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A STUDY ON THE IMPACT OF AI-POWERED LEARNING APPS ON SELF-STUDY AND EXAM READINESS

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Abstract:

Many AI-powered tools, such as ChatGPT, Duolingo, Grammarly, Deepseek, and Quizlet, are being used by students for self-study and exam preparation (Schiller International University, n.d.). These tools help students overcome challenges faced in the traditional study system by providing instant solutions and feedback, thereby enhancing the learning experience. If students need quick answers or feedback, these apps can assist them effectively.

This study aims to explore how AI-powered applications support students in their exam preparation and self-study. Specifically, it examines how the features of these tools enhance study performance, compare to traditional methods, and improve time management and study efficiency. To investigate the Impact of AI-Powered Learning Apps on Self-Study and Exam Readiness, both primary and secondary data were collected. The study employed the Simple Random Sampling technique. A total of 140 valid responses were obtained from Mumbai. Findings indicate that a considerable part of students actively use AI-powered learning applications. The data revealed that AI tools significantly assist in comprehension. The study also highlights AI-powered tools' impact on time management. However, a section of respondents remains skeptical about AI's effectiveness in certain aspects of learning, emphasizing the need for further development and refinement of AI-based educational tools.

These insights hold value for students, educators, educational institutions, policymakers, and app developers in understanding the role of AI in modern education.

Keywords: *AI powered learning tools, Self-Study, Exam Preparation.*

Introduction:

Today, AI-powered applications are widely used across various sectors, demonstrating exceptional performance in multiple fields (The Guardian, 2025). In the education sector, AI is making a significant impact. Many AI-powered tools, such as ChatGPT, Duolingo, Grammarly, Deepseek, and Quizlet, are being used by students for self-study and exam preparation (Schiller International University, n.d.). These tools help students overcome challenges faced in the traditional study system by providing instant solutions and feedback, thereby enhancing the learning experience. If students need quick answers or feedback, these apps can assist them effectively.

This study aims to explore how AI-powered applications support students in their exam preparation and self-study. Specifically, it examines how the features of these tools enhance study performance, compare to traditional methods, and improve time management and study efficiency. This research provides valuable insights into the evolving role of AI in education.

Significance of the Study:

This study can provide meaningful insights into how AI-driven learning tools can help students improve their ability to understand and remember difficult and complex concepts through self-paced learning. The study can also assist students in efficiently managing

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their time for exam preparation instead of struggling to find the required guidance. Moreover, it will also help learners improve their performance by reducing exam stress.

Furthermore, the study can help educators encourage learners to engage in self-directed learning. The findings of this study will be valuable for educational institutions, app developers, and policymakers in designing and enhancing AI-powered learning applications. This study also serves as a foundation for future research on AI in education by identifying gaps and areas for further investigation.

Objectives:

The following are the objectives of the study

1. To analyse the effectiveness of AI-powered learning apps in enhancing students' ability to understand and retain academic concepts during self-study.
2. To examine the role of AI-driven personalized learning features in improving students' exam preparedness and performance.
3. To assess student perceptions and engagement levels with AI-based study tools compared to traditional self-study methods.
4. To evaluate the impact of AI-powered study apps on time management and study efficiency among students preparing for exams.

Research Methodology:

To investigate the Impact of AI-Powered Learning Apps on Self-Study and Exam Readiness, both primary and secondary data were collected. Secondary data were gathered from various sources, including articles, research reports, blogs and newspapers. For primary data collection, a structured questionnaire was designed and administered through Google Forms, utilizing an e-survey method. The questionnaire consisted of fourteen questions and was distributed using online social media platforms to learners based in Mumbai. The study employed the Simple Random Sampling technique, and the survey remained open for 20 days to ensure an adequate number of responses. A total of 140 valid responses were obtained. The collected data were processed and analyzed using Microsoft Office Excel 2013 and the Statistical Package for Social Science (SPSS). The findings were then presented in a tabular format for better interpretation and understanding.

