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Investigating Iranian EFL Teachers' Perceptions on the Use of ICT in Teaching English

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Abstract

Technological advancement in this digital age requires educational systems to integrate Information and Communication Technology (ICT) innovatively into teaching and learning. However, teachers' perceptions of ICT are a key determinant of its success or failure. This study aims to investigate Iranian school teachers' perceptions of the use of ICT in English teaching and learning. To achieve the intended results, a semi-structured interview consisting of 10 open-ended questions was used to collect qualitative data from 10 participating teachers in Iranshahr, Iran. A multi-stage synthesis of the qualitative data, including categorical and thematic analysis, was adopted to analyze and present the data. The findings indicate that while teachers possess strong positive attitudes towards ICT and believe its use improves teaching quality and student motivation, they are severely blocked by significant systemic barriers. These challenges include a critical lack of financial resources, inadequate and unreliable technological infrastructure, insufficient technical support, insufficient time allocation, and cultural barriers to curriculum integration. The study highlights a critical disconnect between top-down administrative expectations and the practical, bottom-up realities teachers face in the classroom.

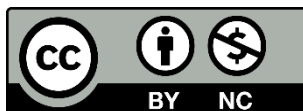*****Corresponding Author:** Mousa Mahmoudzehi
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Introduction

Education, as a core driver of social, economic, and cultural development, must continually evolve in response to global transformations, particularly the accelerating digital revolution (Mirzajani et al., 2016). In contemporary educational systems, the integration of Information and Communication Technology (ICT) has moved from a supplementary option to an essential component of pedagogical practice. Its role in enhancing learning, promoting student engagement, and fostering the digital literacy skills required for higher education and employment is now widely acknowledged (Basset, 2005). The rapid expansion of technological tools—including mobile devices, interactive learning platforms, and smart boards—has introduced new opportunities for transforming traditional teacher-centered classrooms into flexible, multimodal, student-centered learning environments (Moyle, 2008).

In Iran, the national "Smart School" initiative, launched in 2003 and expanded in 2011 (Attaran, 2011), represents the Ministry of Education's flagship effort to modernize public schooling. Central to this initiative has been the installation of smart boards, computers, and basic network infrastructure (Leah, 2010). Yet global research consistently demonstrates that access to hardware alone does not guarantee pedagogical impact. Effective ICT integration depends largely on teachers' perceptions, pedagogical orientations, and digital readiness (Van Praag & Sanchez, 2015). As ICT becomes more deeply embedded in curricular expectations, teachers' lived experiences with technology—both its affordances and limitations—have become crucial indicators of whether national digitalization policies are succeeding in practice.

Emerging research underscores a shift in explanatory frameworks related to ICT integration. While earlier studies often attributed integration challenges to teacher attitudes, ambivalence, or insufficient skills, recent evidence highlights the dominance of systemic, institutional, and infrastructural factors—particularly following the global disruptions associated with the COVID-19 pandemic (Macaro & Cirocki, 2021). Teachers worldwide now report being highly motivated to engage with digital tools but constrained by unreliable infrastructure, inconsistent administrative support, and training programs that fail to build meaningful Pedagogical Digital Competence (PDC). This shift reflects a broader understanding that technology integration is not solely a matter of individual readiness; it is a complex, multi-layered process shaped by school resources, technical support, policy implementation, and the broader educational ecosystem.

Within Iran, this systemic perspective is particularly relevant. Although the Smart School project has introduced digital tools into many classrooms, research suggests that implementation remains uneven and often superficial, with schools facing underfunding, slow maintenance cycles, and inadequate digital training (Attaran, 2011). English language teaching provides a compelling site for examining these tensions, as

the subject's communicative and multimodal nature makes it uniquely suited to ICT-enhanced pedagogy, yet teachers often struggle to access stable, functioning equipment or subject-specific digital training. As the results of this study reveal, teachers may possess strong pedagogical motivation and high levels of self-reported technological confidence, yet remain hindered by persistent infrastructural failures, unreliable hardware, and limited administrative support. These conditions raise critical questions about the sustainability and authenticity of national smart school reforms.

