

Exploring the Use of Artificial Intelligence in the ESP Classroom

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ABSTRACT

This study investigates the types of Artificial Intelligence (AI) tools used by students in the English Education Department at UIN Alauddin Makassar in the context of the English for Specific Purposes (ESP) classroom. Using a qualitative descriptive design, data were collected from six fifth-semester students through semi-structured interviews guided by the Affective, Behavioral, and Cognitive (ABC) model. The findings show that learners employ a variety of weak-AI tools to support their English learning, including ChatGPT, Grammarly, QuillBot, Gemini, Claude, and DeepL. ChatGPT emerged as the most widely used tool due to its interactive feedback, idea generation, and support for both writing and speaking practice. Grammarly and QuillBot were frequently utilized for grammar checking, paraphrasing, and improving academic writing quality, while DeepL, Gemini, and Claude assisted with translation, summarization, and comprehension of complex texts. The use of these tools demonstrates students' growing reliance on AI for autonomous learning in ESP-related tasks, particularly academic writing, translation, and discipline-specific language development. These findings highlight the increasing integration of AI in supporting ESP learning and indicate the need for structured digital literacy training within the curriculum.

Keywords: *Artificial Intelligence, ABC Model, ESP Classroom.*

1) INTRODUCTION

The rapid advancement of artificial intelligence (AI) has significantly influenced various sectors, including education, particularly in language learning. In recent years, AI has been increasingly integrated into English language teaching, offering new opportunities to enhance students' learning experiences through personalized instruction, automated feedback, and wider access to learning resources (Sumakul et al., 2022; Pratama & Hastuti, 2024). These developments are especially relevant in higher education institutions such as UIN Alauddin Makassar, which aims to strengthen students' English proficiency in both general and specific academic contexts.

In the context of English for Specific Purposes (ESP), students are required to master discipline-specific language skills, academic writing, technical vocabulary, and professional communication. However, conventional teaching methods that rely heavily on textbooks and limited classroom interaction often fail to address students' diverse learning needs and learning pace (Javed, 2023). Many

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students still experience difficulties in grammar comprehension, academic writing, speaking performance, and vocabulary development due to limited practice opportunities and insufficient learning resources (Muhtarom & Maghfiroh, 2022). These challenges indicate the need for more innovative and flexible learning support systems in ESP classrooms.

Artificial intelligence offers considerable potential to address these challenges by facilitating autonomous and adaptive learning. AI-based applications such as ChatGPT, Grammarly, QuillBot, DeepL, Gemini, and Claude have been widely used as learning tools to support writing, translation, summarization, and language comprehension (Bukhori et al., 2024; Salam et al., 2024). Among these tools, ChatGPT has gained particular attention due to its interactive feedback, idea generation, and ability to assist both writing and speaking practice (Romero-Rodríguez et al., 2023). Through data processing and real-time feedback, AI tools can help learners improve their language performance more efficiently and independently (Kim et al., 2022).

Despite the growing popularity of AI in language learning, its systematic integration into ESP instruction at UIN Alauddin Makassar remains limited. Most students use AI tools independently without sufficient guidance, structured training, or curriculum-based support. This condition raises concerns regarding students' digital literacy, ethical use of AI, and the effectiveness of AI-assisted learning in achieving academic goals. Therefore, empirical studies are needed to explore how students utilize AI tools in ESP learning contexts and how these tools influence their learning behavior, cognition, and affective responses.

Based on this background, this study aims to explore the use of artificial intelligence in the ESP classroom among fifth-semester students of the English Education Department at UIN Alauddin Makassar. Employing a qualitative descriptive design and guided by the Affective, Behavioral, and Cognitive (ABC) model, this research investigates the types of AI tools used by students and their learning experiences in using these tools. The findings are expected to contribute to a better understanding of AI-supported ESP learning and provide recommendations for integrating digital literacy and AI-based learning strategies into the curriculum.

Literature Review

Artificial Intelligence (AI) is a branch of computer science that focuses on developing machines capable of simulating human intelligence, including learning, problem-solving, decision-making, and

language processing (McCarthy et al., 2006 in Sumakul et al., 2022; Salam et al., 2024). AI systems utilize complex algorithms and large datasets to recognize patterns and improve performance over time through machine learning. In the field of education, AI has become an important tool that enhances efficiency, supports independent learning, and provides personalized feedback for students (Luckin & Holmes, 2016; Viktorivna et al., 2022). In English as a Foreign Language (EFL) learning, AI helps students access learning materials anytime and improves language skills through automated assistance.

Various AI tools are widely used by students to support academic activities, especially in language learning. Applications such as ChatGPT, QuillBot, Gemini, Grammarly, Claude, and DeepL provide services including text generation, paraphrasing, grammar checking, translation, and personalized learning support (Bukhori et al., 2024; Imran & Almusharraf, 2024; Bulatović et al., 2024; Amelia & Failasuf Alim, 2024; Volkart et al., 2018). These tools assist students in improving writing quality, understanding complex materials, and completing assignments more effectively. By utilizing these AI-based platforms, students can enhance their academic performance and develop better language competence in EFL contexts.

