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A Mixed Method Study on the Effectiveness of Using AI Tools for EFL Learners: Learners' Perspective

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ABSTRACT

The present study conducted to explore the how Artificial intelligence (AI) tools help to improve English language proficiency among EFL(English as Foreign Language) learners. With growing use of AI in education, mostly learners now use AI supported applications and platforms such as grammar checkers, translation tools, speech recognition platforms, and adaptive learning systems, that offer help in enhancing grammar, pronunciation, translation and writing. The aim of this study is to find out learners perspective about the effectiveness of theses tools in improving learners' reading, writing, listening, and speaking skills. A mixed-method approach was used to investigate effectiveness of AI driven tools in enhancing English language proficiency among 200 EFL learners in Government College and University Faisalabad. Quantitative data were collect through a structured questionnaire and analyzed using statistical software SPSS version 27 to identify trends in learners perceptions. While qualitative data were gathered from EFL learners through open-ended questions about asking how students believe AI driven tools improve their English. Qualitative data were analyzed by using Braun and Clarke's (2006) thematic analysis approach. Findings of the study revealed that AI driven tools significantly contribute to English language proficiency among EFL learners. Additionally, thematic findings also highlighted learners perceptions of AI tools as beneficial due to instant feedback, personalized learning, accessibility, and enhanced motivation. The study has important implications for learners, educators, curriculum designers, and education technology developers to integrate AI driven tools more effectively in education. Future research is recommended to explore long term impacts of AI usage and to examine its effectiveness across different learning settings and learner proficiency level.

Keywords: Artificial Intelligence(AI), EFL learners , English Language proficiency

INTRODUCTION

Artificial Intelligence (AI) has evolved from just a niche to a foundational technology. AI is reshaping every aspect of life in this modern era. In the education field, AI-based tools are now transformative as they make learning experiences personalized and accessible, they offer intelligent tutoring, and assisting teachers along with the



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administrative work. There are tools such as AI-based plagiarism checkers, automated essay grading systems, and virtual teaching assistants help educators in streamlining the lectures and assessment and it also saves time for the educators. Additionally, there are sites like Duolingo, Coursera, and Khan Academy use AI to personalize course content according to the nature of the behavior and progress of learner. It maximizes the learner participation and it includes education by addressing various learning styles and requirements (Zawacki-Richter et al., 2019; Kukulska-Hulme, 2020).

In a more globalized world, the English language has taken on the role of a global lingua franca, serving as a primary medium of international communication in education, business, science, and diplomacy. Consequently, millions of people worldwide are learning English as a non-native language (L1) or even a second language (L2), but rather as a foreign language (EFL)—a language acquired in environments where English is not spoken as an ordinary means of everyday communication. As such, in Pakistan, English is not native, nor does it serve as the everyday high-status language for the overwhelming majority of the people. It is instead studied and learned as a foreign language (EFL) in the majority of the country, especially in the public sector schools, rural regions, and lower socio-economic communities.

As artificial intelligence (AI) is progressively integrated into learning environments, its implementation is restructuring students' interactions with knowledge, teachers, and learning environments. While there are numerous aspects of this change, the student view of AI-based tools is especially important since it indicates not just how students use these technologies, but also whether they find them relevant, useful, and impactful in terms of learning outcomes. From the learner's point of view, the attraction of AI-powered tools is frequently their ability to personalize and automate the learning process. These systems may examine learner data—e.g., response patterns, pacing, and error types—to tailor content and feedback to specific needs, so as to promote a sense of autonomy and relevance (Holmes, Bialik, & Fadel, 2019).

Pedagogically, the majority of EFL students in Pakistan continue to be exposed to conventional, exam-focused teaching practices. The emphasis in most classrooms continues to be on rote memorization of grammar rules, vocabulary lists, and textbook reading instead of communicative or critical thinking skills development. Today due to conventional educational strategies and rigid content learners feel reluctant to learn something new. Despite these challenges, there is a growing awareness of the need for reform in English language education in Pakistan. Current study seeks to find out effectiveness of AI tools in enhancing English language proficiency among EFL learners in Faisalabad, Pakistan Guided by a mixed-methods approach, it examines both the measurable impact of these tools on language skills and learners' subjective experiences. The following research questions frame the inquiry:

How effective are AI tools for EFL learners of Faisalabad to improve their English Language Proficiency?

