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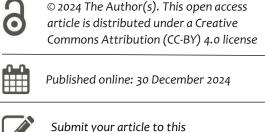
Exploring the Importance and Challenges of Artificial Intelligence in English Language Teaching and Learning in Developing Country (Afghanistan)

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Abstract

Technology has an impact on the education system, and it has made English language teaching and learning accessible to non-English speakers worldwide. English has become the language of Massive Open Online Courses (MOOCs) in developed countries. Artificial Intelligence (AI) is a new trend in English language teaching and has been experienced in developed countries' education systems since the first decade of the 21st century. Meanwhile, AI-based tools are integrated into English language classrooms in developing countries. In Afghanistan, schools and universities lack equipped English classrooms. Lecturers and students cannot connect with new explorations in the field of ELT (English Language Teaching) due to the lack of Internet and implementation of technological tools at public universities. This qualitative study explores AI-based technologies practised in English language teaching in the EFL context. Moreover, it explores the procedure for executing AI-based tools in educational institutions in developing countries. This study was conducted through a systematic literature review to find in-depth information about AI tools in EFL settings. The current study revealed that AI-based technologies support students and teachers to master English language skills in developing countries such as Afghanistan. Smart teaching approaches and smart environments train creative and autonomous students. Grammarly is an AI-powered tool for correcting spelling and grammatical mistakes, and it saves students and teachers time developing their writing skills. Also, Kahoot and Quizlet are experienced in assessing students' performance in EFL (English as a Foreign Language) courses, which help teachers quickly assess hundreds and thousands of students. AI-powered technologies benefit the Ministry of Education by educating rural area residents in English. Finally, emerging AI-based tools for English subjects should start in schools in Afghanistan because they are the foundation for developing the education system in the 21st century.

Keywords: Artificial Intelligence, AI-based tools, E-learning, English Language Teaching

1. Introduction

English is used as a mother tongue, second, and foreign language in many countries worldwide. Learning this language is compulsory for students at private and public

institutions in Afghanistan because English is the language of business, education, medicine, and technology. Learning English is conducive to academic success in the 21st century. English is mandatory for career development and beneficial for university students [1]. English is also pivotal to advancing the higher education system because it is the language of the internet and modern technology nowadays [2]. However, English as a Foreign Language teachers and students do not have access to equipped computer labs, fast internet, and a lack of regular electricity in Afghanistan [3]. Poor internet and fewer infrastructures have complicated English language teaching for students and teachers in the EFL (English as a Foreign Language) context. In addition, students have faced an absence of updated textbooks and supplementary materials in countries where non-English speakers are absent.

Some instructors and educators had negative attitudes toward using Google Translate, ChatGPT, and Chatbot in private institutions in Afghanistan. Also, the shortage of information communication technology (ICT) expertise and infrastructure have challenged higher education [4]. Furthermore, Teaching the English language in large-multi-level classes through traditional methods less impacted the performance of teachers and students. Chalk and blackboard are the mediums used to display essential points of lessons at schools in Afghanistan, which deter quality English language teaching and learning [3]. Still, university lecturers used markers and whiteboards to share summaries of the lessons with students because they have limited insights about eLearning and AI tools, proving that they prefer traditional teaching methods [3].

The traditional teaching approaches of the English language made the learning process boring for 21st-century learners in the EFL context. Educators and teachers believed in Skinner's behaviourist theory, which is based on memorization and practice inside the classroom. This theory motivates students to memorize words and grammatical structures used before the communicative era. In the post-communicative era, Piaget's Cognitive constructivism is based on task-based learning, which supports the execution of technology in the class. Teachers should develop autonomous learners with task-based learning inside and beyond the classroom. Lev Vygotsky's social constructivism also comes from post-communicative time theories. Both Piaget's cognitive constructivism and Lev Vygotsky's social constructivism support using the internet to promote communication in English as a foreign language [5].

AI tools and techniques have merit and demerit at Kabul University [6]. A limited number of lecturers use AI tools to prepare materials and lesson plans at Kabul University, so appropriate usage of AI saves the lecturers time. However, some teachers complain about plagiarism that students perform. Also, AI-based tools challenge and facilitate the process of English language teaching and learning in developing countries; they work as a teacher assistant [7]. Furthermore, when students do not have enough insights and skills about using technological tools, it challenges the education system because students access low-quality learning materials and commit cheating while working on their research projects and homework [6].

1.1 Study Objectives

This study aims to explore Artificial Intelligence tools used in English as a Foreign Language context. It investigates the procedures and merits of AI-related tools in an EFL setting. The study examines the challenges of using AI-based tools in a developing country (Afghanistan).

