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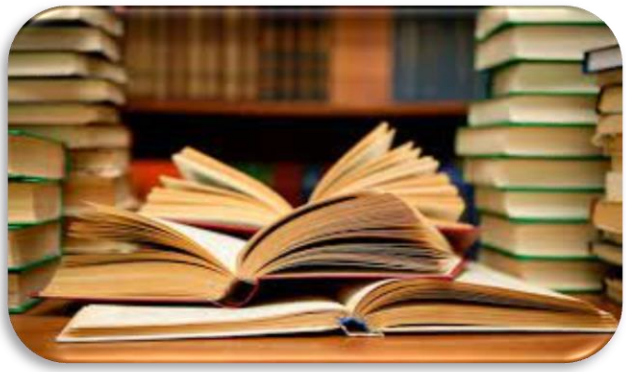

Motivations for Incorporating Artificial Intelligence in ELT Research: Perspectives from Iranian Researchers

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ABSTRACT

Because of its amazing potential, artificial intelligence (AI) is being used more and more across a range of fields. In the field of English language teaching (ELT), the application of AI techniques has grown recently. Given the increasing prominence of AI in ELT research, it is imperative to get an understanding of the rationale and motivations underlying its application, especially as perceived by ELT researchers. Fifteen Iranian ELT researchers who had published research articles in the last five years were interviewed to obtain more understanding of this issue. The data from the interviews was subjected to thematic analysis. The results showed several important justifications for using AI in ELT research publications. In particular, AI allowed researchers to analyse vast amounts of data quickly and effectively, spot grammatical mistakes, and paraphrase, reduce plagiarism, cut down on research expenses and time, evaluate data objectively, and produce fresh concepts and viewpoints. As a result, AI has shown to be a useful tool for ELT academics to investigate novel topics and unearth new information, thus expanding the field. This study's educational implications include the possibility that AI technology could improve the general caliber of research articles published in ELT through a variety of channels.

Keywords: *Artificial Intelligence (AI), English Language Teaching (ELT), Iranian Researchers, Motivations, Perspectives*

INTRODUCTION

Acquiring proficiency in English is crucial in today's globalized world. A key aspect of English acquisition is the ability to compose in the formal register of the language. The importance of writing and writing proficiency as a fundamental part of the English language is undeniable. The heightened significance of communication as an essential aspect of human existence in the modern global village contributes to this importance (Farsinejad & Rad, 2022). Recent technological advancements have provided educators and learners with opportunities to employ technology for instructional purposes (Barjesteh & Isaee, 2024). The use of AI has had a significant impact on language learning and teaching in various aspects (Lund et al., 2023), but its applications in language research have not been widely reported. AI has transformed the way scholars analyze, comprehend, and translate the English language (Wang, 2023). In the field of English Language Research, AI has found significant application in automated language analysis (Huang et al., 2023). With the help of AI-powered tools, researchers can analyze vast amounts of written or spoken English texts to extract useful insights that aid in linguistic research (Eysenbach, 2023). For example, AI algorithms can identify patterns, linguistic structures, and semantic relationships within a corpus of texts, providing researchers with a better understanding of language usage and evolution (Khurana et al., 2023). These tools also enable scholars to generate linguistic databases, conduct comparative studies, and explore language variation across different contexts (Zhai, 2023).

Language comprehension and dialogue systems rely heavily on AI technology. With the help of AI-powered Natural Language Understanding (NLU) models, conversational interfaces can accurately interpret and respond to human queries (Meshram et al., 2021). This means that chatbots and virtual assistants equipped with AI capabilities can assist language researchers in real time by offering language learning support, providing instant access to language-related information and resources, and facilitating interactive dialogues for data collection purposes (Annamalai et al., 2023). These intelligent systems enhance the efficiency and accessibility of language research by providing accurate and timely responses (Xu et al., 2021).

AI has significantly improved machine translation over the last few years, leading to higher accuracy and efficiency (Kirov & Malamin, 2022). Neural machine translation (NMT) models have made great strides in translating English texts into other languages with the use of deep learning algorithms (Wang et al., 2021; Yang et al., 2020). These AI-powered translation systems improve translation accuracy while also making cross-linguistic research easier by giving academics easy access to foreign language resources (Alharbi, 2023; Muñoz-Basols et al., 2023).

The field of English Language Research has witnessed remarkable progress thanks to the advancements in AI. Among the notable breakthroughs is the creation of transformer models, including Open AI's GPT series (Lund & Wang, 2023). These models utilize self-supervised learning and extensive pre-training on massive text data to produce coherent and contextually relevant English language output. Researchers can conduct more precise and efficient language analysis by fine-tuning these models for specific language tasks like text classification, sentiment analysis, or summarization.

One of the major improvements in Natural Language Processing (NLP) is the development of unsupervised learning methods. These methods allow AI systems to learn patterns and structures from data that has not been labeled, reducing the need for annotated datasets (Sharifani et al., 2022). By using

techniques like unsupervised representation learning and self-supervised learning, AI models can gain a more comprehensive understanding of language and perform better across different language-related tasks. This development is particularly important for English Language Research as it provides researchers with the ability to use large unannotated corpora for a variety of language studies and investigations.