How do EFL learners perceive the use of AI tools in their English language learning?

This research helps to advance the general area of applied linguistics, educational technology, and AI in education through the provision of context-specific learning attitude exploration that tends to remain underrepresented within Western-dominated worldwide discourse. The research supplements world research (e.g., Zawacki-Richter et al., 2019; Holmes et al., 2019) with localized knowledge that captures the specific challenges associated with multilingualism, infrastructure inequality, and examination-based systems of learning in Pakistan.



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LITERATURE REVIEW

In recent years a lot of research done in the area of AI and education by integrating them. AI tools have significantly changed EFL learning by giving personalized learning, adaptive, and student-friendly experiences across multiple language domains. Past studies on international level highlight their effectiveness in enhancing writing skills (Ranalli, 2022), vocabulary acquisition (Lu et al., 2021), listening comprehension (Teng, 2021), pronunciation (Sun & Cheng, 2020), and overall learners' learning experiences. AI tools such as chatbots (Huang et al., 2021), Intelligent Tutoring Systems like Grammarly and Carnegie (Jia & Xu, 2020), and adaptive learning experiences (Popenici & Kerr, 2017) provide immediate feedback, contextualized practices, and personalized learning. While these technologies improve accuracy, fluency, confidence, and engagement, challenges remain such as less human interaction (Hwang et al., 2020), technical difficulties (Chen & Yu, 2021), and moral dilemmas such as algorithmic prejudice and data privacy (Zawacki-Richter et al., 2019). Transparency, collaborative learning, and contextualized personalization are highlighted by recent developments in machine learning, neural networks, and multimodal AI systems (Luckin et al., 2016; Hasanov et al., 2019), highlighting the expanding global role of AI in forming inclusive and successful EFL instruction.

Research in Pakistan sheds light on the growing role of AI tools in enhancing EFL learning by supporting pronunciation, vocabulary acquisition, writing, listening, and overall fluency through adaptive and personalized platforms such as Duolingo, Grammarly, and SpeechAce. Past literature shows that instant feedback, phonetic correction, and contextualized exercises improve learners' confidence, comprehension, and accuracy, while tools like Grammarly and Hemingway Editor enhance academic writing by reducing errors (Khan & Rehman, 2020; Ahmad et al., 2021; Shah & Bukhari, 2019). AI-driven systems also aid recall, accent recognition, and metacognitive awareness, though challenges persist, including limited human interaction, technical issues, data privacy concerns, and algorithmic biases (Saeed & Akram, 2021; Zafar & Anwar, 2022). Despite infrastructural and pedagogical constraints, national studies suggest that AI integration can transform language education in Pakistan, provided policies, teacher training, and localized adaptations address these limitations and maximize the potential of AI as a complementary tool for EFL learning.

The use of technology in learning English as a foreign language has reformed traditional pedagogies and provided novel channels of teaching, interaction, and evaluation. The availability of cell phone apps, computer games, internet websites, and AI technologies has brought more learners of English outside of classroom walls. According to Zhao (2003), technology helps strengthen learner autonomy, offers genuine language input, and enables interactive learning environments. Specifically, Artificial Intelligence (AI) technologies like intelligent tutoring systems, chatbots, speech recognition software, and automated writing critics have demonstrated wonderful potential to personalize teaching and offer instant feedback (Holmes et al., 2019). Such technologies use learner data to tailor content, track progress, and fill unique learning gaps. Such flexibility is particularly useful in diverse EFL classes where students differ in proficiency, learning styles, and cognitive requirements.

Numerous studies have been conducted at both international and national levels on the impact of AI-driven tools on students. However, there are limited studies of learner perceptions about AI-driven tools, especially at the level of the Faisalabad division. There are limited studies on Motivation and engagement level of undergraduate students in the urban and rural setting of Faisalabad. There are limited studies on access and



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digital literacy; there are infrastructure limitations in past studies. The multilingual environment of Faisalabad has been compromised in past studies. Thus, the research gap in the review of literature is that despite many studies on AI-driven tools at the international and national level, Faisalabad's undergraduate students' perceptions, motivation and engagement on the impact of AI-driven tools are not discussed much in past studies.