1.2 Research Questions

The following research questions were asked:

- According to the relevant literature and experts' opinions, what are the advantages of using AI-based tools in EFL classrooms?
- How do AI technologies help students in mastering English major skills?
- What factors challenge the usage of AI-based technologies in the EFL context in developing countries?

2. Literature Review

English language learning is pivotal for students living in the technology era. English is Langue-Franca; people learn this language for various purposes, such as studying abroad, trading, interacting in cultural exchanges, politics, and effective communication. English is the medium of instruction in many countries worldwide [8]. Alternatively, English is an international Language with complicated sentence structures learned through practice and full engagement with language learning materials [9]. Technology and innovative teaching approaches help students and teachers overcome English teaching and learning challenges. The English language was taught through divorce teaching methods and approaches in the EFL context.

The English language was taught with the help of traditional methods in the 20th century, and there were drawbacks to English language teaching through grammar translation and direct reading methods in the EFL context. Firstly, traditional teaching methods are guided by teachers, and students remain passive in traditional classrooms and listen to the instructors [10]. Computer-Assisted Language Learning (CALL) and Mobile-Assisted Language Learning (MALL) approaches have been developed with the help of information and communication technology to develop teaching and learning the English language [11]. Furthermore, creative teaching approaches such as communicative language teaching, project-based learning, inquiry-based learning, and technology have revolutionized English language teaching. Also, computer-assisted language learning (CALL) was used before the invention of AI-based learning [12].

Technology directly impacts all crucial elements of education, such as teachers, students, curriculum, and campus. Technology integration assists teachers in developing countries with all four major components: instructor, learners, curriculum, and a good environment supported by technology [13]. Also, since the 1990s, the education system has been digitalized worldwide [14]. Moreover, PowerPoint and video materials in EFL classrooms in China enhance students' productivity [7]. Technology emerged in English language teaching in the mid-20th century [12].

Likewise, electronic learning has changed the entire education system of developed countries, and it has become popular day by day in developing countries [15]. E-learning is used in the developed world and is replacing traditional types of classrooms. E-learning enhances students' accessibility to education and helps many students enrol in e-learning courses [16]. Equivalently, E-learning helps students and teachers change the shape of the education system [10]. During the COVID-19 pandemic, e-learning became common worldwide, and it has been used as a good alternative to person-to-person education. In the same way, online teaching, flipped classrooms, and blended teaching modes are used in China improving the system [7].

Moreover, English Language is the medium of instruction for all online courses worldwide [17]. Courses in online educational platforms use various essential teaching techniques to engage students. The educational courses included video-based instruction, Discussion forums, Reading materials, social media for cooperative activities, live sessions, assessments, and extra resources [17]. Furthermore, famous universities, such as Havard, Standford, and Massachusetts Institute, used Massive Open Online Courses for students worldwide, and students from developing countries were admitted to the courses and benefited from the course [14].

In addition, Machine Intelligence (MI) is an interchangeable use for AI and is prepared to assist human beings [9]. The word AI is combined with artificial, which means not real, and intelligence, which means competence, self-awareness, comprehension, critical thinking, and emotional skills. Artificial Intelligence is a computer science field requiring advanced programming [18]. AI-based tools are used in electronic learning for four major purposes: personalizing learning, assessment, inferencing, and free tutoring. Artificial Intelligence facilitates the teaching and learning of EFL because AI helps software developers develop applications and platforms that assist learners in learning English at home [19]. By the same token, "Artificial Intelligence refers to the ability of a digital machine to perform tasks commonly associated with intelligent beings [20]. Likewise, "AI is a technical term, meaning that learning to execute a task related to humans by reasoning and interacting with the environment [21].

Furthermore, distance education is practised all around the globe, and youths from developing countries use the courses. Stanford University 2011 launched Coursera, Udacity, and Udemy online platforms. Later, MIT developed the Edx platform in the USA. The Iversity online learning platform was introduced in Germany, and the Futurelearn platform was developed at Open University in the UK [17]. These platforms contain leadership, research methodology, academic writing, and business and computer science-related subjects, which are very important for students in Asian and African countries. AI-based tools make learning English for EFL interesting and easy [9]. Also, English as Foreign Language teachers have brought knowledge of AI tools to easily select the best tool for their students and themselves [21]. AI technologies have a positive impact on EFL students [22]. Artificial Intelligence transformed the landscape of language learning because of its impact on all areas of social life. AI-powered tools are a computer-assisted language learning approach, and AI has become an essential component of English language teaching. The term Artificial Intelligence was introduced by John McCarthy in 1956 [19]. Otherwise, AI tools can administer higher education institutions [23].

