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*Paths to Maximize the AI's Roles in
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AI Usage Dependency on Students Before and After Covid Pandemic

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Abstract: The fast growth of Artificial Intelligence (AI) technology has greatly changed how education works, especially during the Covid-19 pandemic. This study looks at how students' use of AI tools for learning languages changed before and after the pandemic. Using a research method that focuses on numbers, information was collected through questionnaires given to 15 students in Purwokerto. The results showed that before the pandemic, 86.7% of students had used AI tools, with 73.3% using translation tools and 20% using grammar checkers. However, this use was still supplementary. After the pandemic, usage increased to 93.3%. There was a significant increase in the use of advanced tools such as ChatGPT (60%), Grammarly (53.3%), QuillBot (46.7%), and Google Translate (73.3%). As many as 53.3% of those questioned felt they were becoming more dependent on AI, and 66.7% believed AI helped them learn on their own. However, 20% felt that this dependence actually interfered with their ability to learn independently. This study shows that the pandemic has changed the use of AI (artificial intelligence) from being just a tool to an essential part of learning. If not used wisely, this can result in a decline in critical thinking skills and independence. This reliance raises worries about how well students think and whether they are being honest in their studies. The results highlight how important it is to use AI in a way that helps learners improve their language skills instead of taking over that process and gave big impact on the students' dependency in learning language.

Keywords: *ai usage, students' dependency, language learning*

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Introduction

The COVID-19 pandemic started in December 2019 and was called a global pandemic by the World Health Organization in March 2020. It has changed higher education around the world in many important ways. This unexpected global change made schools quickly switch from in-person classes to online and mixed learning. As a result, they started using digital technologies, especially artificial intelligence (AI) tools, more than ever (Pokhrel & Chhetri, 2021). The pandemic has greatly affected education in many ways. The COVID-19 pandemic has caused the biggest disruption to education ever, impacting all over the countries. This big change forced schools and universities to quickly adjust how they teach and learn. They worked hard to keep education going by using technology.

When schools went online during the pandemic, many university students started using AI technology a lot more. Our study shows that using artificial intelligence grew during the COVID-19

pandemic. This change happened quickly because it was needed, rather than slowly over time (Sahu, Padhy, & Dhir, 2022)..

Before the pandemic, students mainly used AI tools as extras. They used simple apps like grammar checkers and translation software now and then, but these tools were not a big part of how they learned (Zirar, Ali, & Islam, 2023). During the pandemic, people had to stay apart and use more online tools. This made advanced AI tools not only easy to find but also very important for doing well in school.

The results show that because of the pandemic, more people are using online services, which has increased the need for AI like ChatGPT. This change means that instead of just basic tools, we now have advanced AI helpers that can assist with complicated schoolwork like writing essays, helping with research, and translating languages (Bahrini, Khamoshifar, Abbasimehr, Riahi, Mehmi, & Superchi, 2023).

Using AI tools has made learning resources and support more available than ever before. However, new research shows worrying trends about how students are becoming too dependent on these tools, which can affect their critical thinking skills (Elmourabit, Retbi, El Fouddoli, 2023).

Using ChatGPT a lot for schoolwork might make people think less and could hurt their memory (Dwivedi, Kshetri, Hughes, Slade, Jeyaraj, Kar, & Wright, 2023). This shows the careful balance between using technology and keeping our minds active.

The change of AI tools from being helpful extras to main ways of learning brings up important questions about honesty in school and building important thinking skills. If students only use ChatGPT for information, they might become too dependent on it. This could make it hard for them to think critically about medical knowledge and to explain complicated ideas clearly. This issue goes beyond just medical education and includes all fields of study, especially language learning, where it's very important to think critically and develop skills on your own (Sallam, Salim, Barakat, & Al-Tammemi, 2023).

The use of AI tools has greatly changed how people learn languages, especially during and after the pandemic. The change from traditional ways of learning languages to using AI tools is a significant shift in teaching methods. Students who used to depend on teachers, organized classroom activities, and practiced on their own now have smart AI tutors, quick translation tools, and automatic writing help. This change in how we learn languages brings both benefits and difficulties. AI tools can give quick feedback, tailored learning experiences, and easy ways to practice language. However, they might make people rely too much on technology, which could weaken real language learning skills and cultural understanding that are usually important for learning a language well (Zirar, Ali, & Islam, 2023).