METHODOLOGY

Research Design

Present study used a mixed-methods research design to examine how AI tools help in improve English language proficiency among EFL learners of district Faisalabad. This research design was selected to integrate both type of data, close-ended questions provided numerical data about recent trends and patterns, and how often and how effectively students use AI tools, while the open-ended questions gave chance to learners to express their point of view and experience in more detail.

Population and Sampling

The population for this study consisted of undergraduates students from Department of Applied Linguistics at Government College and University of Faisalabad. These Students were chosen because their are English as a Foreign Language (EFL) learners and regularly engage with language learning tools as part of their academic activities.

Current study used convenience sampling technique, a type of non probability sampling to select participants. This method was chosen due to ease of access and availability of students during data collection period. Data were collected from 200 undergraduate students of GC university. Both quantitative and qualitative data were taken from this sample size through a single questionnaire

Data Collection

In this study quantitative data was gathered through the use of questionnaire that asked about effectiveness of AI tools in improving English language proficiency and opinions of students about using AI tools. These items were taken from previous studies (Aiza et al., 2024; Khasawneh et al., 2024). This questionnaire designed on a 5 likert scale: Strongly agree=1, Agree=2, Neutral=3, Disagree=4, Strongly Disagree=5. The questionnaire mainly divided into two sections that directly deals with research questions. Two English language instructor from Department of Applied Linguistics have examined the validity of questionnaire to check whether or not these closed ended items addressed the objectives of study. To improve the study outcomes some changes were made to questionnaire. To find out the reliability of questionnaire Cronbach's Alpha was calculated that gave positive results.

Open-ended questions were used to collect qualitative information about the effectiveness of AI driven tools for learning English language proficiency. These open ended questions were directly reflect the main objectives of study. Two open-ended questions were added at the end of questionnaire that were used for collecting quantitative data to obtain both data at same time.

Data Analysis

This study conducted a mixed method research that deals with both quantitative and quantitative data so data were analyzed separately and then add to see results. To analyze quantitative data that were collected through questionnaire, a statistical software SPSS



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version 27 were used. This study mainly calculated descriptive statistics that includes percentage, mean, standard deviation. Six step Thematic analysis approach (Braun & Clarke, 2006) was used to analyze qualitative data which was collected through two open ended question.

RESULTS

Due to mixed-method design, the result section categorized into Qualitative results and Qualitative results.

Quantitative Results (Structured Questionnaire)

Section 1: Effectiveness of Using AI Tools for Improving English Language Proficiency.

This section presents the quantitative findings of study about the effectiveness of AI tools based on responses of 200 participants. SPSS used to calculate descriptive statistics which includes frequencies, means, and standard deviations. Descriptive statistics were calculated for each item to find perceptions of learners about how AI driven tools impact their English language learning.

Table 4.1

Descriptive Statistics of Section 1 of Questionnaire

Effectiveness of Using AI Driven Tools for Improving English Language Proficiency

No	Items	N	Percentage	Mean	Std. deviation
1	AI Driven tools have improved my English speaking skills.	200	50% Agree	2.06	.866
2	The use of AI-Driven tools has enhanced my English writing skills	200	54.5% Agree	2.22	.757
3	The use of AI-Driven tools has strengthened my English reading skills.	200	45.5% Agree	2.17	.893
4	AI-Driven tools have helped me enhance my English listening abilities.	200	45% agree	2.04	.784
5	AI-Driven tools have provided me with opportunities or activities, such as conversations with chatbots or native speakers, dialogues, quizzes, to practice my English language skills.	200	40% Agree	2.08	.994
6	AI-Driven tools have provided me with personalized and customized learning materials based on my interests, needs, and proficiency level.	200	43% Agree	1.8	.781
7	AI-Driven tools have made it easier for me to learn the language at my own pace.	200	44% Agree	1.90	.842
8	I would like to continue using AI-Driven tools for language learning in the future.	200	43.5% Agree	1.79	.816

Note. N=Number of responses.