AI could have a big impact on English Language Research. Automated language analysis, machine translation, and dialogue systems are only a few of the many applications, developments, and consequences of AI. The way researchers handle language-related tasks has been changed by AI. More accurate and effective language analysis tools, such as transformer models and unsupervised learning strategies, are still being made possible by AI advancements. However, biases, ethical issues, and difficulties with employment displacement must be addressed for ethical AI inclusion in English language research. Consequently, it would seem appropriate to examine the function of AI in English language research, with a particular emphasis on significant developments, applications, and implications. More specifically, there isn't much research on this topic concerning Iranian English as a Foreign Language (EFL). Consequently, the purpose of this study is to look into how Iranian ELT scholars see using AI in their research. This study aims to offer insights into the benefits, difficulties, and implications of AI within the Iranian context by investigating the fundamental causes and motives behind Iranian researchers' use of AI in English language research. The findings will contribute to a deeper understanding of the driving factors behind the adoption of AI in English Language Research by Iranian researchers and will inform future advancements and applications in the field.

The novelty and contribution of this study lies in its focus on the Iranian context. While the existing literature has explored the impact of AI on English Language Research in general, there is limited research on how AI is being utilized and perceived by Iranian researchers specifically. This study aims to fill this gap by investigating the experiences, perceptions, and attitudes of Iranian English as a Foreign Language (EFL) scholars towards the use of AI in their research. By examining the drivers, challenges, and implications of AI adoption in the Iranian ELT research context, this study will offer unique insights that can inform future developments and applications of AI in English Language Research, particularly within the Iranian and broader Middle Eastern contexts.

LITERATURE REVIEW

AI tools are now useful resources in academic research for tasks including writing, editing, citing research articles, and offering assistance during the research process (Burger et al., 2023). Furthermore, academics' productivity, accuracy, and efficiency could be greatly increased by incorporating AI into academic writing and research procedures. It's crucial to remember that AI technologies should be viewed as an addition to human researchers, not as a substitute. Researchers and AI technologies working together can produce better results and progress academic research.

AI for Obtaining Research Knowledge and Conducting Literature Reviews

Tools powered by natural language processing and machine learning can perform tasks like document annotation, extracting salient excerpts, and compiling them along with highlights (de la Torre-López et

al., 2023). They assist researchers in quickly determining an article's significance and deciding on sections requiring in-depth reading (Borges et al., 2021). Platforms are also incorporating AI-based note-taking that synthesizes information across sources (Xu et al., 2021).

Researchers often spend significant amounts of time reading and referencing scientific literature in their articles. However, given the enormous volume of information published daily, staying abreast of the latest literature can be a daunting task and manually identifying key insights can be inefficient as well. Emerging AI tools show promise in expediting literature reviews by automating the process of reading and summarizing complex papers (Alam, 2021). These tools utilize natural language processing and machine learning techniques to extract key information from research articles, allowing researchers to quickly grasp the main points and relevant findings.

While such aids aim to save researchers time by focusing on important content, their usage warrants caution. As algorithms are inherently limited by their training data and models, outputs should not be taken at face value (Osoba et al., 2017). Researchers need to verify claims by examining original texts rather than relying solely on AI summaries (Hunkenschroer & Luetge, 2022). Bias and gaps in model understanding also risk misleading users if not critically examined (Crawford, 2021).

To harness AI's full potential responsibly, training in digital literacy skills is vital. This empowers discerning when and how to best utilize such tools during information gathering while avoiding overdependence (Anthropic, 2021). With rigorous human oversight and evaluation of algorithmic limitations, AI promises to augment, not replace, crucial higher-order analysis in research.

AI for Academic Writing

With the advent of AI, academic writing has undergone a revolutionary change and scholars now have access to a variety of tools that can improve their writing process (Makridakis, 2017). Researchers are increasingly using AI technology for producing a variety of assignments, like as books, research grants, and scholarly journal articles (Anderson et al., 2023). In addition, AI tools have been created to help scholars edit their publications, guaranteeing grammatical precision and raising the standard of written work generally (Alkhaqani, 2023).

The synthesis of complicated material from multiple sources is a need of academic writing, which means that one must be able to efficiently distill and convey this knowledge with creative ideas (Bailey, 2003). Using effective note-taking tools is essential to this process since it helps researchers prevent plagiarism and organize their source material (Harris, 2017). AI-powered solutions have become useful tools in this area, making note-taking easier and improving the writing process in general.

Researchers can easily take and arrange pertinent notes with the help of AI tools. Through the analysis and extraction of important information from source documents using natural language processing techniques, these tools enable researchers to produce thorough and organized notes. AI solutions help to preserve a clear record of sources and reduce the possibility of missing crucial information by automating this process, which makes it easier to properly cite and attribute sources (Hsiao et al., 2023).

Additionally, by helping researchers articulate their thoughts clearly, AI-powered technologies can support the writing step. These tools analyze the content of researchers' notes using sophisticated algorithms and provide recommendations for enhancing the overall coherence, clarity, and fluency of the

writers' work. AI systems help academics write better by giving them instant feedback and suggestions, so their ideas are communicated clearly and effectively (Rowland, 2023).

