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Technology Proficiency Gaps in Language Teaching: Teachers' Challenges and Students' Achievement

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Abstract:

The results of the study indicate that the main challenges respondents face when integrating technology into language teaching include limited access to digital devices, poor internet connectivity, insufficient training and technical support, and time constraints. Notably, 61.89% of respondents either disagreed or strongly disagreed that they had received sufficient training, while only 23.8% reported feeling adequately trained. The data further reveal a clear disconnect between teachers' individual willingness to use technology and the level of institutional readiness. Although educators demonstrate a positive attitude toward integrating technology, their efforts are constrained by inadequate professional training, frequent technical problems, and insufficient institutional support.

Keywords:

Training, digital devices, technology, technical support, technical problems

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فجوة الكفاءة التكنولوجية:
فهم معاناة المعلمين وتأثيرها على إنجازات الطلاب في تعليم اللغة

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الملخص:

أظهرت نتائج الدراسة أن أبرز التحديات التي يواجهها المشاركون عند دمج التكنولوجيا في تعليم اللغة تتمثل في محدودية الوصول إلى الأجهزة الرقمية، وضعف الاتصال بالإنترنت، ونقص التدريب والدعم الفني، إضافة إلى ضيق الوقت. فقد أبدى 61.89٪ من المشاركين عدم موافقتهم أو عدم موافقتهم الشديدة على أنهم تلقوا تدريبًا كافيًا، في حين أفاد 23.8٪ فقط بأنهم يشعرون بأنهم تلقوا تدريبًا مناسبًا. كما كشفت البيانات عن وجود فجوة واضحة بين الرغبة الفردية لدى المعلمين في استخدام التكنولوجيا ومستوى الجاهزية المؤسسية. فعلى الرغم من أن المعلمين يُظهرون اتجاهات إيجابية نحو توظيف التكنولوجيا في التعليم، إلا أن جهودهم تعوقها محدودية التدريب المهني، وكثرة المشكلات التقنية، وضعف الدعم المؤسسي.

الكلمات المفتاحية:

التدريب، الأجهزة الرقمية، التكنولوجيا، الدعم التقني، المشكلات التقنية.

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1. Introduction

Technology has become widely used in the educational process, providing learners with vast digital resources that are easily accessible. The internet, in particular, offers extensive opportunities for accessing texts and multimedia materials. Today, learners are surrounded by various digital platforms and visual media, such as advertisements, computer graphics, pop videos, and animated television programs. Within this context, the present study focuses on understanding teachers' struggles in integrating technology into language teaching and examining how these challenges affect students' academic achievement.

The educational institutions of Libya face challenges in implementing technological aids in schools and universities. This research focuses mainly on obstacles hindering the use of technology in teaching and

learning English. Thus, it is noticeable that Faculty of Education, Elmergib University hereafter (FEEMU) for example, is not well-equipped with relevant teaching resources, such as, flash cards, charts, posters, audio and visual aids, laboratories, computers and other up to date equipment. Internet is also important tool in teaching and learning. It can play a vital role especially in foreign language learning as well as research projects. This is simply because teachers can encourage their students to use web sites and YouTube films in their learning process. Not only FEEMU but also most universities in Libya face the same institutional challenges. These challenges stem from inadequate technological infrastructure, insufficient government funding, limited equipment and materials, and the lack of professional training for teaching staff.

1.1 Problem of the Study

Technology has provided vast resources of texts, which are easily available to learners in digital forms. Internet is one of them. Thus, teachers and learners are nowadays surrounded by various websites and visual images, such as, AI, advertisements, computer graphics, videos, TV programs, and many other technological aids. Although these tools are available in some faculties, a significant number of teachers lack the training to use such technological tools effectively, which affects students' learning proficiency. The integration of these technological aids remains limited. As a result, most Libyan university instructors continue to rely on traditional methods when teaching English. This is due to their culture background, their own experience of learning English as students, as well as the lack of training and the poor infrastructure in these colleges.

1.2 Aims of the Study

The present study seeks to achieve the following objectives:

- To investigate the challenges teachers encounter with educational technology.

- To examine how the gap affects students' achievement in learning English.

- To examine the relationship between teachers' technological skills and students' academic performance.