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The result indicate moderate to high level agreement among participants regarding effectiveness of AI tools in improving English Language proficiency. The Table 4.1 shows that range of all mean values is M=1.79 to M=2.22. Items related to reading, writing, listening, and speaking received high mean scores which shows relatively high agreement of participants on effectiveness of AI tools for learning basic skills of English language. Items of Personalized learning and future intentions get low means score though agreement percentage remained above 40%. The score of Standard deviation among all items range from 0.757 to 0.994, suggesting low to moderate variability on responses. This implies a general consistency in participants' perceptions.

Section 2: Students' Opinions about Use of AI Tools for Improving their English Language Proficiency.

This section presents students' opinion about the various features and benefits of AI tools in improving English Language proficiency. Table 4.2 shows Descriptive statistics, including frequencies, means, and standard deviations, that were calculated for each item to calculate opinion of learners

Table 4.2

Descriptive Statistics of Section 2 of Questionnaire
Students' Opinions about Use of AI-Driven Tools for Improving their English Language Proficiency

No.	Items	N	Percentage	Mean	Standard Deviation
1	I believe that the feature of AI-Driven tools, providing learners with access to relevant learning material, helps them in learning English.	200	55% Agree	1.83	.702
2	I find AI-driven applications user-friendly.	200	51% Agree	1.81	.716
3	The flexibility of AI-Driven language learning tools to teach English anywhere and at any time is beneficial for the me.	200	47% Agree	1.82	.766
4	I appreciate how AI-Driven language learning tools save my time.	200	41% Agree	1.80	.787
5	I believe that the availability of AI-Driven language learning tools on smart-phones makes them more accessible to learn language.	200	48% Agree	1.80	.793
6	I feel motivated and confident while utilizing the AI tools to improve my English language skills.	200	44% Agree	2.10	.807
7	I find AI-driven language learning tools beneficial as they provide instant real-time feedback on my English.	200	47% Agree	1.89	.781
8	I enjoy the process of learning English through AI based language learning tools as they provide	200	53% Agree	2.04	.735



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	learners with interactive tasks and activities					
9	I feel satisfied with the utilization of AI-driven tools for learning English.	200	58% Agree	2.04	.816	
10	I believe that AI-driven language learning tools are useful for EFL learner to learn or enhance their proficiency in speaking, writing, reading, and listening in English.	200	43% Agree	2.08	.712	
11	I would like to recommend AI-driven language tools to other EFL learners who want to enhance their English language skills	200	47.5% Agree	1.97	.801	

Note. N=Number of responses.

This table indicates a generally positive perception of using AI driven tools for language learning among EFL learners. The table shows that range of all mean values is (M=1.81 to M=2.04). High mean scores record for Item 17, Item 9, and Item 16 M=2.04, M=1.83, M=2.04 respectively. These results suggest that learner value both the content availability and interactive design of AI tools that contribute to satisfaction and enjoyment in learning English Language proficiency. Low standard deviation also represents the consistency in responses regarding this section that varies between 0.702 to 0.816.

Qualitative Results (Open-ended Questions)

Qualitative data were collected from 200 EFL learners through two open-ended questions that were included in questionnaire.

In first open ended question asked form learners “What AI tools you use for Learning English Language”? in response, mostly students answered some specific AI tools that they use for their English Language Learning. Most of students answered with “Chat GPT, Gemini, and Duolingo” . These AI tools are specifically used for language practice through conversations, enhancing vocabulary and grammar, generate creative text, and explanations. These features of AI tools helps the student to improve their reading, writing, speaking, and listening skills. The response of this open-ended question aligns with quantitative findings that stated AI tools are useful for English Language Learning.