Information Technology infrastructure is crucial for spreading knowledge and information in developing countries [24]. In developing countries, students still use radio, television, and printed materials because they do not have IT infrastructure in their institutions. In the same way, the internet shortage makes e-learning difficult for students and teachers, especially in developing countries [10]. The literature reported many advantages of integrating AI-based tools, which enhanced students' productivity. The sources used in this study believed that AI's challenges in developing countries need appropriate solutions.

3. Methods and Materials

The scientific study was conducted with an exploratory qualitative research design. This study type was selected because of limited information about AI-based tools in Afghanistan from students and teachers. AI tools are not common among university lecturers and students; therefore, the author selected a qualitative approach for collecting data for the current study. Researchers use a qualitative approach to seek in-depth information about the research topic [25]. The systematic review was directed by reviewing, evaluating, and synthesizing the targeted articles. The screening process was based on the keywords (AI-based tools, innovative teaching approaches, English language, Usage of AI in EFL) context. The chosen articles were published between 2018 and 2024 in highly indexed journals such as Scopus, Elsevier, Springer, and Asian. All the targeted articles were analyzed thematically (reviewing coding and categorizing). The study lasted six months, including a reviewer's review period.

3.1 Sampling Method

This library research focuses on secondary data, which includes reliable and valid articles. This study concentrated on textual data, and the articles selected were collected from Google Scholar, Academicjournals.org, the Education Resources Information Center (ERIC), and EBSCO Information Services.

At first, the targeted articles were reviewed and analyzed, and then the articles' themes emerged to answer the research questions. The information was assembled purposefully, and the articles were thematically analyzed and interpreted after a careful note-taking process. Purposive sampling is a data collection strategy through which researchers choose qualitative data that meet their research project needs [26]. The research selected thematic analysis and implemented it through various steps. Thematic analysis is a good approach; there are six steps in analyzing complex issues thematically in qualitative educational research [27]. The writer thoroughly applies the steps to find valid and reliable results. The educational researcher can code, categorize, and put large qualitative data into themes. The study themes (Al-tools execution, Challenges of AI and Advantages of using Al in English classrooms) are developed based on research questions.

3.2 Data Collection

The researcher chose two hundred articles in the screening process based on keywords such as English language, AI tools in EFL, Advantages of technology, and eLearning. The articles were collected from the databases (200 articles from Google Scholar, 30 articles from ERIC, and 20 articles from EBSCO Essentials). The researcher downloaded most of the articles from Google Scholar because highly indexed journals are listed in Google Scholar. Secondly, the author reviewed the abstract of 100 articles and selected only 80 articles near the research topic. Ultimately, the author reviewed 50 and selected 50 articles for annotated bibliography because they met the current research project needs.

3.3 Data Analysis

The data for the study was collected through a review of some scientifically valid articles. Moreover, the researcher reviewed, evaluated, and synthesized the targeted articles. The researcher coded, categorized, and put into themes to make the data comprehensible for readers. The thematic data analysis is a good approach in the qualitative research

paradigm because analyzing thematically helps readers understand the study's main goal [27].

Initial Search & Screening N=250 Articles

Two hundred fifty articles were screened generally with the help of keywords (AI-based tools, innovative teaching approaches, English language, Usage of AI in EFL).

200 Articles From Google Scholar, 30 articles from ERIC, and 20 Articles from EBSCO Four famous online search engines were searched: ERIC, EBSCO, Google

Exclusion and Inclusion criteria

N=50 Articles Excluded Renowned Database Indexed Journals: Scopus, Elsevier, Springer & Taylor & Francis Update articles:" 2018 to 2024 Reviewing N=200 Articles

Two hundred articles' abstracts were reviewed.

Excluded N=120 Articles

The articles which did not link with the current study research questions and theme were excluded.

Included N=80 Articles

Included articles have connectivity with the current study and they were published in the newoned journals.

Reviewed N= 50 Articles

50 articles were carefully reviewed, evaluated, interpreted and synthesized for resutls.

Fig.1. The systematic review of the article process

4. Findings

English is the language of higher education, medicine, management, and technology. This exploratory study was based on three research questions that were answered individually after synthesizing and interpreting reliable and valid articles. This study was conducted to find some ideas and solutions regarding English language teaching and learning students faced in Afghanistan. Smart University and Al became popular during the COVID-19 pandemic [14]. Smart University refers to distance education and elearning where a smart environment, smart tools, and smart administration are practised. AI-tools-equipped classrooms are good alternatives for person-to-person classrooms, and they have developed personalized English language learning. Learning Management System (LMS) and Learning Content Management System (LCMS) are platforms of Elearning which are good for teaching and learning.