The capacity of AI tools to paraphrase words based on notes is one specific characteristic that is very helpful to researchers, especially those for whom English is not their first language. Effective paraphrasing enables researchers to convey concepts in their own words while preserving the accuracy of the original data, which makes it essential for academic writing. Researchers, especially those facing language hurdles or seeking to enhance the coherence and originality of their work, might greatly benefit from AI writing tools that possess paraphrasing skills (Rowland, 2023).

Researchers should use caution and not rely exclusively on AI for note-taking or writing, even while AI tools surely provide helpful support for academic writing. Researchers should see AI technologies as complementary to their own expertise and critical thinking, not as a substitute for it (Tai et al., 2023). Utilizing AI paraphrasing features raises further ethical issues. Researchers should reformulate the text in their own words rather than just copying and pasting paraphrased content produced by AI. This will ensure ethical writing practices and preserve the integrity of their study (Spennemann et al., 2023).

AI for Planning Research Projects and Designing Studies

Machine learning techniques are used by AI-driven experimental design tools to optimize research parameters and speed up the study design process (Rustambek, 2023). Through the automation and acceleration of the experimental design process, these technologies assist researchers in saving time and energy throughout the planning and execution of their studies. By lowering the workload related to manual design activities, researchers may dedicate more time to data analysis and interpretation, hence increasing process efficiency (Benbya et al., 2020).

One significant benefit of AI-powered experimental design tools is their ability to minimize human errors and associated costs. Traditional experimental design methods often rely on human judgment and intuition, which can introduce biases and oversights. In contrast, AI algorithms can analyse vast amounts of data and identify optimal design configurations based on specified objectives and constraints. By leveraging machine learning techniques, these tools can generate designs that are more robust, efficient, and statistically rigorous. The reduction in human errors not only enhances the reliability and validity of research outcomes but also reduces costs associated with potential mistakes or rework (Katar et al., 2023).

To effectively utilize AI tools for creating experimental design models, researchers need to ensure that the models consider a wide range of variables and parameters. By incorporating diverse factors that influence the research objectives, researchers can generate models that comprehensively capture the complexity of the study. This allows for the identification of optimal designs that maximize the effectiveness of the study and provide meaningful insights. Researchers can input specific criteria, such as sample size, treatment allocation, or randomization strategies, into the AI models to generate design recommendations that align with their research goals (Ali et al., 2023).

By leveraging AI-powered tools for experimental design, researchers can benefit from increased efficiency, reduced errors, and optimized study designs. These tools enable researchers to navigate the

complexities of experimental planning more effectively, ultimately enhancing the quality and impact of their research.

AI for Data Analysis

Through the use of AI algorithms and machine learning approaches, researchers may more efficiently analyze enormous amounts of data, spot trends, and get insights that might have been difficult to obtain otherwise. By cutting down on the time and effort needed for data analysis, these technologies help researchers concentrate on deciphering findings and coming to insightful conclusions. The subject of data analysis has changed dramatically as a result of the use of AI, replacing manual processes and constrained computing power in conventional methodologies (Liu & Vasarhelyi, 2014). Researchers can gain important insights by using AI-powered data analysis tools that use machine learning algorithms to evaluate, extract, and find patterns in massive datasets (Padhi et al., 2023). This technological breakthrough has improved overall research efficiency while drastically cutting the time and expense of data analysis.

Researchers must first explicitly define their objectives and the precise insights and outcomes they intend to acquire from their study to fully leverage AI approaches for data analysis (OECD, 2021). It is vital to have a well-defined research design and a clear understanding of the study difficulties at hand. The analysis becomes more focused and relevant as a result. Furthermore, reliable and insightful analysis depends on obtaining pertinent and superior data. The data should be pristine, properly organized, and appropriate for the selected analytic methods, according to researchers. To guarantee the quality and usability of the data, preparation procedures including data cleaning, transformation, and normalization could be required.

Additionally, to achieve their analytical objectives, researchers need to assess and choose the best AI tools and algorithms. Throughout the selection process, consideration should be given to the complexity of the study topics, the type of data, and the available computational resources (Sarker, 2021). Among the many AI techniques and algorithms available are supervised learning, unsupervised learning, and deep learning; each has benefits and drawbacks. Each of these options should be carefully considered by researchers, who should then choose the ones that best suit their research objectives.

AI for Peer Review

Processes that are more effective and time-saving are required because the number of submissions for peer review has been steadily increasing (Tan et al., 2019). Reducing the amount of time spent screening and evaluating could save millions of hours of labor and increase academic output. AI-powered peer review tools have surfaced to tackle this difficulty, providing the possibility of semi-automated peer review systems that can match reviewers with articles according to their subject-matter expertise and identify potentially controversial or low-quality studies (Checco et al., 2021).