This study aims to map the usage of AI tools for students in assisting their language learning, particularly before and after the COVID-19 pandemic. It seeks to identify which AI tools are most commonly used, the purposes for which they are used, and how students' reliance on these tools has changed over time. Furthermore, the study intends to investigate the perceived influence of AI use on students' independence, critical thinking, and originality in learning. By doing so, the study intends to shed light on how AI might be utilized effectively in language teaching without encouraging overdependence.

Method

This study employed a qualitative research method using a structured questionnaire to investigate the use and impact of AI tools in language learning before and after the COVID-19 pandemic. The

questionnaire consisted of both closed-ended and open-ended questions, divided into five sections: pre-pandemic AI usage, post-pandemic AI usage, frequency and purpose of usage, the impact on learning behavior, and participants' reflections. Most questions used a multiple-choice or Likert-scale format to gather measurable data, while the final section included open-ended questions to gain deeper insights into students' opinions. The participants were university students, and the data collected were analyzed using descriptive qualitative and thematic analysis. The study looked at the feelings and views of 15 university students in Purwokerto. It focused on how their behaviors changed, what tools they liked to use, and how they thought these affected their independence, critical thinking, and honesty in school. The study checked its results using earlier research that shows how much more reliant we are on AI in education after the pandemic. This research is important because it looks at how education changed right after the pandemic. It shows real proof of how students' behaviors and learning results have changed during this time.

Findings and Discussion

This section presents the answer from a survey about how 15 university students in Purwokerto used AI tools before and after the COVID-19 pandemic. Following the presentation of these qualitative results, a comprehensive discussion will explore their implications regarding students' dependency on AI, and their independent learning, understanding, and critical thinking abilities in language learning

1. Before Pandemic

From the respondent that we got from the questioner shows that a significant number of university students in Purwokerto (86.7%) were using AI tools to learn languages even before the COVID-19 pandemic started. On the other hand, a small group (13.3%) said they had never used it before. Almost half of the people surveyed were already using AI tools before the pandemic, which shows that they were somewhat familiar with and using technology in their language learning. This might be because more online resources and language learning apps with AI features, like translation tools, grammar checkers, and pronunciation help, are becoming easier to access. Getting used to AI tools before the pandemic is important for understanding how their use changed later, especially because the pandemic made digital changes happen much faster. The small number of "no" answers suggests that AI tools were already used by many students in education, even if not everyone accepted them.

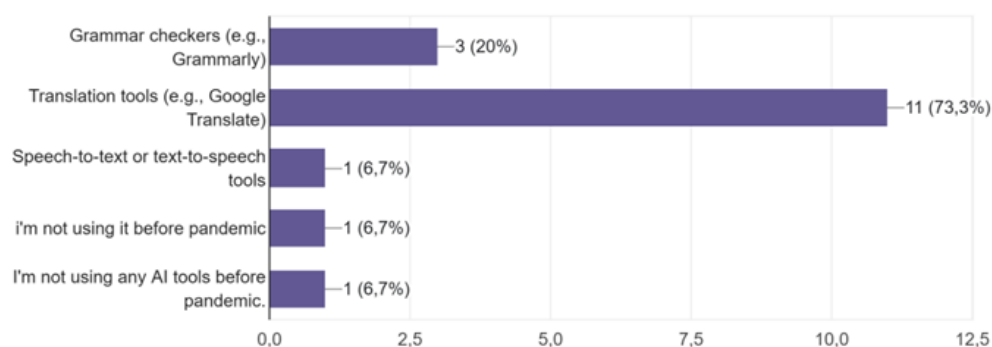


Table 1. AI tools that frequently use before the pandemic

Before the COVID-19 pandemic, most university students in Purwokerto who used AI tools for language learning mainly used translation tools (73.3%) This means that people mostly saw AI as a helpful tool for understanding foreign texts or translating languages, instead of using it for more complicated language tasks. This high percentage shows that even before many schools switched to

online learning, students were already using AI to help them understand and use language better. They probably did this to improve their language skills in their studies or when talking to others. Grammar checkers were often used by 20% of the people surveyed. This shows that many needed help with language accuracy even before the pandemic made online learning more common. This shows that some students are trying hard to improve their writing. They are paying attention to grammar, possibly for assignments or formal messages. Only a small number of students (6,7%) said they used speech-to-text or text-to-speech tools. This means these tools are not very common or might be used for specific needs.