Given this landscape, the present qualitative case study aims to move beyond abstract assessments of teacher attitudes and instead examine the concrete, lived experiences of Iranian English language teachers working in smart school contexts in Iranshahr. The study seeks to explore how these teachers perceive the pedagogical value of ICT, how they navigate the practical challenges arising from unreliable technological systems, and how institutional and administrative structures shape their capacity for effective integration. By foregrounding teachers' narratives, the study aims to contribute to a more nuanced understanding of the systemic realities shaping ICT-mediated language teaching in Iranian public schools.

- What are teachers' perceptions of the use of smart schools in teaching and learning English, including the pedagogical benefits and the specific systemic challenges they encounter?.

Literature Review

Technology-Enhanced Language Learning (TELL) in a Changing Landscape

ICT encompasses all technologies that facilitate data processing, communication, and content delivery (Jatileni & Jatileni, 2018). Within language education, this is termed Technology-Enhanced Language Learning (TELL), a field that has seen dramatic evolution. Initially focused on Computer-Assisted Language Learning (CALL) using desktop software, the scope has expanded rapidly to include Mobile-Assisted Language Learning (MALL), immersive virtual environments, and sophisticated Artificial Intelligence (AI) tools (Kessler, 2020). The pedagogical shift afforded by TELL is critical. It moves instruction away from rote memorization toward authentic communication and personalized learning pathways, aligning closely with Communicative Language Teaching (CLT) principles (Aminipanah et al., 2016).

Digital technologies support language development across multiple skill areas by enriching instructional input and expanding opportunities for interaction. In speaking and listening, authentic audio-visual materials drawn from global news sources or online video platforms expose learners to natural linguistic input while recording and playback functions enable targeted pronunciation practice and the development of oral fluency (Khoshsima & Mozakkaa, 201). Reading and writing also benefit from digital integration, as collaborative online documents allow students to jointly construct texts,

exchange immediate peer feedback, and engage with Automated Written Corrective Feedback (AWCF) tools that reduce teachers' time spent on surface-level error correction and allow them to focus on higher-order cognitive support (Rahimi & Fathi, 2022). In addition, digital platforms enhance learner engagement by incorporating gamified activities and interactive software that contextualize language tasks and motivate students through dynamic, visually rich learning environments (Li & Zhu, 2021; Zhou & Wei, 2018). The rapid global transition to online teaching during the COVID-19 pandemic further underscored the urgency of developing robust Technology-Enhanced Language Learning (TELL) strategies while simultaneously revealing deep institutional and national digital divides, as many schools lacked both the technological infrastructure and the teacher preparation necessary to sustain high-quality digital instruction (Bao & Wang, 2022; Macaro & Cirocki, 2021).

This qualitative case study investigates Iranian English language teachers' perceptions of the use of Information Communication Technology (ICT) in teaching and learning. Semi-structured interviews were conducted with ten experienced teachers from various high schools in Iranshahr, Iran. The findings reveal a stark contrast between teachers' strong positive attitudes towards ICT and the severe systemic barriers they face in implementation. While teachers universally agree that ICT enhances student motivation and aligns with communicative language teaching principles, they are hindered by critical infrastructure failures, including unreliable hardware, a lack of technical support, and poor internet connectivity. Teachers also identify a profound disconnect between top-down administrative expectations and the bottom-up realities of inadequate financial resources, inappropriate professional development, and the cultural marginalization of English language learning. The study highlights the urgent need for policy reform to prioritize operational budgets for ICT maintenance, mandate dedicated on-site technical support, and provide specialized training focused on pedagogical digital competence rather than basic computer skills. The findings underscore that teachers' willingness to integrate technology is insufficient without a comprehensive, sustainable ecosystem of institutional support. Successful ICT implementation in Iranian smart schools requires a fundamental shift from symbolic reform to substantive investment in reliable infrastructure and teacher empowerment.