In second open-ended question participants were asked to response “How do you think these tools are effective in improving your English Language Proficiency”? . five major themes emerged that shows students’ perception of the effectiveness of AI tools in improving their English language proficiency

Instant and productive feedback was the most important theme that came out in the responses of open-ended question. According to many of students’ response out of 200 to second questions, instant and useful feedback provided by AI driven tools is most effective feature.As one of participant stated that “By giving instant feedback and correction my mistakes” (Participant 50). Learners highlighted that instant feedback helped them to recognize their mistakes, correct them in real time, and this contribute to more accurate language use. Another major theme emerged that was ability of personalized learning. Participants responses to this question highlighted this theme , that emphasized on the ability of AI driven tools to give personalized and need based content. Many of the participant considered that these tools offers required learning materials that



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aligned with their proficiency level, goals, and areas of weakness. As one student stated that, “These tools guide students according to their needs” (Participant 49). These responses developed the theme of personalized learning through AI driven tools is valuable specially in the context of outside the classroom.

Grammar and vocabulary are the key factors of learning English language. In the light of this qualitative analysis, another theme came out that is showcasing the importance of AI driven tools in enhancing grammar and vocabulary. Several students response showed that their regular interaction with AI driven tools helped them to increase their vocabulary become more aware of grammatical structures. One stated that “Enhanced my vocabulary and grammar” (Participant 2). So, Improvement of vocabulary, grammar, and writing skills developed as another key theme of this qualitative analysis. Many participant believed that AI driven tools are easy to access and user friendly. This helped to develop another important theme which considered as User-Friendliness and Accessibility. The responses of many participants highlighted that these tools are easy to access on digital devices and they also save time by providing accurate and authentic information according to their requirements. As one participant mentioned “AI tools user-friendly and easy to access” (Participant 56). Another reported “They save a lot of time and provide authentic data”(Participant 71).

Motivation and confidence is most important factor to learn English Language. In response to second open ended question many students reported that features of AI tools increased their motivation to learn English Language, encouraged to engaged in learning activities, and reduced the fear of making mistakes. Some of their responses stated here; “These tools give me the courage to engage without worrying about mistakes”. (Participant 11). “Daily interaction with these tools improve my English Language proficiency and confidence”. (Participant 80). “These tools are effective, especially for those who want to learn English Language”. (Participant 133)

DISCUSSION

Discussion on RQ1: How effective are tools for EFL learners of Faisalabad to improve their English Language proficiency?

In this research to address first research question, How effective are AI-driven tools for EFL learners of Faisalabad to improve their English Language proficiency?. The researcher developed and analyzed section 1 of questionnaire and also integrated qualitative results to get deeper insight. Findings of study showed that majority of participants agreed on that their core English language skill improved through AI driven tools. As per results shown in Table , items related to these skills record high percentage of agreement such as reading (45.5%), writing (54.5%), listening (45%), and speaking (50%) (table 4.1). ChatGPT, Gemini, Duolingo these are some specific tools that were mentioned by most of the participants. These results indicated that English language proficiency of EFL learners that based on reading, writing, listening, and speaking improved due AI driven tools. These results aligned with past researches (Ahmad et al., 2021; Derwing & Munro, 2015; Huang et al., 2021; Ranalli, 2022; Riaz & Ali, 2022; Shah & Bukhari, 2019; and Sun & Cheng, 2020).

In addition, results of first section of questionnaire also highlighted the other useful features of AI driven tools that helped the learners to improve their English language proficiency. One of the most prominent qualitative theme Personalized Learning where learners reported that AI tools provide material according to their need and proficiency level. This theme parallel to quantitative finding in which item related to personalized content received (43%) agreement and (M=1.8.) Learners agreed on that AI tools provide



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them personalized and customized content according to their requirements that helped them to engage and learn English language more efficiently. Poenici and (Kerr 2017), Jia and Xu (2020). Moreover, this result support the study of Luckin et al. (2016) who examined that personalized learning is foundation for modern AI driven education, especially in the context of EFL where learners vary in learning pace and background knowledge. Jia & Xu (2020) Holmes et al. (2019), and Shah & Bukhari (2019) Similarly, Hasanov et al. (2019)

While results of study for Section 1 highlighted positive response on effectiveness of AI driven tools in improving English language proficiency, especially in the area of personalized learning but these results are not fully aligned with past researches. Such as Chen and Yu (2021) explained that technical challenges, including internet connection issues and software constraint, tend to prevent AI-supported English language learning from being carried out without interruptions. In the same way, Zawacki-Richter et al. (2019) addressed ethical issues regarding AI language learning that limitize the effectiveness of AI driven tools.