Only a small number of students (13,4%) said they didn't use AI tools before the pandemic. This shows that AI was used by some students, but not by all of them. These results support the idea that before the pandemic, many people saw AI tools as just nice additions. They used simple tools like grammar checkers and translation software occasionally, but these tools weren't a major part of their learning. Getting to know basic AI tools probably helped people quickly start using more advanced AI during and after the pandemic.

Before the COVID-19 pandemic caused many changes, students were already using AI tools in their learning, mainly for practical language tasks.

The information gathered about how students used AI tools before the COVID-19 pandemic shows that they mainly used these tools for basic language learning activities. The survey results show that most people (80%) use AI tools mainly for translating words and sentences. This finding shows that even before schools were changed a lot, AI was already helping students learn new words and understand them better, making it easier for them to improve their language skills. After translation, checking grammar was the second most popular use, chosen by 46,7% of the students. This shows that people started using AI early on to ensure their writing is accurate and correct, probably to improve their work or to help them understand grammar better. The use of translation and grammar checking shows that people mainly used AI tools to quickly fix language issues instead of improving their overall language skills. Also, a large number of students (33,3% for both) used AI to help with pronunciation and to improve their writing. Although not as common as translation and grammar checking, these uses still show how AI helps with certain language problems. Help with pronunciation would focus on speaking skills and try to make how someone talks better. On the other hand, "writing improvement" probably included more than just grammar, like making writing sound nicer, flowing well, or coming up with new ideas. It's interesting to note that a small but important group of 13,4% of the people surveyed said they did not use AI tools before the pandemic. This small group says that even though many students were already using AI tools in their learning, not all students used them. This might be because people aren't aware of new options, prefer old ways of learning, or think they don't need it since they learned just fine before the pandemic.

At this point the answers indicate that students used AI tools a little too dependent during that time, and no students said they relied on them a lot or completely.

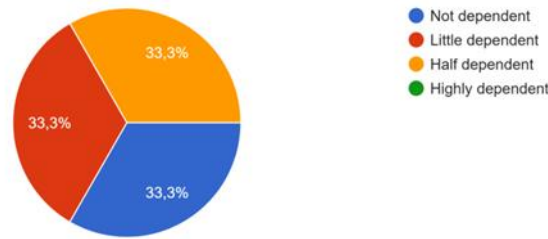


Table 2. Dependency on AI tools before the pandemic

33,3% (Not Dependent): A large number of students believed they didn't rely on AI tools at all. This might mean that they depend on old ways of learning, don't know about or can't get AI tools, or that AI tools just haven't become an important part of how they learn languages yet.

33,3% (Little Dependent): Another large group said they are "a little dependent." This means they use AI tools sometimes, maybe for things like checking grammar or simple translations, but they don't rely on them for most of their learning.

33,3% (Half Dependent): Almost a third of the students said they are "half dependent." This group probably used AI tools often for different parts of learning a language, showing that they started to mix these technologies into their study habits even before the big changes caused by the pandemic.

2. After Pandemic

The growth of Artificial Intelligence (AI) has sped up quickly since the COVID-19 pandemic. The worldwide crisis helped speed up the change to digital technology in many areas, including colleges and universities. When universities had to move to online classes and could not meet in person, AI technologies came in to help. They not only filled the gap but also improved the learning experience. Since then, many AI tools and apps have been created to help students learn. One area that has really gained from improvements in AI is learning foreign languages.

Nowadays, college students have access to a variety of AI tools, including chatbots that provide instant replies and engage in conversations, automatic translation tools, and programs that adjust learning materials to fit each student's skills and needs. These features make learning a language easier, more suited to individual needs, and quicker. Also, AI technologies help you practice speaking a language in real-time by simulating conversations and giving immediate feedback on grammar and pronunciation. Because of this, AI has become an important part of modern education in universities, helping students learn languages better and in a more interesting way.