Result and Discussion:

Age of the Respondents:

Table 1 Age of the Respondents

Age	Frequency	Percent
18–22	133	95.0
Below 18	4	2.9
23–26	3	2.1
Total	**140**	**100.0**

Source: Online Survey

The findings in Table 1 illustrate the age distribution of survey participants. It was found that the majority of respondents i.e. 95% belong to the 18–22 age group. A smaller percentage of respondents i.e. 2.9% are below 18 and 2.1% of respondents belong to the 23–26 age group. The data reveal that AI-powered learning apps are largely used by young students (18-22).

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Gender of the Respondents:

Table 2 Gender of the Respondents

Gender	Frequency	Percent
Female	96	68.6
Male	44	31.4
Total	**140**	**100.0**

Source: Online Survey

The data in Table 2 shows that 68.6% of respondents are female, while 31.4% respondents are male. This gender distribution demonstrates a higher participation of female respondents compared to males.

Academic Level of the Respondents:

Table 3 Academic Level

Academic Level	Frequency	Percent
Undergraduate	133	95.0
Postgraduate	4	2.9
School Student	3	2.1
Total	**140**	**100.0**

Source: Online Survey

The findings in table 3 show the educational level of the respondents. The data indicate that the majority of respondents 95%of respondents are undergraduate students, with only 2.9% postgraduates and 2.1% school students. It can be inferred that AI learning tools are mainly used in higher education settings.

Use of AI-Powered Learning Apps for Self-Study:

Table 4 Use of AI-Powered Learning Apps for Self-Study

Use of AI-Powered Learning Apps for Self-Study	Frequency	Percent
Yes	94	67.1
No	46	32.9
Total	**140**	**100.0**

Source: Online Survey

The findings in Table 4 exhibit that a significant majority of respondents, i.e., 67.1%, regularly use AI-powered learning apps for self-study. This demonstrates the wide acceptance of AI-powered learning apps among the respondents. Meanwhile, 32.9% of respondents reported that they do not use AI-powered learning apps, highlighting the need to further explore the reasons for the non-acceptance of technology-driven learning apps in this notable segment of non-users.

Usage Patterns of AI-Powered Learning Apps:

Table 5 Usage Patterns of AI-Powered Learning Apps

Usage Patterns of AI-Powered Learning Apps	Frequency	Percent
1–2 times a week	47	33.6
Rarely	37	26.4
3–4 times a week	30	21.4
Daily	26	18.6
Total	**140**	**100.0**

Source: Online Survey

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The findings in Table 5 illustrate the use of AI-powered learning apps in terms of frequency of usage. The highest proportion of respondents, i.e., 33.6%, use these apps 1–2 times a week, 26.4% use them rarely, 21.4% use them 3–4 times a week, and 18.6% of respondents use them daily. The number of daily users of learning apps is comparatively lower. This shows that although technology-driven learning apps are used by learners, they are not a daily necessity for them.

Extent of Help of AI-powered Apps to Understand Difficult Concepts:

Table 6 Extent of Help of AI-powered Apps to Understand Difficult Concepts

Extent of Help of AI-powered Apps to Understand Difficult Concepts	Frequency	Percent
Moderately	67	47.9
Very much	43	30.7
Slightly	17	12.1
Extremely	10	7.1
Not at all	3	2.1
Total	140	100.0

Source: Online Survey

The findings in Table 6 reflect the extent of help AI-powered apps provide in understanding difficult concepts. 47.9% of respondents reported that AI-powered apps help them moderately, while 30.7% said the apps help them very much. Additionally, 7.1% of respondents find them extremely helpful. According to 12.1% of respondents, the apps are slightly helpful, and 2.1% said they are not at all useful. The data reveal that a large proportion of respondents believe these apps help them understand difficult concepts. However, a small part of the respondents finds these apps only slightly or not at all useful, which emphasizes the need for further improvement in AI-driven learning apps

Effectiveness of AI-Powered Apps in Improving Your Exam Preparation:

Table 7 Effectiveness of AI-Powered Apps in Improving Your Exam Preparation

Effectiveness of AI-Powered Apps in Improving Your Exam Preparation	Frequency	Percent
Moderately effective	58	41.4
Very effective	45	32.1
Slightly effective	26	18.6
Extremely effective	6	4.3
Not effective	5	3.6
Total	**140**	**100.0**

Source: Online Survey

The findings in Table 7 reveal the effectiveness of AI apps in improving exam preparation. A large proportion of respondents opine that AI apps are effective for exam preparation. 41.4% of respondents find AI moderately effective, while 32.1% rate AI apps as very effective. Additionally, 4.3% of respondents consider AI apps extremely effective. A small segment of respondents, i.e., 3.6%, finds AI apps not effective at all, which is a subject of further investigation.