Teacher Competence: From Technical Skills to the TPACK Framework

The successful integration of digital tools in education relies not merely on a teacher's technical proficiency but on a broader and more sophisticated construct known as Pedagogical Digital Competence (PDC). PDC encompasses the ability to strategically employ technology to enhance instructional design, assessment practices, and overall learning processes, moving far beyond the mechanical operation of devices (Tondeur et al., 2021). This competence is most effectively conceptualized through the Technological Pedagogical Content Knowledge (TPACK) framework, which explains

that meaningful technology integration occurs only at the convergence of three fundamental knowledge domains. Content Knowledge (CK) refers to the teacher's understanding of the subject matter, such as linguistic theory or principles of vocabulary development. Pedagogical Knowledge (PK) encompasses insights into instructional methods, classroom management, and learning strategies, including communicative language teaching and scaffolding techniques. Technological Knowledge (TK) involves familiarity with digital tools and platforms, including smartboards, learning management systems, and presentation software.

The central strength of the TPACK model lies in its emphasis on the intersections of these domains, particularly Technological Pedagogical Content Knowledge, which represents a teacher's ability to select, adapt, and apply digital tools in ways that are pedagogically sound and tailored to specific content demands. For example, a teacher who chooses a collaborative online document (TK) to facilitate peer review (PK) for a complex argumentative writing task (CK) is operating within the integrative space of TPACK. However, the existing literature consistently highlights that most professional development initiatives fail to cultivate this level of integration. Instead, they overwhelmingly focus on isolated technological skills, offering general computer literacy or ICDL-style training with little attention to pedagogical or content-related dimensions (Hlasna et al., 2017). As a result, many teachers develop surface-level technical abilities but remain unable to employ technology in transformative ways. This mismatch creates what has been widely referred to as the PDC Gap, a structural barrier that restricts teachers to basic technology substitution—such as using a smartboard merely as a digital blackboard—rather than leveraging its full potential for interactive, student-centered, and pedagogically aligned instruction.

Systemic and Infrastructure Barriers to ICT Integration

Institutional support and reliable infrastructure constitute the most decisive enabling factors for effective technology integration, often outweighing even teacher competence or attitude. When these institutional elements are weak or absent, they become the primary structural barriers preventing digital tools from contributing meaningfully to teaching and learning (Goktas et al., 2009). One of the most prominent issues documented in the literature is the pervasive problem of infrastructural unreliability. Teachers frequently report malfunctioning hardware, unstable electrical supply, poor or inconsistent internet access, and the complete absence of dedicated technical support personnel (Ghavifekr et al., 2016). Such conditions create a high-stakes instructional environment in which teachers must constantly anticipate technological breakdowns and prepare alternative lesson plans. When technology fails in the classroom, valuable instructional time is lost, student engagement declines, and the teacher's professional credibility may be unintentionally undermined. Over time, these negative experiences—even for teachers who strongly value ICT—result in a

reversion to traditional, lower-risk methods, thereby perpetuating a vicious cycle of non-use (Ogwu & Ogwu, 2010).

This cycle is exacerbated by a persistent policy and financial disconnect within many educational systems. While national or institutional leaders often promote "smart school" initiatives rhetorically, there is frequently insufficient alignment between these ambitions and the actual resources provided to schools. Effective integration requires not only initial equipment purchases but also robust operational budgets for maintenance, repairs, software updates, and on-site technical support (Tondeur et al., 2008). Yet, many institutions prioritize visible capital expenditures—such as installing smartboards—without committing to the long-term operational investment needed to keep these tools functional. This imbalance produces a localized digital divide wherein technology is present but unusable, creating frustration for teachers and diminishing the credibility of ICT-based reforms (Macaro & Cirocki, 2021).

In contexts like Iran, these challenges are further intensified by cultural, political, and curricular constraints. English language teaching, in particular, is sometimes deprioritized within the broader educational agenda, resulting in limited access to shared technological resources and reduced administrative urgency in resolving ICT issues related to this subject. This marginalization restricts teachers' ability to innovate and widen their pedagogical repertoire, ultimately constraining the full potential of digital integration in language education (Ekstam & Sarvandy, 2017).