A survey given to 15 university students in Purwokerto, showed that 93% of them said they use more AI tools now, especially ones that became popular after the COVID-19 pandemic. This data shows that students' learning habits are changing a lot because of the fast growth of AI technologies and how they affect their study routines. More students can now easily access different AI tools, which has motivated them to try new digital resources for their studies. This is especially helpful as they adjust to learning from home and on their own.

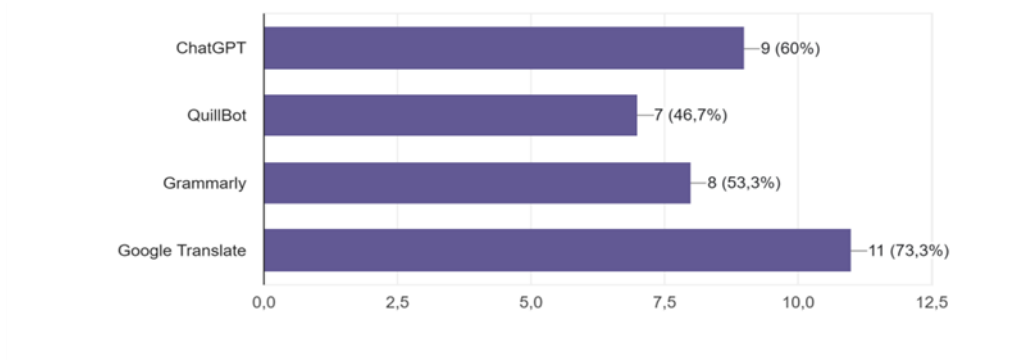


Table 3. Tools that often used after pandemic

The data shows that the students frequently use different AI tools to help them learn languages. Out of the tools mentioned, Google Translate is the most popular, with 73,3% of students saying they use it frequently. Followed by ChatGPT with 60%, then Grammarly with 53,3%, and QuillBot with 46,7%. A lot of students fancy these tools because they provide quick and easy help for their school assignments. Each of these tools provides different functions. For instance, Google Translate helps with translations, ChatGPT is great for learning and asking questions, Grammarly checks the writing, and QuillBot helps to rephrase sentences.

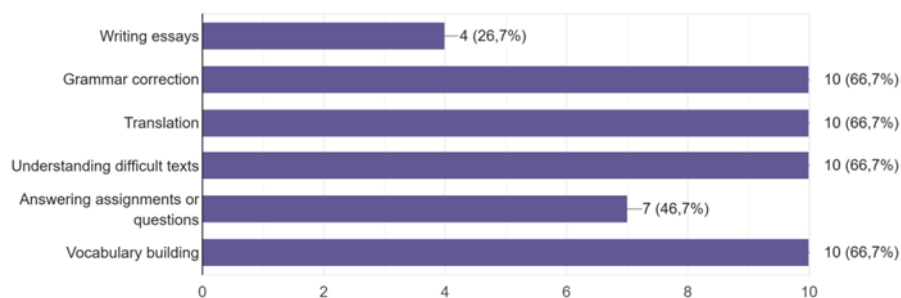


Table 4. AI used for language learning

In terms of usage, students most frequently rely on AI for grammar correction, translation, building vocabulary, and understanding difficult texts. Each of these tasks was mentioned by 66,7% of the students. Almost half (46,7%) of the students use AI to answer assignments or questions, and another smaller group of (26,7%) use it to help them write essays. These results show that students depend a lot on AI for basic language learning, especially where quick help or feedback is useful. The lower percentage of essay writing shows that students might still like to use their own creativity and ideas for difficult tasks. They may also use AI tools for help, but not as their main source.

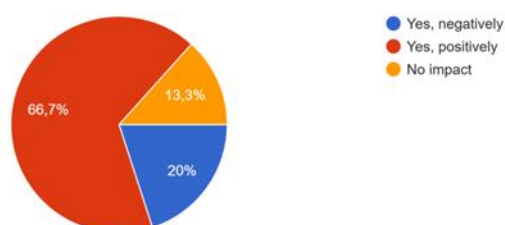


Table 5. AI tools effect on ability to learn independently

To get a better understanding on how AI influences independent learning, students were encouraged to share their personal experiences and perspectives. Some students (66,7%) said that using AI tools has helped them learn on their own in a positive way. Whereas, a small group of 20% students, thinks that these tools have defiled their ability to learn on their own. However, 13,3% others say there hasn't been much of an effect. This means that most people think AI is a helpful tool for learning, but some worry that they might depend on it too much or don't see much difference in how they learn. On the other hand, 53,3% others said they use AI tools frequently since the pandemic, while 46, 7% reported they use them slightly more. No respondents said that their dependency went down or stayed the same. This shows a major change in using AI tools in education sector, possibly because there is a higher need for online assistance during and after times of remote learning.