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AI-Powered Apps to Manage Study Time More Efficiently:

Table 8 AI-Powered Apps to Manage Study Time More Efficiently

AI-Powered Apps to Manage Study Time More Efficiently	Frequency	Percent
Yes, to some extent	80	57.1
Yes, significantly	29	20.7
No, not really	25	17.9
Not at all	6	4.3
Total	**140**	**100.0**

Source: Online Survey

The findings in Table 8 present the use of AI apps for managing study time. A large proportion of respondents believe that AI-powered apps help them manage their study time efficiently. Among them, 57.1% of respondents feel that AI apps help to some extent, while 20.7% say AI apps help them significantly. This shows that most respondents find AI-powered apps beneficial for study time management. However, about one-fifth of respondents do not experience time management benefits from AI apps. Specifically, 17.9% of respondents say AI apps do not really help in managing study time, while 4.3% find AI apps not helpful at all. This notable minority segment of respondents may still be comfortable with traditional study planning methods.

Ability of AI-powered Learning Apps to Improve Retention of Information

Table 8 Ability of AI-powered Learning Apps to Improve Retention of Information

Ability of AI-powered Learning Apps to Improve Retention of Information	Frequency	Percent
Yes, to some extent	83	59.3
Yes, significantly	28	20.0
No, not really	23	16.4
Not at all	6	4.3
Total	**140**	**100.0**

Source: Online Survey

The statistics in Table 9 reflect the ability of AI-powered learning apps to improve information retention compared to traditional study planning methods. A large portion of respondents believe that AI-powered learning apps enhance information retention. Among them, 59.3% feel that AI apps help to some extent, while 20.0% believe AI apps help significantly. On the other hand, 16.4% of respondents say AI apps do not really help improve retention, and 4.3% find AI apps not effective at all. It can be inferred that while AI tools work well for most students, a notable portion of respondents does not see major improvements in information retention, may be due to their reliance on traditional methods.

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Recommendation of AI-Powered Learning Apps to Others for Self-Study and Exam Preparation:

Table 10 Recommendation of AI-Powered Learning Apps to Others for Self-Study and Exam Preparation

Recommendation of AI-Powered Learning Apps to Others for Self-Study and Exam Preparation	Frequency	Percent
Neutral	61	43.6
Likely	52	37.1
Very likely	15	10.7
Unlikely	7	5.0
Very unlikely	5	3.6
Total	**140**	**100.0**

Source: Online Survey

The data in Table 10 depicts the likelihood of respondents recommending AI-powered learning apps to others for self-study and exam preparation. AI-powered learning apps seem to have a positive reputation among many users. 37.1% of respondents are likely to recommend AI apps, while 10.7% are very likely to do so. However, 43.6% of respondents are neutral about recommending AI learning apps, indicating that they are not entirely convinced about suggesting them to others. A small segment of participants does not find AI apps effective enough to recommend. Among them, 5.0% of respondents are unlikely to recommend AI learning apps, while 3.6% are very unlikely to do so.

Replacement of Traditional Self-study Methods with AI Apps:

Table 11 Replacement of Traditional Self-study Methods with AI Apps

Replacement of Traditional Self-study Methods with AI Apps	Frequency	Percent
No	71	50.7
Yes	37	26.4
Not sure	32	22.9
Total	**140**	**100.0**

Source: Online Survey

The data in Table 11 demonstrates respondents' opinions on the replacement of traditional self-study methods with AI apps. 50.7% of respondents feel that AI-powered apps cannot completely replace traditional self-study methods. 26.4% of respondents believe AI-powered apps can fully replace traditional self-study methods, whereas 22.9% are unsure. The findings suggest that although AI-powered learning apps are widely used and appreciated, they are not yet seen as a complete replacement for traditional study methods.

