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DIGITAL TOOLS AND AI IN EFL READING INSTRUCTION: PERCEPTIONS AND PRACTICES OF UZBEK TEACHERS

ABSTRACT

Digital tools are like double-edged knives when incorporated into language teaching and learning. They also disseminate challenges, creating a gap between conservative teaching methods and high-tech integration. This qualitative research explores the integration of Technology-Enhanced Learning (TEL) into EFL reading teaching, focusing on teachers' perspectives and practices in technological implementation, considering ethical constraints and limited access to technological resources.

This study aims to explore EFL teachers' stories and practices on TEL in their reading instruction. The research objectives are (1) to explore EFL teachers' experiences and perceptions of teaching reading practices with TEL, (2) to determine foundational challenges and enablers in TEF application, and (3) to offer reading comprehension strategies tailored to teach with technology integration.

The study was qualitative, collecting primary data through an online questionnaire targeting 89 EFL and ESP teachers from HEIs throughout Uzbekistan, which contains 15 questions to discover the participants' beliefs and barriers in teaching reading, interactivity, and technology integration in fostering engagement and comprehension. Semi-structured interviews

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CHET TILI SIFATIDA INGLIZ TILIDA O‘QISH KO‘NIKMASINI O‘RGATISHDA RAQAMLI VOSITALAR VA SUN’IY INTELLEKT: O‘ZBEK O‘QITUVCHILARINING FIKRLARI VA AMALIYOTI

ANNOTATSIYA

Raqamli vositalar til o‘rganish va o‘qitishda qo‘llanilganda ikki tomondan samara berishi mumkin. Ular an’anaviy o‘qitish usullari va texnologik tatbiq o‘rtasidagi farqlilikni kuchaytiruvchi o‘ziga xos tafovutlarni ham keltirib chiqaradi. Ushbu sifat tadqiqot texnologiya asosidagi ta’lim (Technology-Enhanced Learning (TEL))ning ingliz tilini chet tili sifatida o‘rganishda o‘qish ko‘nikmasi (English as a Foreign Language (EFL) Reading)ni o‘rgatish darslariga integratsiyasini o‘rganadi, jumladan, o‘qituvchilarning texnologiyani qo‘llashga bo‘lgan fikrlari va amaliyotlari to‘g‘risidagi nuqtayi nazarlarini, axloqiy cheklovlar va texnologik resurslarning yetishmovchiligini hisobga olib tahlil qiladi.

Ushbu maqola EFL o‘qituvchilarining o‘qish darslarida TEL bo‘yicha hikoyalari va amaliyotlarini o‘rganishni maqsad qilib olgan. Tadqiqot vazifalari quyidagilardan iborat: (1) EFL o‘qituvchilarining TEL yordamida o‘qish darslarini o‘rgatishdagi tajribalari va qarashlarini o‘rganish, (2) TEL qo‘llanishidagi asosiy to‘siqlar va pozitiv omillarini aniqlash va (3) texnologiya integratsiyasiga mos innovatsion

followed this up with 17 volunteer teachers to examine their known teaching reading strategies and TEL practices. The results showed that the reading methods they have been using might not suffice for in-depth comprehension and engagement.

In conclusion, the potential of technology to boost interactive teaching and learning are recognized; however, insufficient knowledge of digital resources, financial support, and lack of training in lesson planning are noted to be limitations. The research emphasizes the need for professional development and continuous support of school administrations of teacher participants. Future studies can consider research students as subjects through structured interviews, surveys, and classroom observations for more detailed topic analysis. The study will particularly benefit EFL and ESP teachers at all education levels.

Key words: technology-enhanced learning, EFL reading instruction, TPACK, digital tools in education, reading comprehension, AI in education, gamified learning, teacher perspectives, student engagement, multimodal learning.

o‘qish tushunchasi strategiyalarini taklif etish.

Mazkur tadqiqot sifat jihatidan olib borilgan bo‘lib, O‘zbekiston bo‘ylab OTMlarida ishlaydigan 89 ta ESL (English as a Second Language) va ESP (English for Specific Purposes) mutaxassislarini o‘z ichiga olgan onlayn so‘rovnoma orqali to‘plangan birlamchi ma’lumotlarga asoslangan. So‘rovnoma ishtirokchilarning talabalarga o‘qitish malakasini oshirish uchun qanday raqamli texnologiyalardan foydalanishlari xususidagi qarashlari hamda to‘siqlar haqida 15 ta savoldan iborat edi. So‘rovnomadan tashqari, jami 17 nafar ixtiyoriy mutaxassis bilan yarim tuzilmaviy intervyular ham o‘tkazildi va ularning o‘qitish strategiyalari va TEL amaliyotlari tahlil qilindi. Natijalar o‘qituvchilar qo‘llayotgan joriy usullar o‘qib tushunish malakasini oshirishda yetarli emasligini ko‘rsatdi.

Xulosa qilib aytganda, texnologiyaning interaktiv ta’limni kuchaytirish imkoniyati borligi e’tirof etildi; biroq raqamli resurslar bo‘yicha yetarli bilimning yo‘qligi, moliyaviy yordamning yetishmasligi va dars rejalashtirishda treninglar yo‘qligi asosiy cheklovlar sifatida qayd etildi. Tadqiqot ishtirokchi o‘qituvchilarning kasbiy rivojlanishi va maktablar ma’muriyati tomonidan doimiy qo‘llab-quvvatlanishi zarurligini ta’kidlaydi. Kelgusidagi tadqiqotlarda mavzuni yanada chuqurroq o‘rganish uchun talabalarning amaliyotlari va fikrlarini ham intervyular, so‘rovnomalar va auditoriya kuzatuvlari orqali tadqiq qilish mumkin. Ushbu tadqiqot barcha ta’lim bosqichida ishlaydigan EFL va ESP o‘qituvchilari uchun foydali bo‘lishi mumkin.