Methods

This study adopted a qualitative case study design to explore English language teachers' perceptions regarding the integration of smartboards into their everyday instructional practices, as well as the challenges and constraints encountered in doing so. A case study design, as described by Creswell (2013), enables researchers to conduct an intensive, contextually situated investigation of a bounded system, in this case, high school English classrooms in Iranshahr, Iran. The qualitative orientation of the study facilitated an in-depth understanding of participants' subjective experiences, interpretations, and meaning-making processes related to educational technology use. This approach allowed the researchers to capture the complexity of classroom realities, uncover nuanced insights that may not emerge through quantitative methods, and construct a detailed narrative of the pedagogical, institutional, and technological factors shaping smartboard integration. The choice of this design was further justified by the need to generate rich, descriptive data that reflect teachers' authentic voices and lived experiences.

Participants

The participants consisted of ten English language teachers (five male and five female) drawn from different high schools across Iranshahr, Iran. Purposeful sampling was employed to ensure maximum variation in teaching experience, institutional context, and familiarity with smartboard technology. Participants had between 5 and 15 years of teaching experience. This diversity was intended to capture differences in professional backgrounds, pedagogical orientations, and levels of technological adaptation. All participants had been teaching in classrooms equipped with smartboards for at least one academic year, ensuring that they possessed relevant firsthand experience with the technology. Prior to inclusion in the study, participants were provided with a detailed explanation of the research goals and procedures. They then gave informed consent, in accordance with ethical standards for qualitative educational research.

Instruments

Data were collected using a semi-structured interview protocol composed of 10 open-ended questions(Appendix A). The instrument was developed based on a comprehensive review of existing literature on educational technology integration, teacher readiness, and institutional support mechanisms. The questions were structured to probe participants' perceptions in four core domains:

(a) Pedagogical considerations, including how smartboards influence lesson planning, instructional delivery, and learner engagement.

(b) Availability and adequacy of digital tools, focusing on the reliability of smartboard equipment, availability of technical resources, and ease of access.

(c) Administrative support, addressing issues such as institutional encouragement, professional development opportunities, and maintenance policies.

(d) Teachers' skills and knowledge, examining self-reported technological competence, training experiences, and confidence levels.

The semi-structured format provided sufficient guidance to ensure thematic consistency across interviews while allowing participants the flexibility to elaborate on issues they deemed important. Interviews were conducted face-to-face when feasible; otherwise, they were completed through email correspondence to accommodate participants' schedules. All face-to-face interviews were audio-recorded with permission. To enhance the trustworthiness and credibility of the findings, member checking was conducted. Summaries of preliminary interpretations were shared with participants via follow-up phone calls, enabling them to confirm, clarify, or refine the researchers' understanding of their responses.

Procedure

The qualitative data underwent a systematic, multi-stage analytical process combining categorical coding with thematic analysis. Initially, all interview transcripts were transcribed verbatim and read multiple times to achieve immersion in the data. A preliminary coding scheme was developed deductively, grounded in the four predetermined categories derived from the interview protocol: pedagogical considerations, availability of tools, administrative support, and teacher competence. During subsequent coding cycles, inductive codes were also added to capture emergent ideas not encompassed within the initial framework.

The coding process proceeded through open, axial, and selective coding to refine categories, establish relationships between concepts, and synthesize recurring patterns. Themes were then developed by clustering related codes and identifying convergences or divergences among participants' accounts. Representative quotations were extracted to illustrate central themes and provide authenticity to the participants' perspectives. Throughout the analysis, analytic memos were maintained to document interpretive decisions, ensuring transparency and enhancing the dependability of the findings. The final thematic structure served as the basis for interpreting the teachers' shared and contrasting perceptions regarding smartboard use in their instructional contexts.

Results

The analysis of the ten teacher interviews revealed a consistent pattern: teachers demonstrated strong pedagogical willingness to use ICT and smartboards, yet their efforts were significantly constrained by systemic, infrastructural, and administrative failures. The findings below are organized according to the four thematic categories developed in the analytical framework.

Pedagogical Willingness vs. Practical Time Constraints

Across all interviews, teachers communicated a clear awareness of the pedagogical benefits associated with smartboard integration. They repeatedly noted that digital tools enriched language lessons, increased student motivation, and supported communicative language teaching practices. As Teacher 1 explained, "When I use videos and pictures on the smartboard, the students immediately become more active. They pay attention in a way that doesn't happen with the textbook alone." Similarly, Teacher 4 emphasized the lasting impact of multimedia input, stating, "The learning becomes more permanent because they hear, see, and interact with the material, not just read it."