The first research question dealt with an introduction to AI-based tools and their advantages in the field of EFL. As developing countries are working on online education and blended learning, technology must integrate with the teaching and learning process [28]. Likewise, Artificial Intelligence plays a pivotal role in developing learners' Language proficiency [15]. Artificial Intelligence is an effective component of modern education and dominates the education area [21]. AI-based technologies assist teachers in three areas:

preparing teaching strategies, enhancing instructors' teaching ability, and helping teachers to develop professionally [20].

Additionally, Al tools pave the path for teachers to plan, implement, and assess the lesson [15]. Similarly, AI makes teachers' job easy in planning, developing teaching materials, and assessing [29]. Artificial Intelligence helps teachers to develop materials based on students' needs. AI helps students receive automatic scores and realize their English language ability before starting online courses [20]. Furthermore, Chabot revolutionized the field of EFL and helped students develop vocabulary and speaking skills [30]. Khan Academy provides video-based instruction for school students and uses AI tools to assess student's performance [31].

Furthermore, AI-based tools enhance intrinsic and extrinsic mutations in the classroom. Teachers with insights and skills in teaching methodology are fourth runners in using AI tools in the EFL classroom [21]. Likewise, Artificial Intelligence tools motivate students by providing automatic feedback and assessment [22]. The authors discussed that AI tools are essential for facilitating EFL settings.

Finally, some challenges should be considered by policymakers, educators, and teachers in the future [22]. Teachers are responsible for assessing the AI tools provided materials; experienced and knowledgeable instructors and educators assess the AI-generated answers and suggestions [21]. By the same token, teachers' and students' positive beliefs about AI-based tools enhance the effectiveness of these tools [32]. Teachers and students should use AI tools as assistants and have a clear mind about their roles, which are not leading or alternative to teachers in EFL classrooms. AI-based tools cannot replace teachers, but they work as teacher assistants [21]. On the other hand, small spelling mistakes make the task of AI Chatting Robots difficult, and it does not provide appropriate answers to users. It cannot provide appropriate answers for wrong promotion.

The second research question explored AI-based tools that benefit students who master English language major and minor skills. Chatbots help English as a Foreign Language (EFL) students enhance oral and written communication skills [15]. Similarly, AI-based tools made writing easy for writers; with the help of AI, writers can utilize AI to ask questions and receive suggestions [32]. EFL students can easily develop their writing skills using AI-based grammar and spelling checkers without being time-consuming and waiting for teachers' feedback about grammar and spelling [15]. Also, writers receive feedback on their written paragraphs and essays without waiting for hours and days. AI technologies make reading and writing fun for students, who learn these skills through game activities [19]. Moreover, students have smartphones all the time and enjoy using mobile to learn English [33]. Some technological tools, such as Wiki and discussion forums, are used to develop students' writing [12]. Both Wiki Discussion Forms motivate students to work together. English as a Foreign Language instructors also use blog technology to collaborate and share perspectives [12]. Similarly, Grammarly develops students writing skills and provides correct spelling and sentence structures [34].

In addition, Orai is a good application for improving students' oral communication skills [29]. Chatbot functions as a study partner, facilitating the English learning process. Students can use Chatbot orally and in written form. Teachers can use Chatbot for conversation practice, and it rectifies grammatical mistakes in teaching materials. Communication is vital in teaching and learning English, so Duolingo assists students in

developing listening and speaking skills [35]. Duolingo AI technology engages students and helps students to solve their problems. Similarly, Duolingo assess students' levels and then prepare teaching materials based on their level of knowledge. Duolingo is good for enhancing reading and speaking vocabulary.

Furthermore, Al-driven tools, such as Google Translate, Text to Speech, Duolingo, and Neo, are used for various purposes [12]. Communication is vital for learning English, and learners are expected to develop communication skills in English, so AI-based tools help students learn written and oral English communication [19]. Chatbot is a tool that communicates with human beings, helps students learn English easily at home, and personalizes the learning process. Google Translate is an AI-powered tool that helps EFL learners translate various languages into English [9]. As well as Nexgen English Online is a tool that functions as a personal tutor and coach. It helps students who want to master English in a short period. Orai is an AI-based tool that helps students and teachers to develop speaking skills. English Learning Speech Assistant (ELSA) is a tool that assists students in learning pronunciation skills [9].

