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Original Article

Impact of Dependence on AI Assisted English Language Tools on Retention and Proficiency of English Communication among UG and PG Students

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Synopsis
The use of artificial intelligence (AI)-assisted English language learning tools has become increasingly popular among UG and PG students. One of the main concerns about AI-assisted English language learning tools is that they can make students over dependent on the tools and less likely to think critically about their own language use. For example, students who use AI-assisted English language learning tools to translate text from their native language to English may not learn how to express themselves effectively in English.
Another concern about AI-assisted English language learning tools is that they may lead to a decrease in retention of learned material. When students use these tools to complete tasks, they are not actively processing the information and committing it to memory. This can lead to a situation where students are able to complete tasks using the tools, but they are unable to perform the same tasks without the tools.
Finally, there is also concern that AI-assisted English language learning tools may lead to a decline in verbal communication skills. When students use these tools, they are less likely to practice speaking and listening to English. This can lead to a situation where students are able to read and write English effectively, but they are unable to communicate effectively in English in real-world situations.
Keywords: *AI-Assisted English Language tools, Proficiency in English Communication, Predictive text, Autocorrect, Grammar check.*

Introduction

The use of artificial intelligence (AI)-assisted English language learning tools has become increasingly popular among UG and PG students. These tools offer a variety of features, including predictive text, autocorrect, and grammar checking, which can help students to improve their writing and speaking skills. However, there are also some potential negative impacts associated with the use of AI-assisted English language learning tools, such as overdependence on the tools, a decrease in retention of learned material, and a decline inverbal communication skills. One of the main concerns about AI-assisted English language learning tools is that they canmake students overdependent on the tools and less likely to think critically about their own language use. For example, students who rely heavily on predictive text and autocorrect may not learn how to spell words correctly or how to use grammar correctly. Additionally, students who use AI-assisted English language learning tools to translate text from their native language to English may not learn how to express themselves effectively in English. Another concern about AI-assisted English language learning tools is that they may lead to adecrease in retention of learned material. When students use these tools to complete tasks, they are not actively processing the information and committing it to memory. This can lead to a situation where students are able to complete tasks using the tools, but they are unable to perform the same tasks without the tools. Finally, there is also concern that AI-assisted English language learning tools may lead to a decline in verbal communication skills. When students use these tools, they are less likely to practice speaking and listening to English. This can lead to a situation where students are able to read and write English effectively, but they are unable to communicate effectively in English in real-world situations.

Origin of the Problem:

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The current landscape of AI-powered platforms and tools has revolutionized language learning, offering readily accessible tools for grammar correction, vocabulary expansion, and even translation. However, concerns have emerged regarding the potential negative impact of over-reliance on these platforms on the development and retention of verbal communication skills among students. While these platforms offer undeniable advantages in terms of accessibility, personalized learning, and immediate feedback, concerns have emerged regarding their potential impact on the retention and proficiency of verbal communication skills, particularly among undergraduate and postgraduate students. This study dives deep into the origins of this problem, dissecting the specific areas where dependence on AI-assisted English language tools might be hindering the development of crucial communication skills.

Significance of the Study:

From an educational perspective, this research holds immense potential to inform best practices and strategies. By quantifying the extent of dependence on AI-assisted English language platforms and analyzing their correlation with communication skills, the study can provide data-driven insights that guide educators in developing a balanced approach to language learning.

From the students' perspective, this research carries unique significance. It directly addresses their anxieties about the potential pitfalls of AI tools, providing them with evidence-based information and recommendations that empower them to make informedchoices about their technology usage and learning strategies. This empowers them to become self-aware learners who can leverage technology effectively while honing their ability to express themselves with confidence and clarity in diverse settings.

In conclusion, this study stands as a bridge between the worlds of AI-assisted language learning and authentic communication. Ultimately, this study strives to pave the way for a future where technology enhances, rather than hinders, the development of effective Englishcommunication skills.