1.3 Questions of the Study

1. What challenges do teachers encounter with educational technology?

2. How does the gap affect students' achievement in learning English?

3. What is the correlation between teachers' technology skills and students' academic performance?

2 Literature Review

Elkhouly et al. (2021) examined the challenges encountered in higher education in Libya and assured that achieving a high standard of education requires identifying existing problems and implementing innovative solutions. The study highlighted the importance of integrating new technologies, updating academic curricula, and applying quality assurance mechanisms. Furthermore, Elkhouly et al. stressed the need for improved legislation and effective financing strategies to meet the demands of a modern higher education system.

Similarly, Tamtam et al. (2011) assured the necessity of adopting new technologies, revising syllabuses, and implementing quality assurance systems as essential measures for improving higher education outcomes.

Al Ghawail et al. (2021) investigated the challenges associated with the implementation of e-learning in Libyan higher education. Their study involved a cross-sectional sample of teachers and students from Alasmarya Islamic University. The findings of their study showed that both students and teachers faced significant difficulties in using information and communication technologies (ICT) and e-learning systems. These difficulties are due to inadequate ICT infrastructure and limited financial support. Despite these challenges, participants expressed strong interest in adopting e-learning, even though the educational environment was not fully prepared for its implementation.

With respect to the skills required for language teachers to integrate technology into instruction, White and Walker (2013) argued that teachers must possess the fundamentals of the specific technical competencies in order to use educational technologies effectively. These competencies should include the ability to use communication tools in the teaching process; such as, Skype and to access and utilize features of a Virtual Learning Environment (VLE).

Hampel and Stickler (2005), as cited in White and Walker (2013), suggested a structured model of skills required for online language teaching, known as the *pyramid of skills*. They insisted that online courses are necessary to achieve successful teaching. According to this model, teachers should acquire technological and

pedagogical skills progressively, with each level building upon the previous one.

This study mainly focuses on the obstacles that hinder the use of technology in teaching and learning English. It is noticeable that the Faculty of EMU lacks adequate teaching resources such as audio-visual aids, language laboratories, computers, and other modern instructional tools. Additionally, internet access plays a vital role in language learning and academic research, as it enables teachers to encourage students to use educational websites and multimedia resources to enhance learning.

Overall, higher education institutions in Libya continue to face persistent challenges, including weak technological infrastructure, insufficient government funding, shortages of teaching materials and equipment, and limited professional development opportunities for academic staff.

3. Methodology

This study adopts a descriptive explanatory mixed-methods approach to investigate teachers' technology proficiency gaps and their effects on students' achievement in language teaching. An explanatory sequential design is employed.

The methodology of this study consists of two phases. In the first phase, quantitative data are collected through a questionnaire administered to English language teachers to assess their technology proficiency, access to educational technology, and perceived impact on students' language achievement. In the second phase, semi-structured interviews are conducted with a purposive sample of teachers drawn from the questionnaire participants to further explain and interpret the quantitative results. The integration of quantitative and qualitative data enhances triangulation and validity, providing a comprehensive understanding of teachers' technological challenges and their influence on students' achievement in language learning.

3.1 Participants and Setting of the Study

The participants of the study were teachers of the English Department at the Faculty of Education, Elmergib University during the academic year 2024/2025. They were 22 female and male teachers. A total of 21 papers were collected. A quantitative method was designed for this study.

3.2 Instrumentations

The questionnaire of this study includes two parts: the former is about participants background information including teaching staff experience, and academic degree, whereas, the latter consists of 6 close items on a five-point Likert type scale: agree, strongly agree, disagree and strongly disagree and neutral. These 6 items were tabulated and analyzed. The first table includes 4 items, which measure technology Proficiency & Institutional Support. The second table comprises 2 items which measures the impact on students' outcomes. The data were then collected, tabulated and analyzed.

The process of preparing the questionnaire went through the following stages:

1. The researcher has reviewed the literature of the subject from previous researches and studies.
2. Determine the objective of the questionnaire according to the objectives of the study, represented in "The most important challenges facing teachers of English, at Faculty of Education FE EMU as a model"
3. The questionnaire divided the challenges as follows:

a) Challenges related to technology proficiency and institutions support.
b) Challenges related to the impact on students' achievements.