In addition, Kahoot was launched in 2013 and is used for exams, discussions, and quizzes in English language teaching. Also, Kahoot and Quizlet are AI-powered tools that motivate students to learn the English language with the help of quizzes and other activities [36]. Similarly, Kahoot and Quizlet gasified tools, which enhance students' productivity and engagement with learning. Furthermore, an Assessment-based Learning Environment (ABLE) is used for various assessment types and helps learners prepare for international tests [9]. ChatGPT is an AI-based tool that checks students' essays and supports teachers in the teaching material development process [37].

The 21st-century education system has also changed because of technology. "Generative Pre-Trained Transformer (GPT) Models use large amounts of publicly available digital content data to read and produce human-like text in several languages" [37]. Also, artificial intelligence-based mobile learning makes the job of students easy, and students can personalize the process of learning English. It helps students learn English, and Albased mobile learning motivates students to practice English [33].

In addition, AI-driven tools are prepared to analyze the written text and then provide comments [38]. AI-powered tools also help students analyze vocabulary, sentence structures, writing mechanics, and organization. AI technologies help EFL students identify weaknesses and strengths through Automated Writing Evaluation (AWE). Grammarly is an AI-based tool that helps EFL writers apply correct spelling, punctuation marks, and canalization rules. Moreover, ChatGPT-3 and Chat GPT.4 assist writers in developing the quality of content in paragraphs, essays, and research papers. Some disadvantages of AI technologies. Al-tools stop students from creative and critical thinking; they apply the provided suggestions without understanding them, a drawback of AI in EFL [38]. AI-powered tool execution is not good for certain types of writing, such as argumentive essays. The proper implementation of AI tools requires high-quality internet and good devices. The same author listed some AI tools, Jenni AI, Quillbot, Essay Writer, Papperpal, and ChatGPT, which are specially used to develop EFL writing skills.

Kahoot and Quizlet are used to assess student's performance engagingly and interestingly [39]. These two AI tools help teachers prepare online quizzes and tests for assessing students' performance. Additionally, Artificial intelligence-based mobile learning provides a good opportunity for collaboration and motivates students to stay in

touch with lessons. AI connects students and teachers, essential for teaching and learning [33]. NovoLearning is an intelligence-based mobile learning tool that connects students and helps them enhance their English competencies.

The third research question explores the challenges that slow down or deter the implementation of AI-based tools in the EFL context. AI-based tools answer teachers' and students' questions based on already used data, and the data may be biased, so the suggestions and answers that teachers and students receive may be biased [21]. Pedagogical and Angragogical knowledge of teachers have a positive impact on interactions with AI-based technologies. Besides, EFL teachers should participate in AI-based introduction workshops and conferences [21]. On the other hand, some challenges of AI for teachers and students include limited knowledge of teachers about AI, shortage of connectivity between AI and teaching, and lack of AIED (Artificial Intelligence in Education [20]. Some AI tools complicate the teacher's tasks; for example, they cannot easily identify ChatGPT-generated and students' written courses [34]. Furthermore, teachers' and students' attitudes are important for implementing AI-based technologies [28]. Policymakers, researchers, educators, and teachers should work together to solve ChatGPT's drawbacks appropriately.

Finally, there are some disadvantages of ChatGPT, such as a shortage of comprehension prompts, bias in presenting information and shortage of real teacher explanation, limited creativity, shortage of contextualized information, and lack of security [38]. Furthermore, developing technology infrastructure in developing countries is very important because it opens the doors for effective execution in the future [28]. Besides, governments in developing countries should provide access to the internet for school and university students and instructors [24].

4.1 Discussion

Artificial Intelligence-based technologies open opportunities for teachers and students in the EFL context. AI-based tools and modern technology help students from developing countries study free online courses prepared by the best universities worldwide. It makes education cheap and accessible for people who live in remote areas of developing countries. There are four main domains, learning, teaching, assessment, and administration, in which AI remains effective for educators and teachers [20]. Afghans are non-native English speakers; advanced technology integration with teaching approaches helps them learn English with amusement.

AI-based tools directly assist English language teachers in saving time. The current study showed the advantages of AI tools and their impact on English Language Teaching and learning. Several gamified applications, such as Kahoot, Socrative, Live, Plickers, and Quizlet, enhanced teachers' productivity in the EFL context. Teachers can prepare questions in the stated applications to assess students' performance. Students do not like exams and quizzes through classic style, but AI tools make exams and quizzes interesting. Kahoot is a free AI-powered tool used to assess many students simultaneously, and it has an automatic score generator. Teachers and lecturers can allocate time for every question after the exact time it disappears. It is a good tool for assessing kids' and adults' English language levels. Similarly, gamification is related to preparing and using technological tools in fun ways for teaching and learning. Gamification helps students to enjoy the process of assessment [38]. Also, technology is

used to teach and learn English as a foreign language [39]. In Afghanistan, Kahoot helps teachers engage students and prepare teaching materials based on the needs of learners.

