including support, encouragement and guidance than on technical factors like tool features or internet speed. Despite predominantly positive outcomes, persistent challenges remained evident even within the Technology-Enhanced Mentorship Model revealing limitations requiring ongoing attention. Time constraints created ongoing tension as technology-integrated lessons required substantially longer preparation periods averaging 180 to 240 minutes compared to 60 to 90 minutes for traditional lessons following familiar formats. Approximately 23 percent of schools discouraged deviation from established teaching methods, with administrators and cooperating teachers explicitly stating that student-teachers should follow traditional approaches rather than experimenting with unfamiliar techniques that might disrupt established routines. Risk aversion particularly intensified during supervisor observations as administrators worried that technology failures would reflect poorly on their schools, leading them to pressure student-teachers toward safe, conventional lessons guaranteed to proceed smoothly. Resource protection manifested as limited access to digital resources including computers, tablets, and projectors that were reserved for permanent staff rather than made available to temporary student-teachers perceived as outsiders who might misuse or damage equipment. Mentor availability constituted an ongoing challenge as mentor teachers balancing regular teaching responsibilities struggled to provide adequate support averaging only 45 minutes of dedicated mentorship time weekly compared to the recommended 120 minutes necessary for substantive developmental coaching.

DISCUSSION:

This research demonstrates that technology integration and mentorship function synergistically rather than independently in teacher preparation. Technology provides tools enabling enhanced instruction through multimedia presentations and interactive platforms, more sophisticated assessment capturing detailed performance data and deeper reflection through video recording and digital portfolios. However, technology alone proves insufficient as tools require pedagogical knowledge guiding their purposeful application rather than superficial adoption, troubleshooting expertise enabling recovery from inevitable technical difficulties, and critical perspective distinguishing transformative uses from mere digitization of traditional practices. Mentorship provides the essential human elements including emotional support sustaining novice teachers through challenging experiences, context-specific guidance adapting general principles to particular situations, pedagogical reasoning helping student-teachers understand why certain approaches work while others fail and encouragement to experiment despite risks of failure. Yet mentorship without technology integration leaves student-teachers unprepared for contemporary classrooms increasingly characterized by digital tools, online learning components and students expecting technology-enhanced experiences. The TPACK framework gains practical operationalization through mentorship as skilled mentors help student-teachers navigate the complex intersection of content knowledge, pedagogical expertise, and technological proficiency by translating abstract frameworks into contextualized practice. Without mentor support, student-teachers defaulted to superficial technology use exemplified by replacing chalkboards with PowerPoint slides that simply digitized traditional lecture formats without transforming pedagogical approaches or student engagement patterns. This finding aligns with Mishra and Koehler's observation that technology integration requires more than technical skill, demanding reconceptualization of how technology enables new forms of teaching and learning rather than merely automating existing practices. Mentors served crucial roles in helping student-teachers ask fundamental pedagogical questions such as what learning objectives they pursued, how particular technologies might advance those objectives, what alternatives existed, and how they would assess whether technology actually enhanced learning or simply added complexity without corresponding benefits.

The study's findings suggest that traditional teaching practice models emphasizing lesson quantity require fundamental reconceptualization. The prevalent requirement that student-teachers complete 40 lessons during a compressed three-to-four-week period creates pressure prioritizing task completion over genuine learning and professional development. Student-teachers focus on surviving each lesson and accumulating the required number rather than deeply analysing their practice, experimenting with alternative approaches or refining specific pedagogical competencies. This quantitative emphasis reflects industrial-era thinking about teacher preparation. These alternative metrics acknowledge that teacher development follows non-linear paths were individual’s progress at different rates and through different routes toward competence. Focusing on developmental milestones rather than uniform task completion allows differentiation responding to individual student teacher needs and contexts rather than imposing one-size-fits-all requirements. Hybrid approaches combining digital and analogue methods enable technology use when available while maintaining learning opportunities when technology proves inaccessible. Device lending programs through which institutions provide technology access for economically disadvantaged students address immediate access barriers though long-term solutions require systemic infrastructure investments.

Successful technology integration depends on systemic institutional changes rather than individual teacher efforts alone. Teacher training institutions must devote extended preparation time enabling technology skill development through minimum two-week intensive boot-camps rather than current three-to-five-day workshops providing only surface exposure. Faculty development in technology-enhanced pedagogy ensures that teacher educators model practices they expect student-teachers to adopt rather than relying on traditional methods while advocating for innovation. Practice schools require clear memoranda of understanding clarifying technology access expectations, support responsibilities and evaluation criteria ensuring all parties share common understandings about technology integration goals and methods. Infrastructure assessments before student teacher placement enable matching students to schools where they can actually implement technology-enhanced teaching rather than discovering mid-practice that planned approaches are impossible. Revised assessment frameworks valuing innovation alongside traditional metrics signal that educational systems genuinely prioritize technology integration and pedagogical transformation rather than merely paying lip service while rewarding conventional approaches.

RECOMMENDATIONS:

Based on research findings, this study offers comprehensive recommendations addressing identified challenges while building on observed successes. Extended and integrated technology preparation represents essential foundation for meaningful technology integration. Recommended practice involves two-week intensive technology bootcamps before teaching practice providing sustained engagement with digital tools, technology integration embedded across all pedagogy courses throughout the B.Ed. programme ensuring that student-teachers consistently encounter and practice digital approaches rather than viewing them as separate domain, monthly technology clinics providing on going troubleshooting support as student-teachers encounter new challenges and tools and peer learning communities where student-teachers share digital resources, strategies and solutions fostering collaborative rather than isolated learning. Formalized mentor selection and development transforms mentorship from haphazard assignment to systematic professional practice. Current practice often involves ad hoc assignment of any available school teacher as supervisor without consideration of mentoring capability or interest in developmental coaching. Mandatory thirty-hour mentor certification programmes cover principles of adult learning and coaching distinct from teaching children, digital pedagogy frameworks including TPACK and SAMR models, observation and feedback techniques that promote reflection, facilitation of reflective dialogue through questioning and listening and supporting student teacher wellbeing during stressful practice periods. Annual mentor refresher training incorporating emerging technologies and pedagogical approaches prevents obsolescence while providing on-going professional development. Compensation or teaching load reduction formally recognizing mentor contributions addresses practical barriers to sustained quality mentorship.

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