3.3 Validity

To confirm the validity of the study tools, the questionnaire was presented in its initial form to some specialists in the field of educational management and planning. They were asked to provide their opinions, observations, and the clarity instruction of the phrases, and the linguistic integrity on the study tool. The views of the arbitrators indicated the validity and clarity of the instrument, and some modifications were requested from the reformulation of some phrases or the addition of other phrases, so that the questionnaire was in its final form**.** In addition to the questionnaire, a semi-structured interview was designed. Five teachers were chosen to answer the open-ended questions.

4 Data Analysis

The part of data analysis is a critical stage of the study, as it transforms the raw responses from the questionnaire into meaningful insights. The questionnaire was divided into two parts, each addressing different aspects of the research. The first part focused on teachers' professional experience, while the second part examined their perceptions and

practices related to the study topic. The following sections present the results of each part in detail.

4.1 Questionnaire Results

Among teachers, 7.3% have one year of experience, while 13.7% have between one year and three years. Data for those with four to six years of experience is not available. A significant portion of teachers have longer tenures, with 38.9% having seven to ten years of experience and 40.1% possessing more than ten years in the profession. See the following table.

Table (1)Teachers' experiences

Teachers' Experiences	The Percentages
One Year	7.3%
1-3 Year	13.7
4-6 Year	0%
7-10 Year	38.9%
More than 10 Years	40.1%

Regarding the data from the first part of the questionnaire, the table above revealed a teaching workforce dominated by experienced professionals. Approximately 40.1% of teachers have more than 10 years of experience, while another 38.9% fall within the 7–10 year range. Together, these groups account nearly 80% of the sample suggesting strong evidence of a mature and well-established professional base.

However, early-career teachers with 1-3 years of experience, including those with only one year, represented a much smaller proportion, totalling about 21%. Notably, the absence of data for the 4–6 year experience category leaves a gap in understanding mid-career trends, which may affect workforce planning. This distribution highlights the need for strategic efforts to recruit new educators and to prepare for future transitions as experienced teachers eventually retire.

The second part of the questionnaire, on the other hand, is divided into two sections. They are as follows:

Section A. The following table shows the participants' answers on Confidence in Using Digital Tools, Training Received, Difficulties Encountered, and Institutional Support.

TABLE (2)

	Statements	***Strongly Disagree***	***Disagree***	***Neutral***	***Strongly Agree***	***Agree***
Confidence in Using Digital Tools	I feel confident using digital tools relevant to English language teaching at the university level.	19.04 %	14.28 %	9.52%	28.57 %	28.57 %
Training Received	I have received sufficient training to effectively integrate educational technology into my English courses.	38.09%	23.80%	14.28%	14.28%	9.52%
Difficulties Encountered	I frequently encounter difficulties when using technology during lesson preparation or delivery.	9.52%	9.52%	14.28%	33.33%	33.33%
Institutional Support	My institution provides adequate technical and pedagogical support to help me use technology in teaching.	33.33%	38.09%	0%	9.52%	19.04%

It is evident from the preceding table that respondents' opinions on questionnaire items ranged from 9.52% to 38.09%. The following section presents a commentary on research findings, with a particular emphasis on technology proficiency and Institutional Support:

1. **Confidence in Using Digital Tools**

According to the scores presented in the previous tables, the majority of respondents (57.14%) express confidence in using digital tools. However, 33.33% report low confidence, indicating that substantial minority still feel uncertain. This suggests that while many educators are embracing technology, others lack the assurance needed to fully integrate digital tools into their teaching process. Consequently, there is a need for differentiated support strategies that address varying levels of technology proficiency.

2. **Training Received**

Overall, 61.89% of respondents ***disagree*** or ***strongly disagree*** that they have received sufficient training, whereas, only 23.8% believe that they have received adequate training. This highlights a critical gap in professional development. The findings indicate that confidence alone does not equate to competence; without structured and targeted training, teachers may struggle to use technology effectively or innovatively. Therefore, institutions should prioritize ongoing, hands-on training tailored specifically to language teaching contexts.