Providing constructive feedback is very time-consuming for teachers, and the process is delayed because of many students. However, the results of this study depicted that artificial intelligence provides synchronous feedback on time, which makes the teachers' job easier. ChahGPT helps researchers find topic research topics and assists writers in summarizing and paraphrasing scientific papers [40]. The AI- tools function as free tutors and teachers for students who do not have time to visit college. Likewise, AI directly impacts the education system, especially in English language learning [33].

Additionally, communicative competencies are very salient in the context of EFL. Students joined English courses to develop their oral and written communication skills in public and private institutions across Afghanistan. AI-based tools pave the ground for students to practice oral and written communication [19]. Also, Teachers and students should recognize AI-based tools' benefits and work for the execution inside and beyond the classroom [15]. Similarly, an AI-generated automatic translation tool makes teaching and learning English in the EFL context easy. Afghan English instructors can utilize Google Translate to translate English materials to native languages. It is worth mentioning that they should review and contextualize the teaching materials provided by AI-based tools.

Moreover, Al- technology personalized learning process, learners can study English skills based on their needs. Google Translate and Grammarly are the famous tools that increase the productivity of EFL students. Al-powered tools enhance students' academic writing skills and are developed for students' use worldwide. Grammarly is an Al-based tool that helps writers check spelling and sentence structures [32]. English as Foreign Language teachers in Afghanistan should use Al-tools to ratify paragraphs and essays; they must motivate students to use them beyond the classroom. Computer science engineers and English language teachers should work together to develop online courses for students at public and private universities in Afghanistan. There are many examples of online courses that help students around the world. For example, Stanford University provides many free online courses, which are very helpful for students and employees. Students with internet access and smartphones can easily access the video through YouTube Channels in Afghanistan.

The findings showed that the government should develop Information Communication Technology (ICT) centres in Afghanistan's schools and higher education institutions. With the help of e-learning and distance learning, we can provide accessibility to education to people who live in rural areas. However, it is very important to consider internet access in these areas [24]. The government should facilitate the process of training teachers and lecturers about the usage of AI-based tools. Furthermore, technology and computer trainers should help teachers implement technological tools at schools and universities in Afghanistan. Computer engineers assist English teachers by editing English language videos that Afghans record.

In short, AI-based tools are conducive to online conferences and meetings. Effective use of AI-based tools decreases the government's financial expenditure on training teachers in Afghanistan. The government can share recorded lesson videos with teachers in rural areas. The new technology allows instructors to connect with educational expertise from foreign professors. Universities can easily ask guest speakers from prestigious

universities to provide lectures for students. In addition, lecturers and teachers can start their own educational business from home by constructing small studios at home. Private university can enhance their business through developing quality online courses. Kahoot and other AI-based tools help them in assessing students' language competencies. Also, online courses are a marketing tool for private universities in Afghanistan. Therefore, the AI tools require a concentration of computer science engineers, educators, policymakers, and stakeholders in Afghanistan.

4.2 Conclusion

English language has been taught to students at the school and university levels in Afghanistan. Therefore, the current study findings help both the Ministry of Education and Ministry of Higher Education high-ranking officials to help students gain high-quality education. Now, it is clear that AI-based tools positively impact English language teaching and learning in Afghanistan. This study's results showed that the new technologies help EFL lecturers and teachers to plan, prepare, and execute lessons. Human insights and knowledge are crucial for acquiring advantages from AI-based English language teaching and learning tools. The final judgment links with English language teachers and students, so they must have broad knowledge of English language teaching and the contents they are working on in their classes.

Furthermore, AI-based tools are affordable for teachers and students; free AI-based tools are available in Afghanistan, such as ChatGPT 4.0, You.com, and Google Translate, for mastering English language skills. English as Foreign Language instructors should use AI-tools as assistants and have a positive attitude toward using AI-powered technologies. The government should attract donors' attention to invest in developing and using AI tools in educational institutions across Afghanistan. Furthermore, lecturers and students require training regarding the appropriate usage of Artificial Intelligence, so the government should facilitate workshops and short courses for lecturers, teachers, and administrative staff. The author faced a shortage of updated articles about AI-based tools in Afghanistan during the current study. Finding updated and high-quality research papers related to AI tools in education was not easy, challenging the data collection procedure of this study, so I suggest researchers conduct mixed-method research on the topic in the future. The current research topic is crucial for advancing the EFL and general education system, so I recommend further quantitative and qualitative research.