Although AI is not yet able to complete the peer review process entirely (Kousha & Thelwall, 2023), it can be used to streamline some jobs within the peer review workflow. For example, by analyzing the content and features of the paper, AI can help recommend suitable journals for article submission (Price & Flach, 2017). By doing so, authors can save time and increase the likelihood that their study will be published by using this to help them discover the best venues for their work.

AI techniques can also help with the preliminary editing and proofreading of submitted manuscripts. These technologies can detect possible problems like plagiarism, grammatical faults, or inconsistencies in the paper by using machine learning and natural language processing techniques (Vrontis et al., 2022). This allows editors and reviewers to concentrate on the manuscript's scientific content while depending on AI to help with formatting and technical issues.

AI can also be used to find qualified paper reviewers. AI technologies have the capability to provide recommendations on reviewer selection based on the analysis of possible reviewers' competence and a comparison with the submitted manuscript. This process increases the probability of identifying qualified reviewers quickly (Price & Flach, 2017). This quickens the peer review procedure and guarantees that reviewers with pertinent experience assess articles.

AI in Citation and Referencing

In academic study, proper source citation and reference are essential (Lund et al., 2023). AI systems can help researchers efficiently organize sources and manage citations. By automatically producing citations and bibliographies in a variety of citation styles, they can expedite this procedure (Tovar, 2023). Researchers can ensure accurate and consistent reference while saving time and effort by automating the citation process (Checco et al., 2021). Researchers may keep an orderly database of sources with the use of AI-powered citation management systems, which will make it simpler to locate and retrieve references as needed. Researchers can rely on AI systems to generate accurate and correctly styled citations by supplying the essential data, such as the author's name, publication title, and publication date. This lowers the possibility of errors and ensures adherence to citation guidelines.

But it is critical to appreciate AI's limitations and the fact that human researchers cannot be replaced by it (Dergaa et al., 2023; Shneiderman, 2021). The possibility for generative AI to create academic references artificially rather than by using actual publications is one prominent example of this (Moran, 2023). Consequently, rather than serving as a replacement for academic researchers' critical thinking skills, AI-powered tools should be seen as invaluable support. According to others, AI can even promote critical thinking by offering fresh viewpoints and ideas (Glaser, 2023).

Cautions in Using AI in Academic Research

AI techniques have various advantages for academic research when applied properly. They have the potential to significantly increase researchers' productivity and efficiency by saving them time, which they may use to better manage their schedules (Dwivedi et al., 2023). AI-powered resources can also help with critical analysis of research projects. An AI-generated synopsis of a researcher's work, for instance, can assist them in realizing that their primary findings require a more precise articulation (Salvagno et al., 2023). The effectiveness of AI-assisted tools lies in their ability to help researchers optimize their time and resources during the research process, rather than taking over tasks such as writing papers, thesis, or grant applications (Hosseini et al., 2023). Thus, there are concerns that AI tools may hinder researchers' creativity and originality. AI relies on existing research knowledge and input while advancing science requires original, creative, and critical thinking from individuals in the field (Dwivedi et al., 2023). Simply copy-pasting text generated by AI can lead to issues of plagiarism (Malinka et al.,

2023). It is important to note that while AI tools offer significant benefits, they should not replace critical thinking and human expertise in the research process (Spector & Ma, 2019). Researchers must exercise caution and verify the suggestions and recommendations provided by AI tools to ensure the accuracy and validity of their work. Additionally, ethical considerations surrounding the use of AI in research, such as data privacy and algorithm bias, should be carefully addressed.

Empirical Studies

The use of AI in language research has been a topic of growing interest and debate in the academic community. Numerous studies have explored the various ways in which AI technologies are being integrated into different aspects of English Language Research, from automated analysis and machine translation to writing assistance and dialogue systems. These empirical investigations provide valuable insights into the potential benefits, limitations, and implications of AI's role in advancing language research and pedagogy. The following section presents a detailed overview of the key empirical studies that have contributed to our understanding of the intersection between AI and English Language Research.

A key theme emerging from the literature is the need to balance the capabilities of AI with a focus on human agency and creativity. Shneiderman (2020) introduced the concept of Human-centered AI (HCAI), which emphasizes the design of AI systems that support and empower people, putting human self-efficacy, creativity, responsibility, and social involvement at the forefront. This aligns with Lee's (2022) examination of how creativity is both dehumanized and rehumanized in the context of artificial intelligence and the creative industries. Lee's work highlights the potential for AI to detach creativity from human agency, while also exploring how AI creativity can be leveraged to mimic and support certain features of human creativity.

Moving beyond the conceptual frameworks, several empirical studies have investigated the practical applications of AI in language research and pedagogy. Yang and Shen (2023) examined the relationship between EFL students and an AI-powered automatic writing evaluation (AWE) system, Pigai. Their findings reveal the dynamic nature of student responses to machine feedback, underscoring the importance of understanding how learners interact with such systems and the implications for language instruction and AWE design. In a similar vein, Giglio and Costa (2023) explored the use of AI tools, including Elicit, Research Rabbit, Scispace Copilot, Grammarly, Paperpal, and ChatGPT, in supporting scientific writing, particularly for non-native English-speaking researchers. These tools were found to enhance various aspects of the writing process, such as composition, vocabulary selection, and grammar correction. While their study focused on scientific writing, the researchers emphasized the potential for AI to benefit other domains of English Language Research as well.