Kalit so‘zlar: texnologiya asosidagi ta’lim, chet tili sifatida ingliz tilida o‘qishni o‘rgatish, TPACK, ta’limdagi raqamli vositalar, o‘qilgan matnni tushunish, ta’limda sun’iy intellekt, o‘yinga asoslangan ta’lim, o‘qituvchilarning qarashlari, talaba faolligi, multimodal o‘rganish.

INTRODUCTION

One of the swiftly growing concepts is the incorporation of Technology-Enhanced Learning (TEL) into teaching English as a foreign language. Particularly, TEL-incorporated reading instruction is being widely applied by educators as it is becoming rapidly recognized for its transformative potential in reinforcing students’ comprehension, engagement, and critical thinking [Abdelhalim, 2017]. However, its active integration in teaching reading classes is not without any restrictions, especially regarding infrastructure, accessibility, teacher training, and ethical concerns. This

creates a gap between what TEL should work for and how effectively to embrace it in EFL reading instruction. However, the following literature review will synthesize results and findings from qualitative studies worldwide alongside related academic literature.

TEL multimedia is believed to promoting teacher-student communication in a multimedia environment [Yan & Zhang, 2024]. They consider interactive smart tablets, projectors, and multimedia courseware to be , practical tools in optimally delivering content, and connecting with traditional teaching. They try to bridge the gap between conventional and multimedia-based environments with appropriate multimedia content design, with interactive smart tablets and projectors. In addition to multimedia for reading comprehension, multimodality has also been found to be an effective approach to the integration of both digital technology and Artificial Intelligence (AI) into EFL classrooms.

Regarding AI integration, U.Rachmawati et al. indicate that tools like ChatGPT, Paraphraser.io, and QuillBot are used for pre-reading activities that can greatly help students. During the reading process, the authors promote technology-enhanced teaching of reading English by using multimodality, including videos, images, and interactive quizzes, to encourage language learners to comprehend betterto comprehend reading materials better. They indicate that these TEL tools enhance multimodal learning experiences and traditional teaching methods that already cater to different reading and learning styles [Rachmawati et al., 2025; 61].

K.A. Maspul conducted research on effective TEL technologies in classrooms, emphasizing the importance of gamification and online collaborative platforms in enhancing reciprocal teaching – a modern reading strategy – by making it more effective and engaging, particularly in the digital age. The author also suggests incorporating virtual book clubs and digital storytelling to integrate TEL into reciprocal teaching, with a focus on technology integration. Additionally, peer tutoring, digital annotation tools, and multimedia annotations are recommended for collaborative work in small groups or peer settings [Maspul, 2024; 70].

A similar study was done by R.Ali et al., who underscored the role of digital technology in developing dialogic teaching, which is another innovative reading strategy in the modern world. This teaching strategy provides engaging and interactive learning experiences with the help of collaborative tools such as Blackboard, which is an interactive platform where students engage with each other using virtual platforms, collaborative tools, and multimedia resources. These tools not only allow students to engage in real-time dialogue and conversations around ESP materials but also facilitate collaborative activities and virtual discussions. The authors emphasize other multimedia resources, including interactive presentations, audio snippets, and videos, which are multimodal tools that can be actively incorporated into lessons to meet the interests of various learning styles, but at the same time enhancing reading comprehension [Ali et al., 2024; 1114].

H.Halimah et al. mention role-playing and storytelling, which can be transferred from the conventional approach to TEL incorporation with a music background and

collaborative group work. They offer to use mind maps as a digital tool, which helps language learners organise narrative text structures and visualise them simultaneously. This study integrates a traditional method, suggestopedia, with mind mapping technology to develop reading comprehension of narrative types of texts. Mind maps are of great help to students in grasping relationships and key concepts of the text and learning how to put events in logical sequence in a narrative. For this, music interaction with educational videos enhances comprehension and engagement because background music creates a technology-mediated learning environment that supports focus and relaxation, complicatedmaking learning less complicated and stressful [Halimah et al., 2022].

T.Lu and G.Li studied an Intelligent Algorithm Framework for optimisation. T.-H. Lu and G.-H. Li studied an Intelligent Algorithm Framework as an optimisation strategy for blended teaching resources in higher educational institutions (HEIs). They used the Multisource Fusion Model that categorizes the model into four levels, including the first – Data Collection Module, where information is gathered on students' reading habits and requests. The second – Multisource Information Fusion Modulemerges different sources of reading content. The third is the Information Aggregation Module, where data is analyzed and processed. The fourth is the Application Layer Module, where reading comprehension is personalized. This Fusion Model is integrated with the Intelligent Algorithm Model, where AI-based techniques are employed for reading material comprehension and multisource data fusion. This study's following innovative teaching method is Algorithmic Modelling, where a multisource fusion-based recommendation model is developed to enhance reading resources. Finally, they offer an Empirical Validation, which suggests ensuring accuracy by testing the module with a real student. They primarily focus on network and new media technology, encompassing AI to augment reading in blended teaching resources to match college English reading [Lu & Li, 2024; 235-236].

Another study done by I.Yarmakeev et al. investigated the implementation of Edutainment, which means education and entertainment technology, to Longreads, which means long-form texts, as a TEL tool in teaching extensive reading in EFL classes. Edutainment is considered an interactive and visual element for this new multimedia tool, where Longreads are created for study, integrated with multimedia components like visual aids, images, and infographics to make the content more accessible and engaging. These elements are specifically designed to assist in providing additional context and explanations based on specific texts. The next technological tool that offers education in teaching extensive reading is non-linear presentation. In this type of presentation, Longreads are structured to permit students to go through the text non-linearly. In this type of long-read presentation, language learners start from any section of the text material, which is supported by various multimedia elements like interactive visuals and hyperlinks. All these tools are used in a foreign language class to enhance extensive reading and comprehension [Yarmakeev et al., 2024].