Review of Literature:

Fountoulakis, M. S. (2024), study investigates the impact of AI-driven tools, results underscore the effectiveness of AI in delivering tailormade learning experiences. However, the study highlights the necessity of integrating AI tools thoughtfully into curricula, attended by continuous teacher training. Ethical considerations, such as data privacy, AI bias, and equitable access, are discussed. Pujo Pangestu, (2024), explore the role of AI assistance in helping students' English-speaking skills. The research articulates that AI makes a substantial contribution to English language learning through personalization of learning. However, there are challenges in using AI such as lack of human interaction, limited features and AI does not understand complex situations. This paper provides intuition into the benefits and challenges of using AI in language learning, as well as its implications for the development of students' English-speaking skills. Rusmiyanto, (2023), Made an attempt to study AI and its possible uses to learners of English language to strengthen their communication skills, including speaking, listening, reading, and writing, and it is found that the AI tools have potential to enhance English language learners' communication skills by providing tailored and interactive learning experiences significantly. The paper highlights that transformative role of AI tools in English language education and its potential to address the various needs of language learners. Husna Habib, (2019), made an attempt to investigate how AI technologies can be used to enact such transformation, thus providing a solution for the students who need assistance in achieving better communication skills. Paper results states that AI powered tools, allow students to overcome difficulties in expressing themselves, understanding others, and participating successfully in academic and social activities.

Conceptual Framework / Explanation of Key Terminologies:

a. **Verbal Communication:** Verbal communication is the process of using words to exchange information, ideas, thoughts, and feelings with another person. Verbal communication skills are the ability to communicate effectively using spoken language. These skills include speaking clearly andconcisely, listening attentively, and responding appropriately. Verbal communication skills are essential for success in both academic and professional settings.

b. **AI Assisted English Language Learning Tools:** These are platforms (tools) that use AI to help students with the English language. This can include a variety of features, such as predictive text, autocorrect, grammar checking, and real-time feedback.

Predictive Text: Predictive text is a feature that suggests words or phrases to the user as they are typing. This can help users to type faster and more accurately.

Autocorrect: Autocorrect is a feature that automatically corrects spelling and grammar errors.This can help users to write more polished and professional documents.

c. **Grammar Checking:** Grammar checking is a feature that identifies and corrects grammar errors in writing. This can help users to improve their grammar skills and write more grammatically correct sentences.

d. **Impact:** The word 'impact' is defined as the level to which dependence on AI-assisted English language platforms has on the retention and proficiency of verbal communication skills among UG and PG students. This level is quantified using a test taken during the survey.This includes the average score of students who are able to correctly use vocabulary and grammar concepts.

Objectives of the Study:

- To understand usage pattern of AI assisted English language learning tools.
- To study the level of dependence on AI assisted English language learning tools for English communication by the UG and PG students.

- To examine perception about utility of AI assisted English language learning tools such as voice assistants, chatbots on different aspects of English communication such as vocabulary, grammar, pronunciation, and fluency by UG and PG students.
- To suggest measures for effective use of AI assisted English language tools for proficiency in English communication.

Research Methodology:

This study employs descriptive and exploratory research approach and has adopted survey method in order to address the research problem. Present research paper is based on primary data, primary data has been collected from students through structured questionnaire belong to different parts of Solapur city in Maharashtra. A structured questionnaire served as the primary data collection tool, composed of 46 thoughtfully crafted questions. This instrument aimed to gauge participant awareness of AI in general, its specific applications in language acquisition, and their perceptions of its potential benefits and drawbacks. The questionnaire helped gather valuable insights into the current landscape of AI and its integration with English language learning.

The study's target audience was focused on college students, both undergraduate and postgraduate. The present study is limited to the students of colleges from Solapur city only.

The students were selected using stratified random sampling method. The stratification has been done based on level of education that is UG and PG programmes. Sample size for present study is 200 respondent students from different colleges, based on Rao's sample size online calculator 'Raosoft'. Since the study is concerned with English language only, the participant pool was restricted to students who have received their education through English-medium. Likert scale (5-point) ranging from strongly agree (1) to strongly disagree (5) have been used to obtain the views about given statement. Data obtained through survey were analyzed using suitable statistical tools and techniques such as mean, percentage, rank analysis, correlation and t-test.