The empirical evidence regarding student perceptions and the use of AI-based writing tools presents a more nuanced picture. Studies by Syahnaz and Fithriani (2023) and Yan (2023) reported positive student responses to tools like QuillBot and ChatGPT, highlighting improvements in content, argumentation, grammar, and engagement. However, these findings are tempered by studies, such as Kavanagh's (2022), which have identified limitations of AI-based tools in enhancing readability and preventing plagiarism. These contrasting perspectives underscore the need for caution and a balanced approach when incorporating AI into academic writing tasks.

The ethical and practical challenges associated with AI in research and publication have also been the focus of several recent studies. Elkhatat (2023) examined the issues of cheating and plagiarism arising from the use of AI chatbots, proposing strategies to address these concerns. Similarly, Gao et al. (2022) investigated the impact of AI-generated abstracts on plagiarism detection and human perception, emphasizing the need for adaptations in scientific standards to account for the growing presence of AI-assisted research outputs.

Recognizing the significance of these ethical considerations, Sobaih (2024) explored the perceptions of academics and their leaders regarding the use of AI chatbots in research and publication. The study highlighted the need for comprehensive policy and interventions to ensure the responsible and ethical integration of AI in scholarly activities.

Complementing these investigations, several studies have delved into the specific applications and potential of AI in enhancing different aspects of academic writing and research. Li et al. (2024) demonstrated the effectiveness of large language models, particularly ChatGPT, in improving the English academic writing skills of non-native English-speaking medical students, while also illustrating the models' contributions to the educational evaluation process.

Chukwuere (2024) examined the role of ChatGPT writing in the current academic environment, exploring both the benefits and drawbacks of utilizing this technology in research and offering insights into its prospective applications. Similarly, Fitria (2024) investigated the capabilities of advanced AI chatbots, including ChatGPT, Perplexity AI, and ChatSonic, in generating argumentative essays, highlighting their potential while emphasizing the need to balance their use with human development and the cultivation of student writing skills.

The ethical and practical implications of AI integration in research and publication were further explored by Kasani et al. (2024), who proposed comprehensive initiatives to address the emerging ethical concerns and ensure the responsible and transparent use of AI in scholarly activities.

The diversity of student perceptions and experiences with AI chatbots in higher education was examined by Stöhr et al. (2024), who revealed significant differences across gender, academic level, and fields of study. This study underscores the need for tailored solutions to AI integration in education, considering the unique attributes and needs of student populations.

Renaldo's (2024) investigation into how AI chatbots assist English education students in the thesis writing process provided insights into the benefits and limitations of these tools, emphasizing the importance of using them as supportive resources rather than substitutes for human intelligence and skill development.

Expanding the scope, Khalifa and Albadawy (2024) explored the specific domains in which AI significantly supports academic writing, including idea generation, content and structure optimization, literature review and synthesis, data management and analysis, editing and review, and communication and ethical compliance. Their review recommended the broader integration of AI tools in research workflows, while emphasizing the need for ethical and transparent use.

A key gap in the previous literature is the need to better understand the specific reasons and motivations behind the use of AI in ELT (English Language Teaching) research, particularly from the perspective of Iranian researchers. While the existing studies have explored the general applications and

implications of AI in language research, there is a lack of focus on the unique contexts and perspectives of the Iranian academic community. Understanding the underlying factors that drive the adoption and integration of AI in ELT research conducted by Iranian scholars can provide valuable insights into the specific motivations, benefits, and challenges associated with this trend.

In conclusion, the use of AI in research papers has gained significant attention among researchers. AI offers numerous possibilities and potential benefits in the field of research. By exploring the main reasons behind the utilization of AI in ELT research papers according to Iranian researchers, we can gain valuable insights into the motivations and perspectives driving this trend. Understanding these reasons can provide a deeper understanding of the role of AI in ELT research, its impact on research practices, and the potential benefits it brings to the field. Therefore, the following research question aimed to explore the underlying factors that contribute to the adoption and integration of AI in ELT research conducted by Iranian scholars. By addressing this question, we can enhance our understanding of the specific contexts, motivations, and implications associated with the use of AI in ELT research within the Iranian academic community:

RQ: What are the main reasons behind the use of AI in ELT research papers according to Iranian researchers?

METHOD

Participants

This study aims to investigate the different reasons and motivations that have driven Iranian ELT researchers to incorporate AI in their research papers published within the past five years. Fifteen Iranian researchers specializing in ELT were selected as participants through a purposive sampling technique to ensure their experience in using AI in their research. A semi-structured interview approach was employed to gather in-depth insights into the participants' perspectives and experiences. The importance of this study lies in its potential to inform the ELT research community about the practical applications of AI and the factors that influence its adoption. By exploring the motivations behind the use of AI, the study can highlight the benefits, challenges, and best practices associated with integrating AI into ELT research. This knowledge can help guide researchers, educators, and policymakers in making informed decisions about the strategic integration of AI in their respective domains.