Another prominent researcher in this field is H.Zhu, who explored the teaching path of English reading with the help of the internet and technology to enhance

English reading instruction. The author highlights that online tools such as interactive whiteboards, mixed writing platforms, and QR codes promote students' active participation in learning. For this, they have to go through pre-reading, where puzzles that are focused on word formation engage students' curiosity. The next phase is a while-reading where reading comprehension is assessed thoroughly in real time by scanning the QR code-based quizzes. The last phase is post-reading, where students are guided to closely work with writing platforms and maps to structure their responses. These three reading phases explore the internet with other modes of technology that are integrated collaboratively to emphasize students' logical thinking development and critical thinking skills. As the author mentions, this way, cross-cultural communication and language comprehension are also stimulated [Zhu, 2024;169-170].

Using education in an integrated way with the internet model improves efficiency and engagement in EFL reading classes that transform traditional teaching methods into digital teaching models. This is proven by Y.Gao, who explored the intelligent teaching of writing skills and reading in higher education language classes by closely embracing data mining technology. According to the author, data mining technology is an effective tool to enhance reading on top of reading instruction in higher education. He considers that AI and natural language processing can enhance the ability of students to read and write. To considerably enhance students' reading and writing skills, machine learning models, including BERT, Bi-Attention, and TF-IDF, can be used to analyse sentence selection and text comprehension. A BERT-based model is developed to stimulate reading comprehension by using sliding window dynamic cropping to adapt text, while TF-IDF and TF-C algorithms are improvement tools that are used to extract high-quality sentences from writing and evaluate. He offers a wide variety of tools for improving reading comprehension. Intelligent teaching platforms like BERT models not only help language learners analyse text materials more efficiently by breaking them into manageable sections but also support student-centred learning and provide authentic feedback on reading and writing quality [Gao, 2023; 14-15].

The next researcher, W.Hong, evaluates special strategies for improving university English reading comprehension based on text mining technology like Y.Gao [Gao, 2023]. He thinks that there are three-stage reading models, which include the pre-course stage, in-class stage, and post-course stage. The implementation of a pre-core stage promotes vocabulary preview tasks with online micro-class recordings. In the next model phase, which is the in-class stage, reading software is used to engage students in interactive activities to reinforce comprehension. In the last phase, which is the post-course stage, reading materials are reviewed based on student performance, where personalised digital assignments are used. He thinks that when AI-based resource recommendations and digital tools are integrated, a "smart classroom model is created. In this structured reading instruction, the smart classroom model works well with text mining reading instruction. Text mining uses knowledge structure similarity and TF-IDF to define students' reading preferences. For the author, using text mining technology in reading comprehension aligns with cognitive learning theory, where

personalised learning is with AI-based resources that individualise particular reading styles, behaviours, and individual reading performance to be analysed [Hong, 2025; 17-18].

R.Puentedura suggests a SAMR model, which categorises how digital technologies are integrated into teaching. SAMR model stands for Substitution, Augmentation, Modification, and Redefinition, which fall into the Enhancement category and Transformation categories. Most international studies mostly reflected the Enhancement category, including Substitution and Augmentation, whereas only a few examples of Transformation, including Modification and Redefinition, existed in previous research. This model aligns with automaticity theory and constructivism, where automaticity in reading suggests that fluent reading frees up cognitive resources for comprehension, whereas constructivism aligns with constructivist theories, underscoring the significance of multimodal learning experiences facilitated by digital technologies. The current study will also consider this model in data analysis [Puentedura, 2013].

Concerning teachers' perspectives and insight in TEL, N.Nurwahidah et al. analysed teachers' Technical Pedagogical Content Knowledge (TPACK) in teaching reading comprehension in elementary schools in Indonesia. This study categorizes TPACK into seven elements: Technological Knowledge (TK), Pedagogical Knowledge (PK), Content Knowledge (CK), Technological-Pedagogical Knowledge (TPK), Technological Content Knowledge (TCK), Pedagogical Content Knowledge (PCK), and Technological-Pedagogical Content Knowledge (TPACK). This Indonesian study highlights that their teachers of 5th-grade elementary school are well equipped in using technology to improve the reading comprehension of students in EFL classes [Nurwahidah et al., 2023; 106-107]. However, there is a research gap between the PK, CK, and TK of ESL and ESP teachers in Uzbekistan. For this reason, the current research paper aims to analyze only three components of TPACK, including PK, TK, and CK, to identify the importance of TPACK in modern educational Uzbekistan.

W.Xu also explored English teachers' pedagogical content knowledge of reading strategy classes by using a summarising strategy. He thinks that KWL charts (I Know, I Want to Know, and I Already Learnt) and cooperative group summaries demonstrate the interest and motivation in English learners in reading classes [Xu, 2015; 162]. J.Mistar et al. think that metacognition refers to language learners' real-time recognition and that they need response-specific feedback. He concludes that with the help of technology, real-time, effective feedback can be prioritised for effective learning [Mistar et al., 2016; 54-55].

Coming to intervention strategies in reading instruction, M.S. Abdelhalim developed an instructional strategy for enhancing EFL students' reading comprehension and reading engagement. His proposed instructional strategy consists of Habits of Mind and Shared Inquiry, which is a collaborative discussion. He believes that when behavioural, cognitive, and emotional dimensions are used in reading engagement, significant improvements might occur that show the largest effect on emotional engagement [Abdelhalim, 2017; 45-46]. M.Abdelkhalim and other researchers who

worked on TEL reading strategies in reading comprehension teaching noted that TEL significantly enhanced the reading comprehension skills of EFL students.