References

- [1] L. Astarilla, "University students' perception towards the use of Duolingo application in learning English," *Proc. CELSciTech*, vol. 3, pp. 1–9, 2018.
- [2] R. Nishanthi, "The importance of learning English in today's world," *Int. J. Trend Sci. Res. Dev..*, vol. 3, no. 1, pp. 871–874, 2018.
- [3] M. N. Rahim and S. C. Sandaran, "EFL teachers' perceptions of the barriers and opportunities for implementing e-learning at Afghanistan universities," *Univ. J. Educ. Res..*, vol. 8, no. 11C, pp. 97–104, 2020.
- [4] M. S. Oryakhail, S. Saay and H. Nasery, "Challenges in the implementation of e-learning in Afghanistan higher education," in 2021 International Conference on Advancement in Data Science, E-Learning and Information Systems (ICADEIS), Oct. 2021, pp. 1–6. IEEE.
- [5] E. Boyadzhieva, "Theory and practice in foreign language teaching and present," J. Mod. Educ. Rev.., vol. 4, no. 10, pp. 776-788, 2014.
- [6] A. W. Fazil, M. Hakimi, A. K. Shahidzay and A. Hasas, "Exploring the broad impact of AI technologies on student engagement and academic performance in university settings in Afghanistan," RIGGS: J. Artif. Intell. Digit. Bus.., vol. 2, no. 2, pp. 56-63, 2024.
- [7] J. Luo and L. Qiu, "Review of artificial intelligence-based tools in EFL classroom," *Arts Cult. Lang..*, vol. 1, no. 7, 2024.
- [8] M. Alhamami, "A systematic review of English as a medium of instruction policy in the arab world," *Educ. Change.*, vol. 28, 2024, pp. 27.
- [9] T. N. Fitria, "The use of technology based on artificial intelligence in English teaching and learning," *ELT Echo: The Journal of English Language Teaching in Foreign Language Context*, vol. 6, no. 2, pp. 213-223, 2021.
- [10] L. G. Karaeng and D. C. Simanjuntak, "Exploration of EFL teachers' experience toward the implementation of e-learning amidst the COVID-19 pandemic: A qualitative interview study," PROJECT (Professional Journal of English Education), vol. 4, no. 2, pp. 324-340, 2021.
- [11] J. Kannan and P. Munday, "New trends in second language learning and teaching through the lens of ICT, networked learning, and artificial intelligence," *Cic. Ling. Apl. Comun..*, vol. 76, pp. 13–30, Nov. 2018, doi: 10.5209/CLAC.62495.
- [12] B. Y. Cahyono, "Technological tools used in the EFL teaching in Indonesia," *iTELL J..*, vol. 1, no. 1, pp. 1-11, 2024.
- [13] M. AbdAlgane, "Professionalism in the classroom: How online learning influences English language instructors," *Contemp. Educ. Technol..*, vol. 15, no. 4, 2023.
- [14] D. K. Mohanachandran, C. T. Yap, Z. Ismaili, and N. S. Govindarajo, "Smart university and artificial intelligence," in *The Fourth Industrial Revolution: Implementation of Artificial Intelligence for Growing Business Success*, pp. 255–279, Cham: Springer International Publishing, 2021.
- [15] A. Alhalangy and M. AbdAlgane, "Exploring the impact of AI on the EFL context: A case study of Saudi universities," J. Intercult. Commun.., vol. 23, no. 2, pp. 41-49, 2023.