Instrument

A semi-structured interview was developed by the researchers whose validity was checked by a panel discussion with two ELT lecturers. The interview questions are available in the Appendix A section at the end of the paper.

Data Collection Procedure

The data collection procedure involved conducting individual interviews with Iranian researchers. The interviews were tailored to each participant, allowing for personalized and detailed discussions. Depending on the participants' preferences, the interviews were conducted either face-to-face or remotely using appropriate communication tools. The participants' consent was obtained before conducting the interviews, and the sessions were audio-recorded to ensure accurate and comprehensive data collection.

The average duration of the interviews was less than 30 minutes, ensuring a focused and efficient data collection process.

Data Analysis Procedure

This study's qualitative data analysis was conducted using the six-stage thematic analysis framework developed by Braun and Clarke (2006). Initially, to familiarize themselves with the data corpus, the researchers read the interview transcripts several times in-depth. Through this technique, the researchers were able to fully comprehend the perspectives of the participants and immerse themselves in the data. To document preliminary insights, notes and first impressions were also kept throughout this phase. Coding was used in the second stage to methodically reduce and organize the data. Finding and labeling data segments that addressed the study topic or made noteworthy observations was a necessary step in the coding process. Instead of utilizing an inductive methodology, the analysis used a theoretical thematic approach that concentrated on predefined themes. Preliminary themes were created in the third phase by looking over the codes and finding any patterns or interpretations that connected to the study issue. The basic foundation for categorizing the data was provided by these early themes. During the fourth phase, the initial themes were examined and improved using iterative analysis, guaranteeing their precision and consistency. The themes were finalized in the fifth stage to clarify their meaning and develop their core. Clarifying the importance and meaning of each subject was a step in this process. The sixth and final stage involved creating a thorough report on the theme analysis that summarized the conclusions, interpretations, and learnings from the process.

RESULTS

The process of codification encompassed the fragmentation of intricate concepts and ideas into smaller, more comprehensible units of information. These condensed fragments were designed to be easily grasped and processed. The excerpts provided elucidated how researchers were supported by AI technology in multiple facets of their work, highlighting how it aided them throughout their research endeavors. The main themes discovered were Data Analyzation, Error Identification, Paraphrasing, Plagiarism Reduction, Time and Cost Efficiency, Objectivity and Creativity.

Data Analyzation

The researchers express that AI has become a valuable tool for analyzing large amounts of data, particularly in qualitative studies. As one researcher noted, *"We all know that artificial intelligence is very common these days and I think one of its uses is that we can analyze and check a large amount of information with artificial intelligence. Especially in qualitative articles, I think it is very useful to draw out basic themes."* Another researcher added, *"I remember years ago when we wanted to analyze a large amount of information we obtained, we had to spend hours on it. But these days, with the advancement of technology and artificial intelligence, this work has become easier and faster for us."*

Error Identification

The researchers also discuss how they have employed AI tools to identify errors in their written work. As one researcher explained, *"I myself used artificial intelligence many times in my articles. It has an interesting point, these tools detect your mistakes very easily and offer you a series of suggestions to correct them. I think this is very helpful, and of course, it increases the speed of the researcher."* Another researcher noted, *"Look, I think that when a researcher whose first language is not English wants to write a text, that text will never be natural and free of mistakes. The good thing about some of these artificial intelligence tools is that, in addition to correcting grammatical, structural, and lexical mistakes in your text, you can also ask these tools to make your text more natural, that is, to make it more similar to be a text written by a native English speaker."*

Paraphrasing

Paraphrasing is an essential skill for researchers, as it allows them to express ideas in their own words and avoid plagiarism. The researchers note that AI-powered paraphrasing tools can assist learners in developing this skill, while also saving instructors time in providing feedback. As one researcher stated, *"Paraphrasing is a pretty important skill for language researchers to have. It lets them express ideas in their own words and avoid copying other people's work. But let's be real, paraphrasing can be tough to get the hang of, and it's a pain for instructors to give feedback on every try. That's where AI comes in - it can help learners get better at paraphrasing, and save the instructors some time too..."* Another researcher added, *"This is a cool tool for learners who might need extra help with paraphrasing. And you know who else will love it? Instructors! They can give more specific feedback and make sure everyone's on the right track. It's a win-win!"* However, the researchers emphasize the importance of maintaining one's own ideas and not simply relying on AI to paraphrase for them, as one researcher explained, *"Of course, one of the most important skills that every writer or researcher should have is the skill of paraphrasing. Especially if we can't paraphrase a text well, plagiarism may be detected and our article will be rejected. In my opinion, as researchers, we can first write a text and then ask artificial intelligence to paraphrase it for us. Of course, some people copy text from articles and send the same to paraphrasing tools of artificial intelligence to paraphrase for them, which, of course, I don't think is the right thing to do and the author should have his own ideas."*