N.Nourdad et al. believe that higher order thinking skill instruction develops reading skills [Nourdad et al., 2018; 233]. L.Par thinks that problem-solving and metacognitive strategies are strong predictors of reading achievement [Par, 2020; 236-237]. C.Girón-Garcia sees the internet as fostering literacy and reading comprehension [Girón-García, 2015; 95], whereas H.Yeh et al. show that Google Docs collaborative annotations and chats enhance EFL reading comprehension and processes [Yeh et al., 2016; 35-36]. I.H. Taj et al. investigate the impact of Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) on Saudi university EFL students' reading comprehension [Taj et al., 2017; 126-127]. Accordingly, a range of researchers investigated several TEL and AI tools in improving EFL students' reading comprehension, such as the impact of real-time Zoom video lectures [Kim, 2020], video technology [Mohammadian et al., 2018], multimodality and hyperlinks [Pardede, 2019], SAMR model [Masitoh & Istiqomah, 2023], Elluminate Live, a web-conferencing software, as a virtual classroom [Al-Jarf, 2014], CALL, Web-Based Instruction (WBI), e-books, multimedia and games [Deerajviset, 2014], Computer Assisted Reading (CAR) [Al-Seghayer, 2016], AI-driven adaptive learning systems and multimodel online reading [Dong et al., 2022], AI Chatbot for self-regulated learning [Pan et el., 2024], Duolingo and Quizlet as autonomous learning platforms [Al-Maashani & Mudhsh, 2023], AI and Natural Language Processing (NLP) in in college reading and writing course [Wang, 2022] in reading comprehension.

There is a growing amount of research over the world on how TEL can be implemented to enhance EFL reading instruction. However, limited empirical data about lived experiences of instructors, their perspectives and classroom practices were presented from Central Asian countries, in particular, Uzbekistan. Most current research papers concentrate on highly resourced countries or on assessing technology and AI tools rather than investigating teacher knowledge systems, such as PK, TK, and CK, based on TPACK framework. Furthermore, although existing international research underscores gamification, AI, and multimodal approaches, there still remains a gap in differentiating how these approaches are localized and applied with limited infrastructure and little support for professional growth.

This research contributes to the body of knowledge in the field in the following way:

■ It brings a localized viewpoint of teachers from HEIs in Uzbekistan, a context which is underrepresented in TEL and EFL integration research.

■ It records lived narratives of EFL, ESP teachers and curriculum developers' perceptions and TEL implementations in teaching reading.

■ It examines teacher preparedness using PK, TK, and CK framework to improve TPACK model for use in emerging educational environments.

■ It determines core obstacles and advantages of TEL adoption with policy implications, professional training, and practice.

■ It provides beneficial, evidence-based reading strategies that are pedagogically and technologically feasible in contexts with limited resources.

The research questions serve as a foundation for the current research:

■ *What are real-life perceptions and practices of EFL, ESP teachers' and curriculum developers on the TEL integration in EFL reading instruction in Uzbek HEIs?*

■ *What are core barriers and advantages of TEL application tools in teaching reading comprehension?*

■ *Which enabling strategies of technology-enhanced reading comprehension are being served by educators, and how may their efficiency and engagement be optimized?*

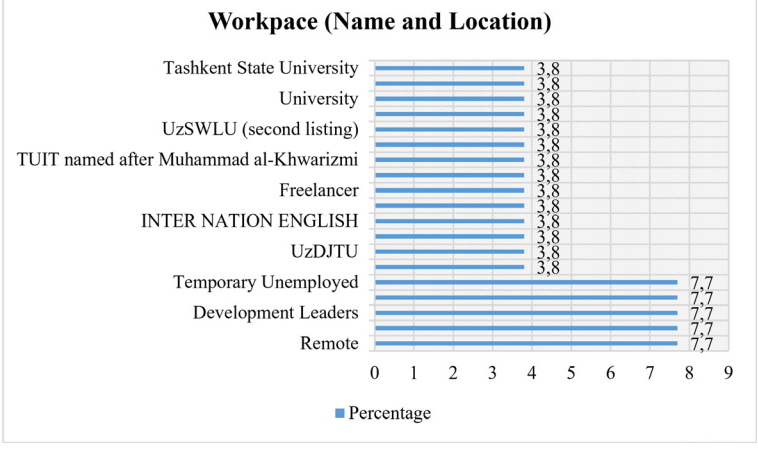
METHODS

This research paper aims to analyze only three components of TPACK, including TK, PK, and CK, to identify the importance of TPACK in modern educational Uzbekistan. This study is a qualitative research using a survey and semi-structured interview. There are 15 questions in the survey, evaluating demographic details, what reading strategies are effective, and what the perspectives and challenges are. 89 Higher Educational Institutions (HEIs) EFL and EAP teachers participated in the survey. For the semi-structured interview, 17 voluntarily and randomly selected educators were involved in the study. Thematic descriptive analysis was chosen for data analysis using primary codes, sub-codes, definitions, and examples. The teachers are asked questions to self-assess their technological, pedagogical, and content knowledge, integrating with TEL tools in their EFL reading classes. To avoid self-assessment bias, this study not only relies on self-reported data but also on insights and challenges in TPACK levels, including classroom practices, which were asked in semi-structured interviews.

RESULTS

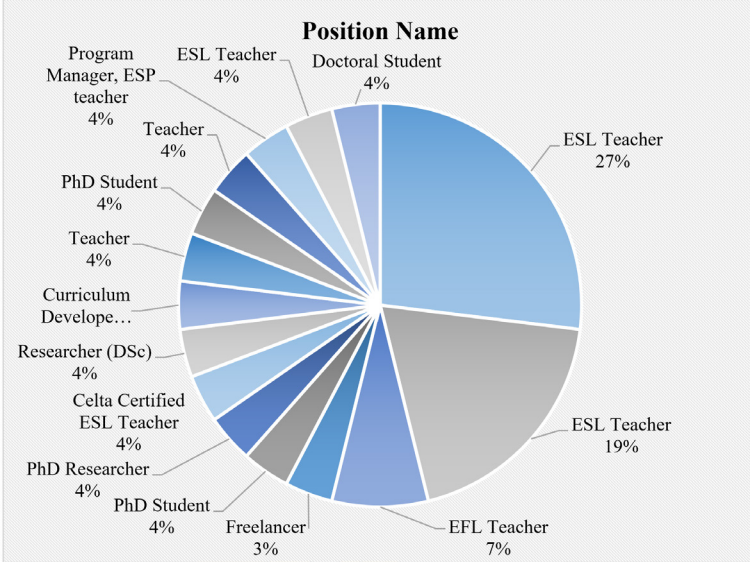
In this study, 52 teachers from various backgrounds participated. If we look at Table 1, it is seen that the majority of teachers have higher educational teaching backgrounds (See Table 1).