Most Frequently Used AI-Powered Learning Apps

Table 12 Most Frequently Used AI-Powered Learning Apps

Most Frequently Used AI-Powered Learning Apps	Frequency	Percent
ChatGPT	131	93.57%
Duolingo	32	22.86%
Grammarly	31	22.14%
Deepseek	9	6.43%
Perplexity	7	5.00%
Quizlet	6	4.29%
Khan Academy	4	2.86%

Source: Online Survey

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The findings in Table 12 exhibit the most frequently used AI-powered learning apps. 93.57% of respondents use ChatGPT, making it the most popular AI-powered learning tool. Duolingo (22.86%of respondents and Grammarly (22.14%of respondents are the next most commonly used apps. Other AI apps, such as Deepseek (6.43%of respondents, Perplexity (5.00%of respondent's, Quizlet (4.29%of respondents, and Khan Academy (2.86%of respodents, have relatively low usage, indicating opportunities for these apps to enhance their AI-driven features to attract more learners.

Main Reasons for using AI-powered Learning Apps:

Table 13 Main Reasons for using AI-powered Learning Apps

Main Reasons for using AI-powered Learning Apps	Frequency	Percent
Quick access to study materials	52	37.14%
Instant feedback and doubt-solving	36	25.71%
Better time management	22	15.71%
Personalized learning experience	20	14.29%
Interactive learning (quizzes, gamification, etc.of respodents	10	7.14%

Source: Online Survey

The statistics in Table 13 highlight various reasons that influence learners' choice of AI tools. 37.14% of respondents use AI-powered learning apps primarily for quick access to study materials. 25.71% of respondents use AI-powered apps for immediate doubt resolution and feedback. 15.71% of respondents use AI tools to manage their study time effectively. 14.29% of respondents use AI-powered learning apps for customized learning experiences. 7.14% of respondents prefer AI-powered apps for their interactive features, such as quizzes and gamification. These findings demonstrate the increasing dependence on AI for efficient and effective study management.

Challenges Faced by Users of AI-Powered Learning Apps:

Table 14 Challenges Faced by Users of AI-Powered Learning Apps

Challenges Faced by Users of AI-Powered Learning Apps	Frequency	Percent
Lack of personalized human guidance	53	44.92%
Requires internet access	48	40.68%
Limited accuracy in answers	45	38.14%
Expensive subscriptions	42	35.59%
Over-reliance on technology	34	28.81%

Source: Online Survey

The findings in Table 14 highlight the challenges users face while using AI-powered apps. 44.92% of respondents feel that AI-powered learning apps lack human guidance. 40.68% of respondents report that AI learning apps require constant internet access, making them less accessible. 38.14% of respondents raise concerns about AI-generated inaccuracies. 35.59% of respondents find AI learning apps costly, limiting accessibility. 28.81% of respondents feel that AI-powered learning apps may lead to over-dependence on technology. These findings indicate that while AI-powered learning tools offer significant advantages, they need further refinement to address these challenges.

Limitations of the Study:

1. The study is limited to the learners primarily from Mumbai only.
2. The study was conducted with only with 140 respondents.
3. The study is limited to selected variables only.
4. The majority of respondents were undergraduate students aged 18-22 and female students it may lead to bias inferences.

Recommendations and Conclusion:

The findings of the study revealed the significant benefits of AI-powered apps in self-study and exam

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preparation. However, the insights of the study also suggest room for improvement in various areas. Some users are still not using AI-powered apps, and there is a need to encourage this segment of participants through aggressive promotion.AI-powered apps also face various challenges, such as accessibility issues, a lack of personalized human guidance, and expensive subscriptions. These challenges require immediate attention to increase their adoption. App developers should add enhanced features to improve their usefulness in understanding difficult concepts, exam preparation, managing study time, and increasing retention power. Additionally, there is a need to improve their credibility. By implementing the suggested recommendations, AI-powered learning apps can further support students in achieving better academic outcomes.

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