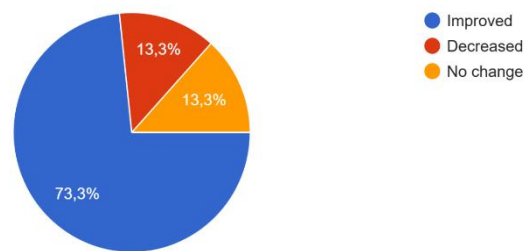


Table 6. Improved or decreased in understanding and critical thinking skills with AI

In terms of critical thinking, the majority of students (73,3%) said that using AI tools has helped them improve their critical thinking skills. Whereas, another smaller group of 13,3% think their skills got worse, and another 13,3% believe their skills stayed the same.

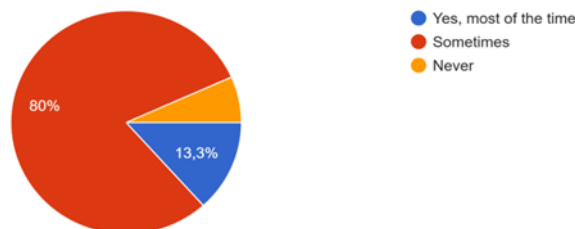


Table 7. Rely on AI or on your own

In terms of AI usage habits, most students (80%) reported using AI tools every once in a while, 13.3% used them frequently, and only 6.7% said they never used AI. In relation to academic honesty, 60% of students were unsure whether AI affects their integrity, 33.3% believed it did, while 6.7% believed it did not. These responses suggest that while many students find AI helpful for learning, some still have a doubt about relying on it too much. Students often said they depend on AI because it helps them complete assignments faster, provides quick answers, and improves the quality of their work.

Students shared that this convenience might make them less confident and weaken their basic skills. Some students also emphasized the need to balance using AI as a helpful tool while still being independent. Some make the effort to be creative instead of just copying, while others use AI to help them learn and feel more confident. A few students even shared that AI helps them learn on their own by making it easier to find information, learn about current world problems, and study without always needing their teachers. In general, while AI can make them dependent, it also give chances for them to grow personally; if they use it smartly.

Many valuable suggestions were shared by students regarding the wise application of AI tools. Most students agreed that AI should be a helpful tool, not something to depend on completely. The students also emphasized that it is important to finish tasks on their own first, like writing an essay, before using AI to polish their writing or help with organizing. Apps like Grammarly and DeepL are great for learning languages, especially for fixing grammar mistakes and helping with translation.

Some students suggested using AI carefully, especially for difficult tasks or when you really need extra help. They also emphasized how important it is to keep learning on your own so you don't depend too much on AI. Working with real people is considered better for learning a language than just using technology. AI can help improve learning, but it's not perfect and shouldn't take the place of clear thinking. In general, students were advised to use AI carefully and honestly. They should use it mainly for ideas, help, and support, instead of letting it do everything for them. The main point is, use AI smartly, not all the time.

Conclusion

From that respondent researcher found that more students started using AI tools for learning languages after the COVID-19 pandemic. Before the pandemic, 86.7% of the students had already used AI tools mainly for translation and checking grammar, but not as a main part of learning. After the pandemic, the use of AI tools went up to 93%, which is an increase of 6.3% students started using better AI tools like ChatGPT, QuillBot, and Grammarly for tougher jobs like writing essays, understanding material, and getting personal feedback. The data shows that students are moving from using AI tools a little to depending on them a lot. Many students say that AI is now very important in how they study. Using AI has made things easier and more accessible, but some people are worried that students rely on it too much. The findings show that if AI tools are not used carefully, it could negatively impact students' ability to learn on their own, be creative, and think critically. However, if used carefully and responsibly, AI can be a great help in learning languages. So, we need to find a middle ground that promotes using AI wisely to make sure we don't lose important learning skills.

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