3. **Difficulties Encountered**

A total of 66.66% of respondents ***Agree*** or ***Strongly Agree*** that they frequently encounter difficulties when

using technology, while only 19.04% report minimal issues.

Despite some level of confidence among respondents, technical challenges remain widespread. These difficulties may stem from unreliable infrastructure, insufficient technical support, or poorly integrated tools. Addressing these challenges requires not only appropriate training but also responsive technical assistance and the adoption of user-friendly platforms.

4. **Institutional Support**

The overall results indicate a predominantly negative perception regarding institutional support. Specifically, 71.42% of respondents feel that their institution does not provide adequate support whereas only 28.56% report any level of agreement.

These findings reveal a disconnect between individual willingness to adopt technology and institutional readiness to support its implementation. Although, educators are generally open to using technology, their efforts are hindered by insufficient training, frequent technical difficulties, and limited of institutional support.

Section B: Impact on Students

1. Impact of Technological Difficulties on Student Engagement and Performance "My difficulties with technology sometimes reduce students' engagement or performance in English learning."

TABLE(3)

	Statements	***Strongly Disagree***	***Disagree***	***Neutral***	***Strongly Agree***	***Agree***
Technology Difficulties and Student Engagement	My difficulties with technology sometimes reduce students' engagement or performance in English learning.	19.04%	9.52%	9.52%	28.57 %	33.33%
Belief in Skill Enhancement for Better Outcomes	I believe enhancing my technological skills would lead to better learning outcomes for my students.	14.28%	14.28%	0%	38.09%	33.33%

The results shown in the table (3) examine educators' perception of their technological proficiency influences student engagement and learning outcomes in English language education. The results reveal a strong relationship between teachers' comfort with technology and students' academic experiences.

Overall, the research commentary can be organized into two main themes: (1) Technology Difficulties and Student Engagement, and (2) Belief in skills enhancement for improved learning outcomes.

Statement: 1:

"My difficulties with technology sometimes reduce students' engagement or performance in English learning."

As shown in the table (3), 61.9% of respondents either *agree* or *strongly agree* that their technological difficulties negatively affect student engagement and performance. This finding suggests that many educators recognize a direct relationship between their level of technological proficiency and students' ability to remain engaged and perform effectively in English learning. The result supports the claim that targeted professional training is necessary to help teachers overcome technological barriers, which could, in turn, enhance classroom interaction and improve student-learning outcomes.

Statement: 2:

2: **Belief in Skill Enhancement for Better Outcomes**

Statement:

"I believe enhancing my technological skills would lead to better learning outcomes for my students."

Table (**3**) indicates that **71.42%** of educators believe that improving their technological skills would positively impact student learning outcomes.

The absence of neutral responses suggests that participants hold strong convictions-either supportive or skeptical-regarding the role of technological competence in education. Overall, this strong belief reinforces the importance of professional development programs focused on digital literacy and the effective integration of educational technology

4.2 Interview

A thematic analysis of the interview data revealed six major themes:

Availability of educational technology, teachers' technological competence, training in educational

technology, challenges in using technology for English Teaching.

Impact of challenges on teaching practices perceived impact of technology on students' English learning.

1. Availability of Educational Technology

All five participating teachers reported limited access to educational technology within their faculty. Participants indicated that only one computer laboratory was adequately equipped, while the remaining classrooms were poorly resourced and lacked functional technological tools. The limited availability restricted the regular integration of technology into English language teaching.

2. Teachers' Confidence in Using Educational Technology

Teachers' self-reported confidence levels varied considerably. Teachers A and B reported low confidence in integrating technology into classroom instruction. Whereas, Teachers C, D, and E expressed high confidence in using technological tools, despite existing infrastructural limitations.

3. Training in Educational Technology

The majority of the participants reported that they had not receive any formal institutional training in educational technology. Instead, they had acquired basic computer skills through self-directed learning. Two teachers further reported difficulties not only in integrating technology into teaching process but also in accessing and downloading academic materials from the higher education system. These challenges were attributed to limited technical skills, low computer proficiency, and unreliable internet connectivity.

4. Challenges in Using Technology for English Teaching

All participants identified significant challenges in using technology for English language instruction. Teachers A, C, and D cited limited technical skills, insufficient computer proficiency, and poor internet connectivity as major barriers. Teachers B and E specifically emphasized unstable internet connections as the primary challenge hindering effective technology use.