Despite these benefits, teachers consistently described serious time-related frustrations stemming from technological unreliability. The most frequently mentioned challenge was the loss of valuable instructional time during class. Teacher 2 expressed this clearly: "I waste half of my class time just trying to make the device work.

Sometimes it takes so long that I have to give up." As a consequence, teachers were compelled to design duplicate lesson plans—one digital and one traditional—to protect against unexpected equipment failures. Teacher 3 described this dual-planning burden as "double work that leaves me exhausted before I even start teaching." Moreover, the unpredictability of the technology was perceived as detrimental to pedagogical creativity. According to Teacher 5, "When the technology fails again and again, you lose your confidence to try new things. The students also lose trust in your planning." These observations highlight a tension between pedagogical ambition and the practical limitations imposed by unreliable ICT infrastructure.

Inadequacy of Digital Infrastructure and Resources

The second major theme centers on severe resource limitations, which teachers identified as the most fundamental barrier to successful integration. The lack of dedicated instructional spaces was frequently mentioned, with teachers reporting that they had to compete for access to a single smartboard-equipped classroom. Teacher 6 noted, "There is only one room with a working smartboard, and sometimes three teachers want it at the same time."

Hardware reliability emerged as a central concern. Multiple participants described the smartboards as "unpredictable," with breakdowns occurring without warning. Teacher 2 stated emphatically, "There is no guarantee it will work on any given day. You walk in the room and pray." When devices malfunctioned, they often remained unrepaired for extended periods. Teacher 7 explained, "Last semester, the smartboard was broken for almost three months. They said there was no budget to fix it."

The absence of technical support compounded these challenges. Teachers consistently reported that they lacked access to on-site personnel who could address even minor problems. As Teacher 1 commented, "Even a small issue becomes a big issue because nobody knows how to repair it. So it just stays broken." Internet connectivity issues further restricted instructional possibilities, with Teacher 5 remarking, "The internet is so weak that online activities are impossible. I have stopped trying because it disconnects every few minutes." Collectively, these infrastructural problems demonstrate that the technological foundation required for smartboard-based pedagogy remains critically underdeveloped.

Disconnect in Institutional and Administrative Support

Teachers also described a pronounced mismatch between administrative expectations and the level of support provided. While school leaders routinely encouraged ICT integration, teachers felt that this encouragement lacked substantive follow-through. Teacher 4 summarized this disconnect: "They always tell us to use technology, but they don't give us what we need to actually do it."

Financial constraints were a recurring theme, with participants emphasizing that administrators frequently attributed the lack of repairs, upgrades, and training to budget limitations. Teacher 7 explained, "The principal says, 'We don't have the money,' and that is the end of the discussion. Nothing changes."

Professional development was another area of concern. Teachers unanimously reported that the training available to them—primarily ICDL-based—was inappropriate for subject-specific instructional needs. Teacher 3 noted, "They teach us basic computer skills, but nothing about how to use the smartboard for teaching English." In line with concerns about pedagogical digital competence, Teacher 5 added, "We need training that shows us how to integrate the technology with language learning activities, not just how to click the buttons."

Several teachers also mentioned broader cultural and political factors that contributed to the marginalization of English within the curriculum. Teacher 6 commented, "Because English is not a priority, our needs are always ignored. Other subjects get the attention, not us." This sense of marginalization reinforced teachers' perceptions that meaningful ICT support for English instruction was unlikely to be prioritized in their schools.

Self-Confidence and Systemic Blame

In contrast to earlier research suggesting that teachers' lack of technological competence may hinder ICT integration, participants in this study expressed strong confidence in their digital abilities. Many reported using personal devices, internet resources, and self-directed learning to prepare engaging digital materials. Teacher 1 explained, "I am comfortable with technology. I make my own PowerPoints at home and download videos for my lessons." Teacher 4 echoed this sentiment: "If the school won't train us, we train ourselves. We know how to use the tools."