Data Analysis and Discussion:

The present study aims at studying the intersection of artificial intelligence (AI) and verbal communication skills, specifically focusing on its impact on retention and proficiency among undergraduate and postgraduate students. The study also aims to explore the current state of awareness around AI-powered English language platforms. It seeks to understand how reliance on AI tools, like translation apps or grammar checkers,affects student's ability to retain information and communicate effectively in spoken and written English. The study aims to shed light on the potential benefits and drawbacks of AI in English communication. Demographic Profile of respondents: The Sample size selected for the study includes 200 students from different colleges, 100 students pursuing PG courses and 100 pursuing UG degree courses. The participant pool can be further classified into 52 male students and 148 female students.

a. Demographic Profile of the Respondents:

In order to understand demographic profile of the respondents five demographic parameters have been taken into account such as, gender, age, education and occupation. Table 1, gives the details of different demographic parameters of the sample size collected through the survey (N=200)**.** Table 1, clearly illustrates the fact that more than half of the respondents were female (74.00%) while (26.00%) respondents were male respondents. As far as age group is concern 40.50 percent respondents belonged to 17 to 20 years age group, 46.50 percent respondents have an average age of 20 to 23 years and remaining 13 percent respondents belonged to the age group of 23 to 26 years. In case of education similar count was covered from categories like UG and PG programs (50 percent each). It can be seen that 76 percent respondents belonged to student's category and 14 percent from employed

Table: 01

Demographic Profile of the Respondents

Demographic Variable	Category	No. of Respondents (F)	Percentage %	Cumulative %
Gender	Male	52	26.00	26.00
	Female	148	74.00	100.00
Total		**200**	**100.00**	
Age Group	17-20 Years	81	40.50	40.50
	20-23 Years	93	46.50	87.00
	23-26 Years	26	13.00	100.00
Total		**200**	**100.00**	
Education	Under Graduate (UG) (UG)	100	50.00	50.00
	Post Graduate (PG)	100	50.00	100.00
Total		**200**	**100.00**	
Occupation	Student	172	76.00	76.00
	Employed	28	14.00	100.00
Total		**200**	**100.00**	

Source: Primary Data

b. Usage Pattern of AI Assisted English Language Tools:

Usage pattern of AI assisted English language tools have been analyzed; it is seen that 67 percent respondent students consciously use AI in English language and only 33 percent students unconsciously use AI in English language. It is understood form the Table 02, Chatbots is used by 66.5 percent student respondents, while Predictive text tools is used by 51 percent students,

Autocorrect is used by 46 percent, Spell checker is used by 44.5 percent, Translation tools is by 41.5 percent, Grammar checker is by 29 percent and 3.5 percent respondents use other tools of AI for English language.

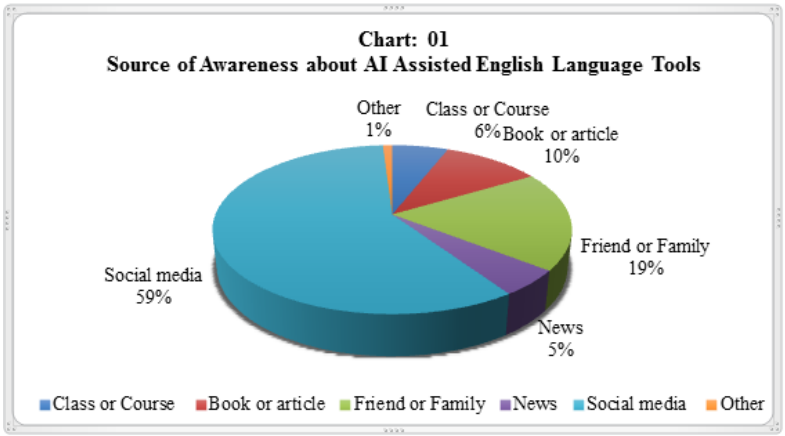
Table: 02
Usage Pattern of AI Assisted English Language Tools

Sr. No.	AI Assisted English Language Tools	Yes (%)	No (%)	Total (%)
1	Chatbots	66.5	33.5	100
2	Predictive text	51	49	100
3	Autocorrect	46	54	100
4	Spell checker	44.5	55.5	100
5	Translation tools	41.5	58.5	100
6	Grammar checker	29	71	100
7	Other	3.5	96.5	100