Plagiarism Reduction

The researchers express that AI tools have been instrumental in helping them reduce the similarity of their text with other published works, thereby minimizing the risk of plagiarism. As one researcher stated, *"Another use of these artificial intelligence tools that helped me a lot in one of my articles is that these tools can reduce the similarity of your text with other articles. I think that if people can use these tools correctly, they can reduce the similarity percentage of their articles to the lowest possible level so that they do not commit plagiarism."* Another researcher added, *"AI can also look at how you've cited your sources and cross-check it with other stuff out there. This helps make sure your work is actually original."*

Time and Cost Efficiency

The researchers unanimously agree that the use of AI in their research has significantly improved time and cost efficiency. As one researcher noted, *"But now, AI can do it faster and more efficiently! That means we can spend more time on other things - like analyzing the data and figuring out what it all means. No more boring manual work for us!"* Another researcher stated, *"AI is so awesome when it comes to research! We can dump a ton of data into the system, and it can analyze it super quickly."* Additionally, one researcher highlighted, *"This can save us a substantial amount of time and resources, which can then be allocated to other phases of the research process."* Another researcher emphasized the time-saving benefits, sharing, *"Conducting a study or scientific research takes a lot of time, especially the process of collecting information. But some of the artificial intelligence tools that I have worked with, of course, the premium version, will give you the answer very quickly. For example, I remember that I was looking for a topic in the area of the importance of the source culture in learning a second language, and I gave a few keywords to chatGPT and it generated ten new topics for me."*

Objectivity and Creativity

Finally, the researchers discuss how AI can contribute to the objectivity and creativity of their research. As one researcher explained, *"If it weren't for AI, I would have been so lost looking at all that data! There were so many things to consider, it was overwhelming. But I used AI. It can spot patterns in the data and put everything in neat categories. That way, I could look at everything objectively and come up with some real insights."* Another researcher noted the creative potential of AI, stating, *"One of the benefits of using AI in research is that it can generate new ideas and insights that may not have been possible through traditional methods…"* They further elaborated, *"AI can look at a ton of data and find connections that we wouldn't even think of. It's like a super-smart detective! And those connections can help us come up with new ideas for research and..."* Additionally, one researcher emphasized, *"AI can be used to identify gaps in existing research and suggest new topics for exploration. Researchers can gain new views and uncover new knowledge that can advance their field."*

In conclusion, the interviews reveal that ELT researchers have found a wide range of applications for AI in their work, from data analysis and error identification to paraphrasing and plagiarism reduction. The researchers highlight the numerous benefits of incorporating AI, including increased efficiency, objectivity, and creativity in their research endeavors.

DISCUSSION

This study looked at the reasons why ELT researchers use AI and offered some interesting results. It was discovered that data analysis is one of the main applications of AI. This result is consistent with earlier research (Giglio and Costa, 2023; Syahnaz and Fithriani, 2023; Yan, 2023; Yang and Shen, 2023) that demonstrated AI's capacity to analyze vast amounts of language data, including student writings or recordings, to spot trends and provide feedback. AI algorithms can identify grammatical mistakes, pronunciation problems, frequency of word usage, and more, making it easier to conduct large-scale analyses that would be difficult for humans to do alone. The analytical powers of AI are highly appropriate for the requirements of ELT researchers, as demonstrated by the current study. It is crucial to

recognize that incorporating AI into data analysis presents additional issues and difficulties. A few factors that need close consideration are the representativeness and quality of the training data used to create AI models, the requirement for continual model updates and improvements, and the moral ramifications of AI-driven decision-making.

The results of the present study on the application of AI for error identification in ELT are consistent with Yang and Shen (2023) and Costa (2023) in terms of giving language learners feedback. The current work broadens the focus to include ELT research and names error identification as one particular use of AI. This implies that AI-powered error detection systems can help language learners with writing, speaking, and pronunciation, among other language skills. Giglio and Costa's paper from 2023 also adds to the body of studies by emphasizing how AI might enhance scientific writing. These studies provide credence to the idea that AI technology can improve language learning and writing processes by giving linguistic resources, automated feedback, and improvement suggestions.

The results of the current study, which show that ELT researchers use AI to paraphrase, are consistent with earlier studies on language learning and instruction. Studies by Yan (2023) and Syahnaz and Fithriani (2023) showed gains in content, argumentation, grammar, and engagement with AI tools like ChatGPT and QuillBot, respectively. These results, however, also support research by Kavanagh (2022) and others that emphasized the shortcomings of AI-based tools for enhancing readability and reducing plagiarism. Perceptions from students highlight even more the necessity to exercise caution when using AI tools for academic writing. While AI can be a useful tool, especially when paraphrasing, it should be combined with human judgment and input to produce unique, high-quality writing that is free of plagiarism.

The similarities and difficulties surrounding the application of AI in academic writing and plagiarism reduction are shown by comparing the results of this study with those of Elkhatat (2023) and Gao et al. (2022). Although the current study focuses on ELT, it is clear that AI-generated content has wider implications for academic research. To address the possible misuse of AI in academic contexts, educators, researchers, and policymakers must be aware of these concerns and create guidelines, policies, and ethical frameworks. AI output detectors, transparent AI usage disclosure, and alternative assessment methodologies can all be used to reduce dangers and maximize the advantages of AI technologies in academic writing.