Importantly, teachers were adamant that the primary barriers to ICT integration were systemic rather than personal. They consistently placed responsibility on unreliable infrastructure, insufficient institutional funding, inadequate training programs, and the absence of technical support. Teacher 2 articulated this clearly: "The problem is not us. The problem is the system. We are ready, but the system is not ready." Similarly, Teacher 10 stated, "We want to use the technology every day, but without support and reliable tools, it is impossible."

These findings collectively indicate that teacher readiness is not the limiting factor in ICT integration within these schools. Instead, systemic constraints—structural, financial, and administrative—constitute the primary obstacles preventing teachers from implementing smartboard-supported pedagogy effectively.

Discussion

The findings of this study demonstrate a clear contrast between teachers' strong pedagogical commitment to ICT integration and the severe systemic barriers that obstruct meaningful implementation. Despite the participants' uniformly positive perceptions of ICT for language learning—echoing global research on Technology-Enhanced Language Learning (Zhou & Wei, 2018)—their daily instructional realities were shaped by recurring technological failures, inadequate infrastructure, and insufficient institutional support. Teachers articulated confidence in their own technological skills yet expressed frustration at working within what they repeatedly described as an unreliable and unsupportive system. The discussion below synthesizes these findings into three major interpretive dimensions.

A central contribution of this study lies in its illustration of how systemic and infrastructural failures inhibit the pedagogical potential of teachers who are otherwise fully prepared and motivated to integrate ICT. The persistent hardware malfunctions, unstable internet connectivity, and absence of technical personnel underscore an institutional digital divide (Macaro & Cirocki, 2021). Teachers' accounts reveal how this divide manifests at the classroom level. For instance, Teacher 2 lamented that "there is no guarantee it will work on any given day," while Teacher 7 reported that a broken smartboard "remained unrepaired for almost three months." These findings confirm that initial investment in smartboard technology has not been matched with ongoing maintenance or operational support, resulting in a fragile ecosystem unable to sustain modern digital teaching practices.

The consequences for teachers extend beyond inconvenience; they fundamentally reshape classroom preparation and pedagogy. Teachers described the need to prepare parallel lesson plans—one digital and one traditional—because technological failures were frequent and unpredictable. As Teacher 3 put it, "I make two lesson plans every time because I know anything can happen." This "dual-planning burden" reduces teachers' available preparation time and increases cognitive and emotional stress, diminishing the pedagogical creativity and spontaneity that ICT is supposed to foster. The large gap between teachers' pedagogical intentions and the infrastructural reality casts doubt on the authenticity of the "smart school" initiative, which appears more symbolic than transformative.

Although teachers demonstrated strong technological self-confidence, their request for pedagogically relevant, subject-specific training highlights a critical gap in existing professional development structures. Current training opportunities—primarily ICDL-style courses—do not equip teachers with the Pedagogical Digital Competence (PDC) necessary for discipline-specific integration (Tondeur et al., 2021). Teachers were explicit about this mismatch. As Teacher 3 stated, "They teach us basic computer skills, but nothing about how to use the smartboard for teaching English." Teacher 5

echoed this need: "We need training that shows us how to integrate technology with language activities, not just how to operate the device."

This gap is particularly consequential in high-stress teaching environments, where unfamiliarity with pedagogically aligned tools can undermine teacher confidence, even when general technological skill levels are high. The findings reinforce the need for specialized professional development that connects digital tools to the communicative, multimodal, and interactive dimensions of language pedagogy. In this respect, the teachers' expressed needs confirm broader theoretical debates on the centrality of PDC in achieving authentic ICT integration rather than superficial or procedural use of digital tools.

Teachers' views also reveal a significant misalignment between administrative discourse and the material conditions of ICT implementation. While administrators frequently encourage technology use, the practical support required to actualize this vision—funding, technical staff, reliable maintenance—remains absent. Teacher 4 articulated this disconnect clearly: "They always tell us to use technology, but they don't give us what we need to actually do it."