Table 1.



Those teachers identified themselves according to their current positions (See Table 2). It is visible that approximately a third are identified as ESL teachers, including PhD students, researchers (DSc), and doctoral students. The rest comprises program managers, curriculum developers, and freelancers.

Table 2.

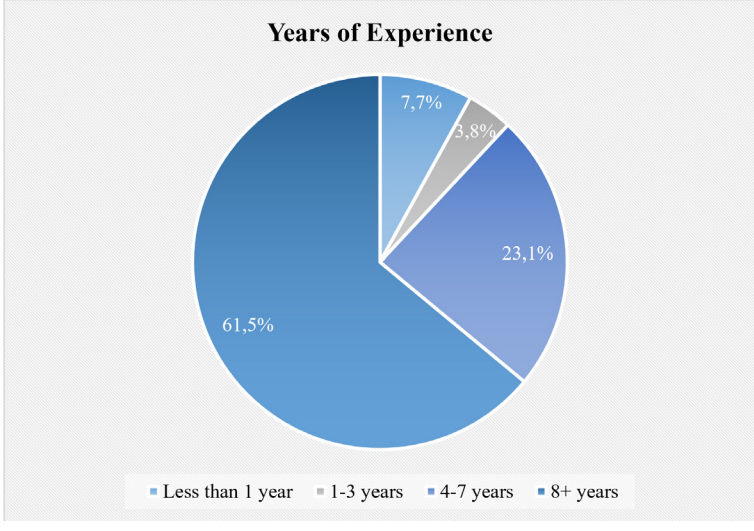


If we look at the longevity of teaching careers, teachers vary depending on their working experience: 61.5% are recognized for their extensive 8+ classroom experiences, about a quarter are well-known for their 4-7 years in the classroom, and 7.7% and 3.8% define teachers who have worked up to three years and less than a year, respectively (See Table 3). Obtaining a clearer picture of how participants' work experience and professional roles can be related to the research may be essential to localize their responses to the TEL implementation in EFL reading classes. A range of teaching positions including ESL/EFL instructors and curriculum developers reflects varying extent of institutional responsibilities, practical participation, and TEL tool familiarity. In addition, teaching career duration compares information about how experienced versus early-career teachers use TEL techniques. For example, an educator with up to an eight-year experience may reflect more conventional pedagogical knowledge, while more novice educators might be more adept in digital platforms. Requesting these background inquiries helps ensure that data analysis considers respondents' professional setting, enabling more detailed examination of how TEL in perceives and applied depending on their level and job positions. This approach supports the research's objective of investigating teachers' liven stories and methods for TEL use in improving reading comprehension.

The survey analysis shows that most educators find close reading and graphic organizers the most effective for their students. These top reading instruction types are followed by predicting, pre-reading, post-reading, retelling, skimming, and scanning. Only a few respondents represented their they might not name the strategies they use

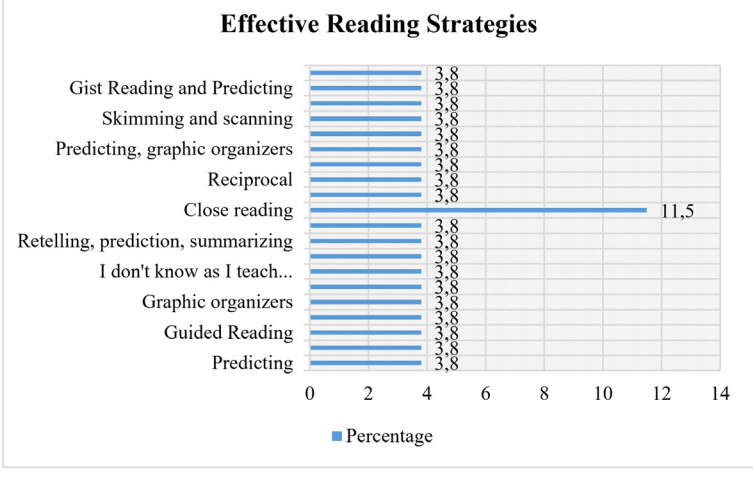
as they are not ESL teachers. One participant mentioned that they do not know any strategies because they teach translation classes. It is believed that the subject taught, in all assignments and tasks, can be asked of students to do, ranging from blended learning to a flipped classroom.

Table 3.



Even when the students engage with PowerPoint presentations, jigsaw reading, and intensive reading, students are consciously and unconsciously using basic reading skills, such as skimming, scanning, and predicting. When educators teach, just naming the strategies they use can sometimes be tiring or a work of memory. However, all academic achievements are reached by numerous readings using chosen techniques such as previewing, questioning, guided reading, etc. (See Table 4).

Table 4.



The interviewed ESL teachers could give more details about what reading strategies they prefer to use depending on their students' preferences. One teacher with fifteen years

of classroom experience mentioned that she uses jigsaw reading for its entertainment. She also acknowledged that her students, especially those who like using digital technologies, have very short attention spans. For this reason, she believes that when the lure of educational tools is shown, they can feel more joy towards reading materials:

"I mostly prefer to do jigsaw reading with my teenage students because they find this reading entertaining. Making reading entertaining is helpful for students whose attention span is very short".

Another interview participant who has had related expertise for over eleven years thinks that the flipped classroom works well in her classrooms. As she teaches "Academic and Business Communication Skills", she has been using the flipped classroom for the past five years, and both she and her students find this effective:

"I assign several articles before the class so that they can read and come up with questions that have already been asked about the task. Sometimes, I can attach related questions below the reading materials in our Learning Management System (LMS), or they can take a picture of the slide where I show the questions. In the next class, for the first 10-20 minutes, they discuss the answers to the questions assigned from the previous class. I think this is effective and time-efficient in our reading classes".