According to the current report, ELT researchers are employing AI to increase the productivity of their work. This is in line with the wider trend of applying AI to a variety of disciplines in order to optimize resource allocation and operational procedures. ELT researchers can cut down on time-consuming chores, simplify their research processes, and save money by incorporating AI technologies. Furthermore, it follows that ELT researchers who use AI to save time and money might gain comparable advantages. Repetitive operations like data processing, mistake detection, and content analysis can be automated by AI algorithms, which cuts down on the amount of time needed to do them. Additionally, the use of AI in ELT research can lead to cost savings by reducing the need for manual labour or expensive software tools, making research more accessible and cost-effective.

However, careful planning, execution, and analysis of potential obstacles are necessary for the successful adoption of AI to achieve time and cost efficiency. To optimize AI's benefits, factors like data quality and availability, algorithm selection and calibration, and interaction with current research

workflows must be taken into consideration. These factors should be taken into account by researchers, educators, and legislators to fully utilize AI technology in the field of ELT research.

It can be concluded that the application of AI facilitates objective data analysis in language learning environments by applying these findings to ELT research. To objectively examine a range of language learning topics, such as pronunciation, grammar, vocabulary usage, and language competency levels, ELT researchers can make use of AI algorithms. This method reduces or removes the subjectivity that could result from manual evaluations by various examiners, resulting in more trustworthy data analysis in ELT research.

ELT researchers can take use of AI algorithms' capacity to analyze massive volumes of data reliably and efficiently by using them for data analysis. AI is able to analyze patterns, spot mistakes or potential development areas, and give students unbiased feedback. This helps to produce assessments of language learning performance that are more accurate and trustworthy while also saving time and effort. Similar to this, language evaluation, curriculum development, and individualized learning may all be significantly impacted by the objective data analysis made possible by AI in ELT research. AI can assist in determining the strengths and weaknesses of students, provide guidance for educational interventions, and aid in the creation of adaptive learning systems.

The results of this study indicate that ELT researchers should use AI to come up with fresh research ideas. This result is consistent with earlier research by Lee (2022) and Shneiderman (2020), which examine how AI might support human creativity, humanize design processes, and take labor-related aspects of creativity into account. These results suggest that AI can be a significant source of inspiration and fresh research ideas when compared to the existing ELT research study. Through the use of AI technologies, ELT researchers can investigate new avenues, find trends, and draw conclusions from enormous volumes of data. AI systems are useful for finding research gaps, coming up with creative research topics, and even coming up with hypotheses based on data analysis patterns and correlations. Moreover, the perspectives provided by Lee (2022) and Shneiderman (2020) underscore the significance of preserving a human-centric methodology in artificial intelligence applications. AI can be a great help and source of inspiration, but in the research process, human agency, creativity, and labor must be acknowledged and given priority. Instead than taking the place of or overshadowing researchers' contributions, AI should be viewed as a tool that strengthens them.

According to Shneiderman (2020), ethical issues including privacy, security, social justice, and human rights should direct the integration of AI in ELT research. By taking a human-centered approach, ELT researchers can use AI to enhance their creative endeavors while keeping the human factor at the heart and properly acknowledging the labor-intensive components of creativity. ELT researchers can take advantage of AI's capabilities to investigate novel research directions by accepting it as a source of inspiration and support, all the while keeping the human factor and the ethical issues surrounding AI integration in mind.

CONCLUSION

The purpose of this study was to examine the justification for the use of AI in ELT research articles from the perspective of Iranian researchers. The results of the study show that AI is used in ELT research

papers to swiftly analyze large amounts of data, identify grammatical errors, paraphrase, reduce plagiarism, save time and money, objectively examine data, and generate new ideas. The results suggest AI can help ELT researchers learn new things and see things differently, which will advance the field.

The study does, however, have certain shortcomings. Initially, the study just concentrated on the viewpoints of Iranian scholars, which might not accurately reflect the ideas of other academics in various settings. Secondly, the study only included fifteen Iranian scholars in its sample size. A bigger sample size might offer more thorough insights into the motivations driving AI's application in ELT research. Lastly, the study did not look into how AI might be used to improve language learning, teaching, and assessment in ELT research.

Notwithstanding these drawbacks, the study offers insightful information on the rationale for AI use in ELT research articles. By investigating the usefulness of AI in ELT research and its effects on language learners and teachers, future studies can build on current work. More specifically, research in the future can examine how AI can enhance language instruction, evaluation, and learning. In addition, to have a more thorough grasp of the rationale for the usage of AI in ELT research articles, future studies could examine the viewpoints of researchers from various contexts. Lastly, future research might look into the moral dilemmas raised by AI's application in ELT studies and how it might affect the discipline.

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Appendix A
Interview Questions

1. Can you describe your experience with incorporating artificial intelligence (AI) in your ELT research papers?
2. What motivated you to use AI in your ELT research? Please explain.
3. In your opinion, what are the main benefits or advantages of using AI in ELT research papers?
4. How do you think AI can contribute to enhancing the quality of ELT research in terms of data analysis and interpretation?

Biodata

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