This contradiction reflects a broader policy-action divide in which technological innovation is promoted rhetorically but not operationalized financially or logistically. As a result, the smartboard initiative becomes a symbolic reform rather than a sustained, systemic investment in digital education. The lack of funding for repairs, slow response to equipment failure, and reliance on teachers' personal resources illustrate how policy aspirations are undermined by structural constraints. For ICT integration to be meaningful, school leaders must recognize the foundational role of stable infrastructure and technical support, reaffirming that digital education depends not only on hardware procurement but also on long-term operational capacity (Tondeur et al., 2008).

Given the misalignment between training offerings and teacher needs, professional development must be redesigned to support pedagogically grounded, subject-specific technology use. Training programs should concentrate not on general ICT literacy but on the core practices of Technology-Enhanced Language Learning (TELL). This includes integrating the four macro-skills using smartboard affordances, as well as designing interactive, collaborative, and communicative tasks aligned with CLT principles (Khoshsima & Mozakkaa, 2017). Teachers must also be equipped to leverage formative assessment technologies, including online quizzes, digital feedback tools, and Automated Written Corrective Feedback (AWCF) systems (Rahimi & Fathi, 2022).

Moreover, teachers require explicit instruction in digital content curation, allowing them to evaluate, adapt, and securely deploy authentic resources such as podcasts, news clips, and online texts for communicative practice (Li & Zhu, 2021). Given the documented infrastructural instability in the results, PD should also address troubleshooting and contingency planning, enabling teachers to pivot quickly to low-

tech strategies when devices malfunction. Developing these competencies would significantly reduce the stress associated with technological failure and enhance teachers' sense of professional control.

Conclusion

The systemic failures identified across the data—financial constraints, absent technical support, and insufficient training—require coordinated policy responses. Effective integration demands that decision-makers shift from prioritizing hardware acquisition to sustaining functional infrastructure. Operational budgets must be reoriented toward maintenance, repairs, and ongoing service costs. Without these investments, even the most motivated teachers will remain unable to rely on ICT tools, as confirmed repeatedly in teachers' reports of persistent equipment breakdowns. Administrative policy must also require each school to employ or contract dedicated ICT support staff capable of addressing routine malfunctions. Reliance on sporadic district-level support has contributed directly to prolonged periods of unusable equipment, reinforcing what Ogwu and Ogwu (2010) describe as a "vicious cycle of non-use." Schools should also work to expand equitable access by transforming existing rooms into dedicated Digital Language Labs and implementing scheduling systems that prevent competition over scarce resources. In addition, the recognition of PDC as a core professional competency should be embedded into teacher appraisal frameworks, with teachers receiving incentives—such as targeted training allowances or reduced teaching loads—to support sustained digital lesson planning and innovation.

As a qualitative case study with a small sample (n = 10), the findings should be interpreted within the contextual and cultural boundaries of Iranshahr's educational system. While the insights offer valuable depth, they do not claim statistical generalizability. Future research could extend this line of inquiry by employing mixed-methods approaches that examine the prevalence and intensity of infrastructural challenges across different provinces in Iran.

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Appendices
Appendix A
 Semi-structured interview questions
1.　　How do you perceive the overall role and importance of digital technologies such as computers, smartboards, multimedia resources, and the Internet in achieving the communicative goals of the current English language curriculum?
2.　　In your experience, what specific pedagogical benefits do digital tools offer for teaching and learning English, and how do these benefits influence students' engagement and achievement?
3.　　What challenges or drawbacks have you encountered when using digital technologies in English language instruction, and how do these issues affect your teaching practices?
4.　　Which digital applications, tools, or online resources do you consider most useful for supporting language learning, and why do you find them effective?
5.　　To what extent do you feel a personal or professional need to integrate digital resources into your teaching, and how do you decide which tools to incorporate into your lessons?
6.　　How well do you think the current English language curriculum supports or encourages the integration of digital media, and what changes, if any, would you recommend?
7.　　How would you evaluate the availability, accessibility, and condition of the digital facilities at your school (e.g., smartboards, language labs, classroom computers, Internet access), and what improvements would you consider necessary?
8.　　What forms of technical support are available to you when using digital tools, and how adequate or timely do you find this support in your daily teaching practice?

9.   How would you describe the level of administrative support or encouragement for technology use in your school, and what institutional changes would help strengthen ICT integration in English language teaching?