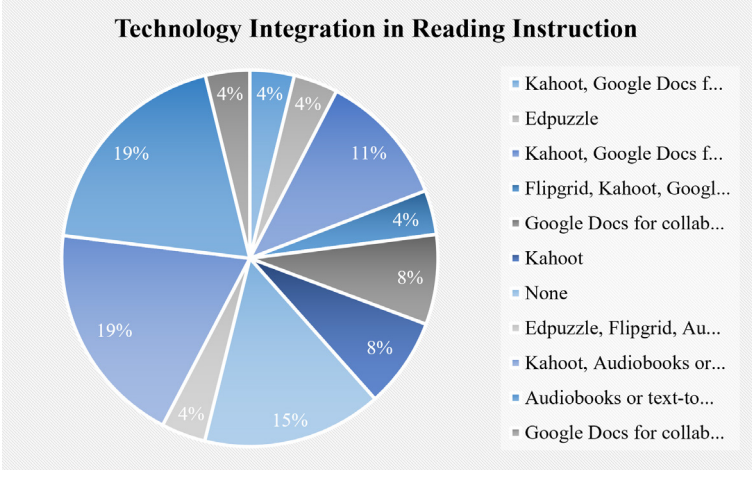
The following respondent considers that the reading strategy that works admirably depends on the students' English proficiency. He relates the length of the reading material and lexical resources to how rigorous a requested reading strategy is to use:

"It depends on the level of the students. For IELTS preparation students, scanning and skimming work well. However, pre-intermediate level and higher-level readings are mostly good for predicting since they are shorter, and the range of vocabulary isn't difficult".

Regarding the question of what types of technology educators use to integrate into reading instruction, about two-fifths of the answers are that they mostly find audiobooks effective. The same proportion mentioned that Kahoot is as effective as audiobooks. The third famous technology that is frequently integrated into teaching reading is Google Docs for collaborative teaching and interaction. The least popular tech tools are Edpuzzle, Flipgrid, and text-to-speech tools. While most teachers use Kahoot and Google Docs for collaborative reading, over 15% of teachers acknowledge that they use no technology in their reading instruction (See Table 5).

The interview respondents said that they use Language Management Systems (LMS)- Intranet in their university and a specially designed self-portal in their education centers where they have been working. The first interviewee said that using PowerPoint presentations, e-mail-outlook benefits them in reminding the students of the flipped classroom tasks:

Table 5.



"Chapters that are uploaded online, reading and doing tasks online, can also be examples for digital technology integration. I ask for volunteers to start answering the questions of flipped classroom readings. Some students can be reluctant to answer, but when their names are selected, they can collaborate while discussing the reading".

Another interviewee said that *Padlet* and *Google Jamboard* have been active tech tools in their learning and teaching. However, in terms of the challenges of using TEL tools, she referred to some financial burdens of using TEL tools in the classroom by saying:

"Unfortunately, Google Jamboard has stopped functioning since January of this year, and Padlet templates have stopped being free. For this reason, I stopped using these two tools".

Another interview participant alleged that *Kahoot* and *Testmore.com* are preferred educational technological tools in her classes compared to paper-based courses because she says that when she wants to integrate writing into reading, being asked to write a summary in the paper provided, most students can find it boring:

"However, whenever true/false/not given questions or open-ended questions are asked on Kahoot and Testmore.com, students find them interesting, and they stop seeing reading materials as a burden in their learning. And their feedback has always been positive, mentioning that they are passionate about Kahoot-like interactive boards and platforms because they are interactive for them to use".

One of the teachers interviewed assumed that her students need more support and guidance for reading comprehension. She influences her students since she believes in her motivational impact on them by exposing them to educational tech.:

"They mostly seek motivation in the class for reading, especially when they need to comprehend the assigned material. My students mostly struggle with their memory or attention span, and they are easily motivated whenever I ask them to do

jigsaw reading in a competition-based way. I ask them to use Padlet to put the slips of the reading passage in a logical order. They find it interesting whenever the winning group is promised to challenge the losing group. The losing group in this competition has to do the condition that the winning group has demanded, like singing a song or miming like animals".

Compared to conventional reading methods, those classes where technology is integrated are mostly effective, especially when Kahoot-like games are introduced. They can be easily used to assess the reading comprehension of students. One teacher reflects on her tech classes in the following way:

"When students are discussing the reading in small groups, the main idea can be asked from them to write. Some students can write arguments with evidence taken from the reading, some other students cannot do that. This easily gives understanding to the teacher that some students have done the task, but some students have not".

In terms of the advantages of TEL, one interviewee said that Zoomers or Generation Z, all, like digital technology, and they mostly never complain about too much integration of technology in the classes. One participant teacher states that:

"Instead, they ask for more such tasks related to anything portable that they can make use of in their mobile phones".

However, one disadvantage can be accessibility, that sometimes electricity can cut off and the Internet can be disturbed, or sometimes students might not have access to the Internet on their mobile phones. One teacher discloses some detrimental aspects of TEL as follows:

"Sometimes, students consciously or unconsciously complain about not being able to log into the Intranet, which is the LMS in the university. Sometimes, these burdens can be an encumbrance for quality education. Sometimes, I find students pretending that they have never looked at Outlook or they haven't checked their email yet and they missed the task, which is also another disadvantage of being assigned online".

Another respondent responds to the question about which skills develop when exposed to TEL. She says that critical thinking skills develop because students themselves provide feedback on their critical thinking skills development through the use of technology in their reading classes:

"This is reflected in our group leader meetings as students acknowledge that by integration of TEL, they have learned how to generate questions, how to write arguments by finding valid, reliable sources and where the writer's evidence is missing or omitted in the paragraph of the reading materials. Some students said that they learned how to filter information by using a computer. This means that their reading comprehension and soft skills have also developed because they can now know the difference between reliable and unreliable sources to pick up their writing, argumentative essays, and article writing".