Source: Primary Data

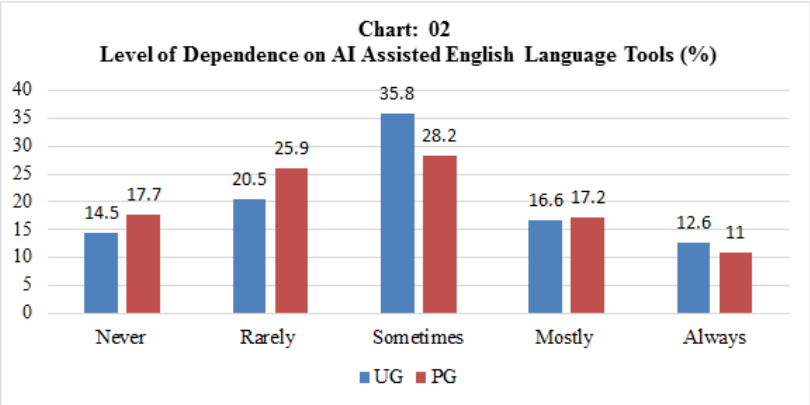
c. Source of Awareness about AI Assisted English Language Tools:

The sources of awareness about AI assisted English language tools are varied and wide-ranging. Some of the most common sources are analyzed through chart 1. It is clear from the chart 1, most of the effective source of awareness about AI assisted tools is social media, it means 59 percent students first learned about AI tools through social media, followed by friends or family, books or articles classroom or course and new. It's clear that social media plays a dominant role in shaping student's perceptions of AI tools.



d. Level of Dependence on AI Assisted English Language Tools:

To understand level of dependence on AI-assisted tools for English language, data has been collected in five-point scale and analyzed on the basis level of education that is UG and PG. We can see from chart 02, that 32% students UG and PG students never use AI-Assisted English language tools. It represents a significant portion of students actively adopting AI-powered tools in their English language. Whereas 16.9% students use AI most of the times, 11.8% students always use AI for English communication.



Weighted Average of Responses about Level of Dependency on AI Assisted English Language Learning Tools:

In order to understand level of dependency on various AI assisted English language learning tools data have collected in five-point scale, weighted average has been calculated based on wight assigned to the responses. Weighted average of responses for UG and PG students have been calculated to understand the difference in level of dependency on various AI assisted English language learning tools. It is observed from the table 03, weighed average value for UG student is 2.92 and for PG students it is 2.77 both are close to three means UG and PG students are sometimes depending upon AI assisted English language learning tools. It is also understood from the

table 03, that the average difference is 0.144 in the level of dependence on AI assisted English language learning tools of UG and PG students. Therefore, we can statistically conclude that there is not a significant difference between UG and PG students, about dependency on AI assisted English language learning tools. It means level of dependency or usage pattern of AI assisted English language learning tools is very much similar by the UG and PG students.

Table: 03

Weighted Average of Responses about Usage of AI Assisted English Language Learning Tools

Sr. No.	Parameters	Weighted Average		Difference
		UG Student	PG Student	
1	Use voice assistants? (e.g., Siri, Alexa, Google Assistant)	3.08	2.61	0.47
2	Rely on autocorrect to correct your spelling?	2.97	2.86	0.11
3	Use translation tools to translate languages? (Eg. Google Translate, Amazon Translate)	3.21	3.00	0.21
4	Use AI tools to write different kinds of content in English?	2.63	2.51	0.12
5	Rely on AI tools like Grammarly to check your grammar?	2.73	2.73	00
6	Use AI chatbots like My AI by snapchat, Bard, ChatGPT?	3.02	2.76	0.26
7	Think AI usage has influenced your understanding and use of English grammar?	3.03	2.84	0.19
8	Use AI-based educational tools for learning English?	3.1	2.93	0.17
9	Come across any AI-based chatbots for customer support	2.61	2.69	-0.08
10	Use AI-based tools to gather, summarize and paraphrase information or text	2.85	2.86	-0.01
Total		29.23	27.79	1.44
Average		2.923	2.779	0.144