In conclusion, results of study indicated that AI tools were effective in improving English language proficiency of EFL learners. According to learners these AI tools not only improved the proficiency of English language but also provide them customized material according to their needs, proficiency level and study goals. These features made these AI driven tools more effective helpful for EFL learners. Overall findings of study are consistent with past research, however, few work from past are not in line with these findings.

Discussion on RQ2: How do EFL learners of Faisalabad perceive the use of AI tools in their English language learning?

To answer second research question, “How do EFL learners of Faisalabad perceive the use of AI-driven tools in their English language learning experience?” researcher developed and analyzed Section 2 of questionnaire, and also integrate qualitative results that were produced from the thematic analysis of open-ended questions. The results of study revealed positive attitude of learners towards use of AI driven tools to learn English language due to their usefulness and valuable features. Participants responses, showed moderate to high agreement on items that related to availability of required material, user-friendly tools, time saving, access on smart phones and increasing motivation and confident. Qualitative findings were also aligned with these results and provided deeper insight about the perception of learners. Learner perceived AI tools as engaging, motivational, and flexible. They also valued the features of AI driven tools that enabled them to learn privately and at their own pace, which increased their confidence.

As shown in Table 2, Participants agreed that AI tools emphasized AI tools made them feel confident and motivated ($M=2.10$), percentage of agreement remained above 40%. In qualitative responses, motivation and confidence also emerged as major theme because learners believed that due to use of AI driven tools they felt more encouraged in using English without fear of errors. These results are in line with Zhao and Lai (2021), Wang and lin (2022), Kizilcec et al. (2017). While results of study for Section 2 indicates positive learner perception pf AI driven tools for English language learning, especially in the area of confidence and motivation but these results are not fully aligned with past research of Hwang et al. (2020) who raised concerns about absence of human interaction and dependability on AI driven tools made them less engaging.

Another prominent aspect of results of Section 2 was Accessibility ($M=1.80$) and Ease of use ($M=1.82$) received more 45% agreement of EFL learners. These results indicated



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positive perception of learners about use of AI tools for English language learning and also appreciate the features of AI tools like easy to use and accessible on smartphones. This finding in line with previous literature of Shahid et al. (2024) and Riaz and Ali (2022) who examined that different features of AI driven tools enhance their usefulness in language learning. However, these results are not aligned with the study of Saeed and Akram (2021) and Riaz and Akhtar (2021) which noted that digital infrastructure limitation persist AI adoption.

At the end, it is concluded that EFL learners had positive perception about the usefulness of AI driven tools in English language learning. They believed that AI driven tools are user friendly, easy to access, provide required material and available all time. These factors made their English learning through AI driven tools easier and they felt more confident and motivated. Although, results of this section were not fully parallel with some previous studies but overall findings provided positive perception and aligned with past studies.

CONCLUSION

Overall, this study demonstrated that AI driven tools hold significant potential in supporting EFL learners language proficiency. Their capacity for personalized learning, according to individual's need and pace, fills the gaps that often neglected by traditional teaching methods. The ability to access these tools at anytime also offers flexibility, and make language practice continuous and self directed. Moreover, motivational element identified in learners' responses also indicated that AI driven tools can enhance learner engagement, which is significant factor in learning a language over the time. However this study also indicated that these AI driven tools should be used under the guidance of educators to avoid over dependence. As a result this study not only highlights the potential of AI driven tools in improving English proficiency but also offers important pedagogic implications for different stakeholders. Ultimately the findings affirms that, when AI driven tools used thoughtfully, they can significantly enhance the efficiency and quality of language learning, and these tools are also valuable complement to traditional language learning methods.

The present study provides valuable insights, but it is not without limitations. This study was geographically limited to District Faisalabad, therefore the findings may not be generalize to other regions of the country. Another limitation, is that the research was cross-sectional in nature and captured data at a single point, lacking longitudinal or experimental element, which limits the ability to assess long term effectiveness of AI driven tools.

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