One of the respondents acknowledged that in assessing students' reading

comprehension, jigsaw reading and alike reading strategies do not have any reliance on age:

"Age does not matter when students are asked to summarize in a written form, to make questions, and then later ask these questions from each other can be traditional methods that teacher has been using for many years, but unfortunately she has never used any educational tech in teaching reading, but she believes that the main advantage of using technology to teach reading can be described that it can instill creativeness and teamwork from students".

Another respondent says that one of the conventional methods she has been using in her reading instruction for many years is asking students to draw, to assess their reading apprehension Drawing can differ between describing the protagonist or the character of the reading, it can be environment or any setting, and later when the drawing is ready, they are asked orally. She believes that drawing a picture can be critical at all levels and that developing critical thinking and learning how to be creative does not depend on English proficiency.

To the question whether the educators have noticed any improvements in their students' reading skills, including comprehension, vocabulary, and motivation due to technology, one of the respondents said that students have developed their critical thinking because those, especially those who have been struggling readers or those who have dyslexia, showed immense improvements in their reading:

"Before, they used to be slow readers, but after the incorporation of technology in reading, their reading became faster and smoothly they started entertaining and finding home-task reading engaging, especially for dyslexic students".

This teacher also mentions that students' attention spans are shorter these days among teenagers, even in the foundational year of undergraduate programs. She pronounces that technology can help struggling readers, especially those who love being multifunctional, can juggle the tasks between reading and at the same time they are looking up the meaning of the new words using Google Translate and ChatGPT in case they find something unidentified.

One educator compares today's digital technology potential to the time when she learned English. For the first time, she remembers how she had been taking dictionaries and reading glossaries to the class and home, which she believes was a conventional technique of learning a language. However, today, students use different tech tools to generate ideas for submitting their tasks and brainstorming.

In terms of the prospect of technology's future in English reading instruction, it should be said that its essence is immense because it will continue growing but never stop. AI should be actively integrated into reading strategies that students should be allowed to use, but be careful for ethical concerns, as one of our respondents believed that AI and other educational techs will develop only from now and on, and AI generation, including ChatGPT, DeepSeek, and other portals are making learning more meaningful and engaging:

"Even in our university, there is a DBA class where students are taught how

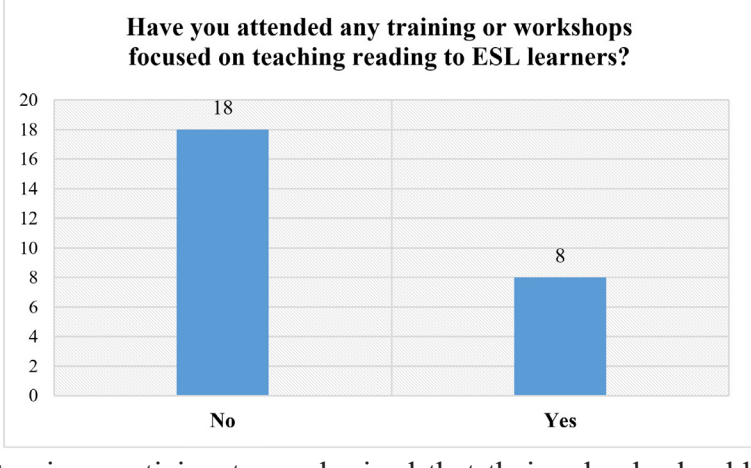
to use AI tools are taught how to create ChatGPT bots effectively. Even in their task submissions, they are allowed to use AI up to 20% of their whole paper, where students are evaluating AI tools in terms of how reliable they are and valid in summarizing, paraphrasing, and other tasks".

The role of AI tools is crucial in preparing tasks and submitting them ethically. Some educators are concerned about the ethical use of AI tools in writing papers and doing homework assignments. One teacher expresses her worries about transparency and being critical while using AI in academic works:

"Even our Turnitin program (online plagiarism detection) sometimes shows the AI-generated texts correctly, sometimes not. I think all AI tools cannot be reliable in teaching reading. relatable. Ethical concerns should be relatable for these purposes, and both teachers and students should be taught about these concerns".

To the question of whether their school provides adequate training and resources for technology-enhanced teaching, some teachers, about ninety educators, responded that they have never attended such training pieces (See Table 6).

Table 6.



Our interview participants emphasized that their schools should organize the series of training for their teaching staff to be fit for today's modern emerging trends:

"In terms of training, teachers need training about how discussion skills for reading and how to use critical reading strategies to improve reading comprehension should be taught to educators".

One teacher mentioned that in case her school does not involve her in a series of training, she is ready to find a related teacher training or an affordable course to train herself to stay fit in this teaching marketplace:

"In our school, only afternoon shift teachers are allowed to be trained with free CELTA courses. But unfortunately, as I am a morning shift teacher, I am exempt from the training. I believe that CELTA courses should train teachers on how to integrate technology into their reading instruction. I think that lack of training, resource limitation, and access to expensive gadgets can be detrimental effects of

TEL. I think that I need to train myself if I am not involved in my school-based CELTA training courses. Otherwise, I show my willingness to participate in any continuous professional development courses to update my skills".

Another respondent agrees with this standpoint, and she thinks that all teachers should be ready to update their skills to fit in with modern teaching technologies:

"New tech tools never stop emerging, and to keep up with these new emerging trends like gamification and games that develop critical thinking and reading comprehension is essential. We should be trained on how to adapt to such modern tech trends because students are inspired by these tools and feel they are related to their tasks".

Regarding the challenges of TEL in their schools, most teachers consider the necessity of financial support and reliable sources to make these tools open for them:

"We need financial support and reliable sources to integrate TEL into our teaching because different databases can ask for a premium subscription, which costs money for teachers who cannot afford it. They may be unwilling to pay for these subscriptions monthly because they cost a fortune. However, the school administration used to be supportive by opening some databases like Emerald Insights or C-Library, where we could download and use free reading materials as much as possible, including articles, books, and other interesting reading materials. But now, unfortunately, they have stopped sharing these databases which are free".