Source: Primary Data

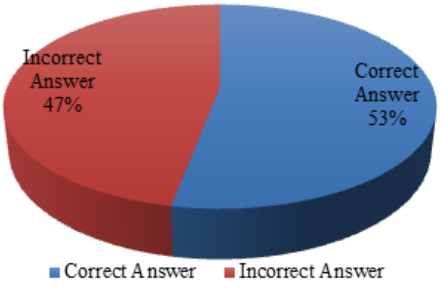
H: There is no significant association exist between weighted averages calculated based on responses of UG and PG student respondent about dependency on AI assisted English language learning tools.
Correlation Coefficient 'R' = 0.6545
Degree of Freedom (DF = N-2) = 8
$1- r^2 = 0.57158$
$DF/1-r^2 = 13.9963$
SQRT = 3.74117
Calculated Value of 't' = 2.44874
Table Value = 2.306

Result: It is understood from above calculation that the calculated value (2.44874) of 't' at 5% level of significance at 8 degree of freedom is greater than table value (2.306), so hypothesis is rejected, it means there is significant association exist between weighted averages calculated based on responses of UG and PG student respondent.

e. English Proficiency Test Result:

To understand knowledge and proficiency about English language among UG and PG students, a set of structured questions were asked to the respondents to answer. The set of questions included very basic level questions regarding how to correct way to spellwords, grammar, and pronunciation etc. Based on their answer analysis have performed and it is observed that, 53 percent respondent students gave correct answers whereas 47 percent respondent students gave incorrect answer. It means near fifty percent failure rate raises concerns about gaps in foundational skills like spelling, grammar and otheressential areas of English communication.

Chart: 03
Analysis of English Profeciency Test Result



f. Perception about Utility of AI Assisted English Language Learning Tools:

To study the perception about utility of AI assisted English language learning tools set of statements about AI assisted English language learning tools have been asked to the respondents and their responses have been collected in five point-scale.

The data clearly states that 75.5 percent respondents have accepted that AI assisted English language learning tools are useful to communicate in English correctly, whereas 15 percent are neutral about the statement and only 9.5 percent respondents are not agreed about usefulness of properties of AI assisted English language learning tools for English communication. This suggests concerns about AI's potential downsides, like overreliance on technology, a loss of human interaction and critical thinking.

Weighted Average of Responses about Utility of AI Assisted English Language Learning Tools:

To understand average responses about utility of AI assisted English language learning tools data have collected in five-point scale, weighted average has been calculated based on wight assigned to the responses. Weighted average of responses for UG and PG students have been calculated to understand the usefulness of AI assisted English language learning tools. It is observed from the table 04, weighed average value for UG student is 2.04 and for PG students it is 2.26 both are close to two means average responses of UG and PG students are agreed about the statements shown in table 04. It is also understood from the table 04, that the average difference is -0.221in the opinions about utility of AI assisted English language learning tools by UG and PG students. Therefore, we can statistically conclude that there is not a significant difference ofopinions between UG and PG students about utility of AI assisted English language learning tools.

Table: 04

Weighted Average of Responses about Utility of AI Assisted English Language Learning Tools:

Sr. No.	Parameters	Weighted Average		Difference
		UG Student	PG Student	
1	New technologies like AI contributes to the evolution of language.	1.91	1.97	-0.06
2	AI-powered auto-correct features helps in improve spelling accuracy.	1.91	2.05	-0.14
3	AI-powered tools can help one to learn new English vocabulary and grammar.	1.99	2.22	-0.23
4	AI-based translation tools help one understand English text and assignments better.	2.14	2.32	-0.18
5	AI-based chatbots helps one engage in meaningful English Conversations.	2	2.2	-0.2
6	Students should be taught how to use AI tools for English communication as part of their education.	2.02	2.21	-0.19
7	AI helps in improving the ability to communicate in English.	2.01	2.29	-0.28
8	Relying on predictive text makes one more confident in their grammar usage.	2.27	2.57	-0.3
9	AI tools like voice assistants helps to improve English pronunciation.	1.99	2.25	-0.26
10	I would recommend AI-powered English language tools to others.	2.16	2.53	-0.37
Total		20.4	22.61	-2.21
Average		2.04	2.261	-0.221

Source: Primary Data

H: There is no significant association exist between weighted averages calculated based on responses of UG and PG student respondent about utility of AI assisted English language learning tools.
Correlation Coefficient 'R' = 0.936
Degree of Freedom (DF = N-2) = 8
$1- r^2 = 0.123$
$DF/1-r^2 = 64.937$
SQRT = 8.058
Calculated Value of 't' = 7.545
Table Value = 2.306