5. Impact of Challenges on Teaching Practices

Teachers B, C, and D reported that these technological challenges negatively affected their teaching practices. They experienced difficulties in managing classroom activities, implementing technology-based lessons, and maintaining students' engagement, which ultimately influenced the overall teaching–learning process.

6. Perceived Impact of Technology on Students' English Learning

Regarding student outcomes, Teachers A, B, C, and D reported that technology challenges negatively affected students' English language performance. They emphasized that limited access to technology and inadequate instructional use reduced opportunities for interactive and effective learning. However, Teacher E suggested that when technology use is constrained and teachers lack sufficient technological knowledge, alternative instructional strategies should be adopted to support students' learning outcomes.

5. Conclusion

Based on the findings of this study, it can be concluded that the main challenges teachers face in integrating technology into their language teaching include limited access to technological devices, poor internet connectivity, lack of training and institutional support, as well as time constraints.

6. Recommendations

In light of the study's findings, the following recommendations are proposed:

1. Decision-makers should provide institutional support to facilitate the integration of technological tools, including AI-based applications, in language teaching and learning.

2. Invest in targeted training programs focused on digital pedagogy for language education.

3. Guide educational policymakers in effectively integrating technology into EFL curricula.

4. Establish responsive technical support systems to assist educators during lesson planning and delivery.

5. Foster a culture of innovation by recognizing and rewarding technology integration.

6. Conduct follow-up evaluations to monitor progress and adapt support strategies.

7. Adopt a student-centered approach, as teachers are motivated by initiatives that improve student outcomes.

8. Educational leaders and decision-makers should consider these findings when designing curriculum

support systems and allocating resources.

9. Organizing workshops, courses and academic conferences to enhance teachers' technological competence.

10**.** Establish continues training programs to develop both pedagogical and technical skills, ensuring teachers are equipped to integrate technology effectively.

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You have been invited to participate in this research about ‘Technology Proficiency Gaps in Language Teaching: Teachers' Challenges and Students Achievement. The research is conducted in the Department of English at Faculty of Education, Elmergib University. Your participation is entirely voluntary. If you agree, your participation will consist of responding to a questionnaire. Your response will always remain anonymous.

The First Part of the Questionnaire

Teachers' Experiences	
One Year:	
1-3 Year:	
4-6 Year:	
7-10 Year	
More than 10 Years:	

The Second Part of the Questionnaire

	Statements	***Strongly Disagree***	***Disagree***	***Neutral***	***Strongly Agree***	***Agree***
Confidence in Using Digital Tools	I feel confident using digital tools relevant to English language teaching at the university level.					
Training Received	I have received sufficient training to effectively integrate educational technology into my English courses.					
Difficulties Encountered	I frequently encounter difficulties when using technology during lesson preparation or delivery.					
Institutional Support	My institution provides adequate technical and pedagogical support to help me use technology in teaching.					

Impact on Students

	Statements	***Strongly Disagree***	***Disagree***	***Neutral***	***Strongly Agree***	***Agree***
Technology Difficulties and Student Engagement	2. My difficulties with technology sometimes reduce students' engagement or performance in English learning.					
Belief in Skill Enhancement for Better Outcomes	I believe enhancing my technological skills would lead to better learning outcomes for my students.					

Interview

Thank you for agreeing to participate in this interview. The purpose of this interview is to explore **English teachers' experiences with educational technology** and its impact on students' language achievement as part of this research study.
Your participation is voluntary, your responses will remain **confidential**, and there are **no right or wrong answers**. The interview will take about **30 minutes**, and with your permission, it will be audio-recorded for accuracy. Please feel free to share your honest views and experiences.

Section A: Background

1. What types of technology are available in your school/classroom?

Section B: Teachers' technology skills

2 How would you describe your level of confidence in using educational technology?

3. What kind of training have you received in educational technology?

Section C: Challenges

4 What challenges do you face when using technology in English teaching?

5. How do these challenges affect your teaching practices?

Section D: Impact on students

6 In your opinion, how does technology use influence students' English learning?