One educator believes that their current LMS portals can be replaced with more cutting edge and effective ones to offer more functions and flexibility in their ESL reading teaching:

"Better LMS portals can also be offered by school administration, like Canvas, rather than traditional Intranet, which has fewer options than Canvas".

Another teacher says that Coursera courses about how to integrate TEL and how to promote enhanced learning and teaching at schools should be taught freely. In addition, the teachers should have free access to Coursera courses to learn how to integrate not only TEL tools but also how to ethically use AI in their teaching and assessing their students:

"Teaching these courses should be free for teachers of the school. Assessing students' reading comprehension should not only be reliable, but also their use of technology should be reliable. They have to know how to adapt information that they have found on the AI tools, for example. They should have an understanding of how to avoid misconduct or academic integrity violations in their task submissions".

One participant thinks that automated technician support can be offered in their frequently used professional messenger chat groups or their LMS web page:

"Telegram [chat messenger] support group, which is 24/7, can offer help through tech support, or video tutorials on intranet and other LMS can be of great assistance for the teachers who have problems on dashboard while they are reporting misconduct things. Alternatively, if they have questions about a mark entry or how to

do student attendance, they should have ready tech support on their LMS. That can be of great help for teachers to navigate their technological journey in their teaching career".

For recommendations and future needs, I believe that technological support, accessibility, and resources are of great assistance to educators in enriching their lessons with technology. Among those, TEL tools, which work effectively in reading instruction, direct to lower short attention spans of students, especially those who are teenagers. Being exposed to TEL, the Generation Z members not only raise their attention but also their memory improves. TEL-based lessons are easy and entertaining compared to traditional teaching methods, which are losing their essence to align with a new generation day by day. Conventional methods of teaching reading can be tiring and uninteresting for students who belong to the modern technological era. For them, AI tools should be engaging to make their long and tedious reading classes more engaging.

DISCUSSION

The study findings revealed that incorporating TEL into EFL reading classes demonstrated benefits and burdens. EFL and ESP teachers at higher education institutions in Uzbekistan noted the value of TEL in enhancing engagement and comprehension when paired with multimodal learning and interactive platforms. Educators in Uzbekistan, ranging from English teachers to curriculum developers, acknowledge the potential of TEL in improving students' engagement with reading materials. Echoing global research, most teachers who participated in the survey and interviews reported that they are familiar with more conventional reading strategies, including pre-reading, prediction, skimming, and scanning, though very few of them could vividly name TEL-integrated reading strategies.

Regarding preferred reading strategies, educators reported that jigsaw reading, graphic organizers, and pre-reading are their most frequently used methodologies; however, they are more engaging when paired with digital tools that support interactivity and collaboration. Additionally, to improve reading comprehension, AI tools like ChatGPT and Interactive Google Docs are also considered to encourage group learning and higher-order thinking abilities.

However, the research also describes the majority of TEL applications that align with R.R. Puentedura's SAMR model, which includes substituting and augmenting traditional practices without considerable pedagogical transformation [Puentedura, 2013]. AI-driven personalized reading tasks and digital annotation in reinforcing reciprocal teaching remain restricted due to systemic constraints, school administration, and financial resources.

In addition, there is a clear gap in TPACK preparedness among teachers. Although they frequently consider themselves not having enough technical knowledge, especially regarding TEL for student-centered instruction and innovative classroom management, their confidence in their content knowledge and pedagogical knowledge

is high. This is in line with broader concerns issued in existing literature with regard to the necessity for contextual and continuous teacher training [Nurwahidah et al., 2023].

The research findings report that there is a gap in teacher preparedness in TPACK, TEL, and innovative reading instruction. To promote student-centered reading and state-of-the-art classroom management, teachers express their willingness for a structured training series and ongoing professional development to foster their technical knowledge. However, their confidence with their pedagogical and content knowledge is high. This relates to wider concerns raised in previous literature requiring contextual and continuous teacher training [Nurwahidah et al., 2023].

CONCLUSION

The potential of TEL and AI tools in enhancing reading is acknowledged in this research paper; however, their full integration can be troublesome due to unsupportive educational infrastructure, school management, and ethical concerns that might be raised by technology use. Teachers, curriculum developers, and PhD researchers underscore the necessity of pedagogical, institutional, and technical support. It is believed that when TEL in reading instruction is applied efficiently, student engagement, critical thinking, and reading comprehension are enhanced.

The current study suggests a student-centered strategy design based on student feedback in choosing, designing interactive reading activities and TEL tools. Those reading activities can range from collaborative mind maps in interactive Google Docs and PowerPoint presentations to AI-supported comprehension scaffolds. When student preferences are taken into consideration, their reading assessment options can also vary, including gamified assessments and AI-supported formative assessments. The next recommendation can be regarding monitoring and feedback systems. When AI-generated analytics or language management system platforms are implemented in real-time, the feedback that is taken authentically can be helpful to track students' reading progress, and the specific reading instruction can be adapted accordingly. Next is infrastructure support provided consistently by school administrations to ensure that up-to-date LMS platforms are implemented with full access. This can include reliable internet and free premium subscriptions to databases and digital tools such as Coursera, Canvas, and Padlet. Furthermore, continuous professional development is also crucial to provide teachers with targeted and ongoing CPD courses on TEL tools and tips on how to integrate them into reading strategies with particular highlights on TPACK development.

The next practical recommendation can be a blended learning model where flipped classrooms can be effectively implemented with the help of up-to-date digital tools and AI-driven platforms to enhance the reciprocal teaching and dialogic strategies for both in-class and at-home tasks. Future research can have implications including student perspectives analysis and classroom observations involvement to investigate TEL's impact and scalability in EFL environments in future studies. When students and teachers are informed well with ethics and AI literacy, clear guidelines are well

understood in terms of authorship, transparency, and plagiarism that must be further developed and enforced in the Uzbekistan context.

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