- [16] A. Andersson and Å. Grönlund, "A conceptual framework for e-learning in developing countries: A critical review of research challenges," *Electron. J. Inf. Syst. Dev. Countries.*, vol. 38, no. 1, pp. 1-16, 2009.
- [17] M. H. Baturay, "An overview of the world of MOOCs," *Procedia Soc. Behav. Sci...*, vol. 174, pp. 427-433, 2015.
- [18] K. Y. Tang, C. Y. Chang, and G. J. Hwang, "Trends in artificial intelligence-supported e-learning: A systematic review and co-citation network analysis (1998–2019)," *Interact. Learn. Environ...*, vol. 31, no. 4, pp. 2134-2152, 2023.
- [19] Y. A. Alshumaimeri and A. K. Alshememry, "The extent of AI applications in EFL learning and teaching," *IEEE Trans. Learn. Technol..*, 2023.
- [20] T. K. Chiu, Q. Xia, X. Zhou, C. S. Chai, and M. Cheng, "Systematic literature review on opportunities, challenges, and future research recommendations of artificial intelligence in education," *Comput. Educ. Artif. Intell..*, vol. 4, p. 100118, 2023.
- [21] I. Celik, "Towards intelligent-TPACK: An empirical study on teachers' professional knowledge to ethically integrate artificial intelligence (AI)-based tools into education," *Comput. Hum. Behav..*, vol. 138, p. 107468, 2023.
- [22] A. M. Moybeka, N. Syariatin, D. P. Tatipang, D. A. Mushthoza, N. P. J. L. Dewi, and S. Tineh, "Artificial intelligence and English classroom: The implications of AI toward EFL students' motivation," *Edumaspul J. Pend...*, vol. 7, no. 2, pp. 2444-2454, 2023.
- [23] A. W. Fazil, M. Hakimi, A. K. Shahidzay, and A. Hasas, "Exploring the broad impact of AI technologies on student engagement and academic performance in university settings in Afghanistan," *RIGGS: J. Artif. Intell. Digit. Bus...*, vol. 2, no. 2, pp. 56-63, 2024.
- [24] S. Gulati, "Technology-enhanced learning in developing nations: A review," *Int. Rev. Res. Open Distrib. Learn..*, vol. 9, no. 1, 2008.
- [25] H. M. Kasinath, "Understanding and using qualitative methods in performance measurement," MIER J. Educ. Stud. Trends Pract.., pp. 46-57, 2013.
- [26] J. W. Creswell, Educational Research: Planning, Conducting, and Evaluating Quantitative and Qualitative Research, New Jersey: Pearson, 2008.
- [27] K. L. Peel, "A beginner's guide to applied educational research using thematic analysis," *Practical Assess. Res. Eval..*, vol. 25, no. 1, 2020.
- [28] A. Sife, E. Lwoga, and C. Sanga, "New technologies for teaching and learning: Challenges for higher learning institutions in developing countries," *Int. J. Educ. Dev. Using ICT*, vol. 3, no. 2, pp. 57-67, 2007.
- [29] Z. N. Ghafar et al., "The role of artificial intelligence technology on English language learning: A literature review," Can. J. Lang. Lit. Stud.., vol. 3, no. 2, pp. 17-31, 2023.
- [30] R. Jiang, "How does artificial intelligence empower EFL teaching and learning nowadays? A review of artificial intelligence in the EFL context," *Front. Psychol..*, vol. 13, p. 1049401, 2022.
- [31] R. Kindi et al., "Comparing a-list empire educational software to Khan Academy's: Increasing student performance by incorporating artificial intelligence into video-based instruction," *Int. J. Adv. Educ. Res..*, vol. 1, no. 6, pp. 1-6, 2016.

- [32] W. Alharbi, "AI in the foreign language classroom: A pedagogical overview of automated writing assistance tools," *Educ. Res. Int..*, vol. 2023, p. 4253331, 2023.
- [33] D. N. Arini *et al.*, "Artificial intelligence (AI)-based mobile learning in ELT for EFL learners: The implementation and learners' attitudes," *Int. J. Educ. Stud. Soc. Sci..*, vol. 2, no. 2, pp. 88–95, 2022. doi: 10.53402/ijesss.v2i2.40.
- [34] A. Hassoulas et al., "Investigating marker accuracy in differentiating between university scripts written by students and those produced using ChatGPT," *J. Appl. Learn. Teach..*, vol. 6, no. 2, 2023.
- [35] B. S. Handini, N. Nurhasanah, and F. I. Panly, "The effect of artificial intelligent technology used (Duolingo application) to enhance English learning," *ELLITE J. Engl. Lang. Lit. Teach..*, vol. 7, no. 2, pp. 86-94, 2022.
- [36] Á. Tóth, P. Lógó, and E. Lógó, "The effect of the Kahoot quiz on the student's results in the exam," *Period. Polytech. Soc. Manag. Sci..*, vol. 27, no. 2, pp. 173-179, 2019.
- [37] D. Baidoo-Anu and L. O. Ansah, "Education in the era of generative artificial intelligence (AI): Understanding the potential benefits of CHATGPT in promoting teaching and learning," J. AI., vol. 7, no. 1, pp. 52-62, 2023.
- [38] W. Marzuki et al., "The impact of AI writing tools on the content and organization of students' writing: EFL teachers' perspective," *Cogent Educ..*, vol. 10, no. 2, p. 2236469, 2023.
- [39] A. A. Zbar and D. H. Ali, "Personalizing learning through technology in EFL context," *Technol. Assoc. Lang. Educ..*, vol. 2, no. 1, pp. 73-85, 2024.
- [40] M. Salvagno, F. S. Taccone, and A. G. Gerli, "Can artificial intelligence help with scientific writing?" *Crit. Care.*, vol. 27, no. 1, p. 75, 2023.

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