Result: It is observed from above, the calculated value (7.545) of 't' at 5% level of significance at 8 degree of freedom is greater than table value (2.306), so hypothesis is rejected, it means there is significant association exist between weighted averages calculated based on responses of UG and PG student respondent about utility of AI assisted English language learning tools.

g. Measures for Operative Use of AI Assisted English Language Learning Tools:

To gather insights on the most effective ways to leverage AI in English language, and to suggest measures for operative use of AI assisted tools and digital communication in learning English language, students were tasked with ranking potential measure in the range of 1 to 5. Here 1 stand for the most effective measure and 5 stands for the least effective measure. This student-driven approach promises effective use of AI tailored to their specific learning. Based on the rank assigned by the

respondents weighted rank have been calculated and presented in table 05. Table 05 clearly indicates that the most effective measures is, making a conscious effort to use other resources to learn and develop English followed by making use of traditional learning methods, limit student's screen time and encourage them to engage in activities that promote English learning such as reading, writing, and speaking, and develop AI language models that are more transparent and accountable. The least effective measure is to develop AI language models that are more transparent and accountable. It is also observed from the table that there is difference in ranking of effective measure by UG and PG students.

Table: 05

Ranking Analysis of Measures for Operative Use of AI Assisted English Language Learning Tools:

Sr. No.	Measures for Operative Use of AI Assisted English Language Learning Tools	Weighted Rank		
		Overall	UG students	PG students
1	Students can take steps by making a conscious effort to use other resources to learn and develop English	1	1	3
2	Promote the use of traditional learning methods, such as textbooks, grammar books, and dictionaries	2	2	1
3	Limit student's screen time and encourage them to engage in activities that promote English learning such as reading, writing, and speaking	3	3	2
4	Governments develop policies to ensure that students are not overly reliant on these platforms	5	4	5
5	Develop AI language models that are more transparent and accountable	4	5	4

Source: Primary Data

Findings:

- Around 62.5 percent students agree that many students are aware of how AI is used in English language.
- Over 66.5 percent students use chatbots, followed by predictive text that is used by 51 percent student and then 46 percent students use autocorrect. In this way we can conclude thatchatbots, predictive text and autocorrect are the most used tools by UG and PG students.
- 58.5 percent students first learned about AI through social media. It's clear that socialmedia plays a dominant role in shaping student's perceptions of AI.
- 32 percent students frequently use AI-Assisted English language learning tools. Whereas16.9 percent students use AI most of the times and 11.8 percent students always use AI for English communication.
- There is not a significant difference between the level of dependency on AI amongUG and PG students. There is significant association exist between weighted averages of the level of dependency calculated based on responses of UG and PG student respondent.
- As a result of English proficiency test, over 53 percent student got the answers correct whereas 47 percent students got the answers incorrect.
- As far as perception about AI assisted English language learning tools, 52.2 percent students agree that AI-Assisted English language tools are useful. It is also found that there is not a significant difference in the opinions about the utility of AI assisted tools of UG and PG students.
- The most effective measure for operative use of AI assisted tools ranked by students is making a conscious effort to use other resources whereas the least effective measure is to develop AI language models that are moretransparent and accountable.

Conclusion:

The relationship between AI-assisted English language tools and the development of verbal communication skills among UG and PG students is a complex topic with both promising threads and potential drawbacks. A majority of students (62.5%) are aware of their existence and many incorporate them into their learning experience. Chatbots, predictive text, and autocorrect are the most prevalent tools, suggesting student interest in interactive and convenient features. Social media emerges as the primary source of AI awareness for students highlighting its potent role in influencing adoption. Students' opinions on the utility of AI-assisted English language tools are largely aligned across UG and PG groups. While a few acknowledge potential drawbacks, the majority recognize both the benefits and challenges associated with AI usage. The research suggests a potential association between AI usage and lower English proficiency scores. Only a small percentage of students achieved perfect scores, highlighting the need for careful consideration of how AI tools are integrated into language learning. Finally, students equipped with awareness of both the benefits and drawbacks, can makeinformed choices about their AI usage and prioritize the development of authentic communication skills. By understanding the present state of research, increasing dependency on AI for language learning, educators and policymakers can make informed decisions to harness the benefits of AI technology and exploit its impact on developing effective English communication skills learners.

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