Students' perspectives on using AI in learning are influenced by their experiences, emotions, and understanding of the technology. Perspective refers to an individual's viewpoint or way of interpreting something based on personal experiences (Hughes, 2005; Male & Lumbantoruan, 2021). According to the ABC model, students' perspectives consist of affective, behavioral, and cognitive aspects (Ajlouni et al., 2023). Some students perceive AI positively due to its convenience and immediate feedback, while others express negative views related to technical problems or overdependence (Sumakul et al., 2022). Furthermore, the Technology Acceptance Model suggests that perceived usefulness and ease of use influence students' willingness to adopt AI in learning (Sumakul et al., 2022).

2) METHODS

This study employed a qualitative descriptive research design to explore the use of artificial intelligence in the English for Specific Purposes (ESP) classroom among students of the English Education Department at UIN Alauddin Makassar. This approach was chosen to obtain an in-depth understanding of students' experiences, perceptions, and learning behaviors related to the use of AI

tools in ESP learning. Qualitative descriptive research allows researchers to describe phenomena naturally and systematically based on participants' perspectives without manipulating the research setting.

The participants of this study were six fifth-semester students from the English Education Department at UIN Alauddin Makassar. They were selected using purposive sampling, considering their active use of AI tools in learning English and their experience in ESP-related courses. This sampling technique was applied to ensure that the participants could provide rich and relevant information regarding AI-assisted learning practices in the ESP classroom.

Data were collected through semi-structured interviews guided by the Affective, Behavioral, and Cognitive (ABC) model. The interview questions were designed to explore students' emotional responses toward AI use (affective domain), their learning behaviors and practices (behavioral domain), and their perceptions of learning outcomes and cognitive development (cognitive domain). The interviews were conducted in Indonesian and English to facilitate participants' comfort and clarity in expressing their opinions. Each interview was audio-recorded with the participants' consent and subsequently transcribed for analysis.

The data analysis followed the stages of qualitative thematic analysis, including data reduction, data display, and conclusion drawing. First, the interview transcripts were carefully read and coded to identify meaningful units related to the research objectives. Then, similar codes were grouped into themes representing patterns of AI tool usage and learning experiences. These themes were interpreted based on the ABC framework to provide a comprehensive understanding of students' affective, behavioral, and cognitive engagement with AI tools.

To ensure the trustworthiness of the study, several strategies were applied, including credibility, dependability, and confirmability. Credibility was enhanced through prolonged engagement with the participants and member checking, allowing participants to verify the accuracy of the interview data. Dependability was maintained by documenting the research procedures systematically, while confirmability was achieved by keeping detailed records of data collection and analysis. Ethical considerations were also addressed by obtaining informed consent, ensuring participants' anonymity, and maintaining confidentiality throughout the research process.

3) RESULTS AND DISCUSSION

Types of AI Tools Used by Students in English Learning

The results of this research reveal that students from the English Education Department at UIN Alauddin Makassar utilize a wide range of AI tools to support their English learning process. Based on the interview data, it was found that all the tools used fall under the category of weak AI, meaning they are designed to perform specific language-related tasks such as writing assistance, grammar correction, paraphrasing, translation, and speaking practice.

These tools operate without the capability for independent thought or human-like consciousness. Although Artificial Intelligence is broadly classified into weak AI, general AI, and strong AI (Ghosh & Arunachalam, 2023), the tools used by the respondents are limited to weak AI, which aligns with the current practical applications of AI in education (Kisno et al., 2023). These theoretical perspectives provide context but were not the basis for the data; rather, they help frame the observed practices.

Based on this theoretical framework, all AI tools used by the English Education Department students at UIN Alauddin Makassar in this study fall under the category of weak AI. These tools operate within predefined functions such as assisting with writing, grammar checking, translation, and speaking practice without demonstrating general cognitive abilities or human-like awareness. This classification aligns with previous research, which states that most AI applications in education are weak AI systems specifically designed to support learning-related tasks (Kisno et al., 2023).

To better understand how these tools are used, the findings are thematically organized based on the types of AI tools employed, their frequency of use, and their specific functions. These findings also reflect the students' emotional and motivational responses to the use of AI, providing insights into how technology influences their learning engagement.

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a. Types of AI Tools Used in English Learning

Table 4.1: *Frequency of AI Tool Usage Types among Respondents*

No	Code	Frequency	Respondents (R)
1	AI Tools Variety	3	R1, R2, R3
2	AI Tools for Writing Support	3	R2, R3, R5
3	AI Preference and Accessibility	1	R4
4	AI for Speaking Practice	1	R5
5	AI for Grammar and Translation	1	R6

Based on the interview results, as presented in table 4.1, all respondents reported using a variety of AI tools to support their English learning. The most commonly mentioned tools were ChatGPT, Grammarly, Quillbot, Gemini, Claude, and DeepL, each serving different academic purposes such as writing, paraphrasing, translation, grammar checking, and even speaking practice.

In terms of their specific purposes and patterns of use, the frequency data (see Table 4.1) revealed that three respondents (R1, R2, R3) reported using multiple AI tools primarily for writing and paraphrasing support. One respondent (R4) highlighted convenience and accessibility, particularly the mobile app version of ChatGPT as an important factor in their usage. Another respondent (R6) focused on grammar and translation support through tools like Grammarly and DeepL. Meanwhile, one respondent (R5) emphasized using ChatGPT to practice speaking and simulate interaction, which helped improve their communication confidence in English.

To provide a clearer picture of the AI tools most frequently used, the results are also illustrated in the bar chart below:

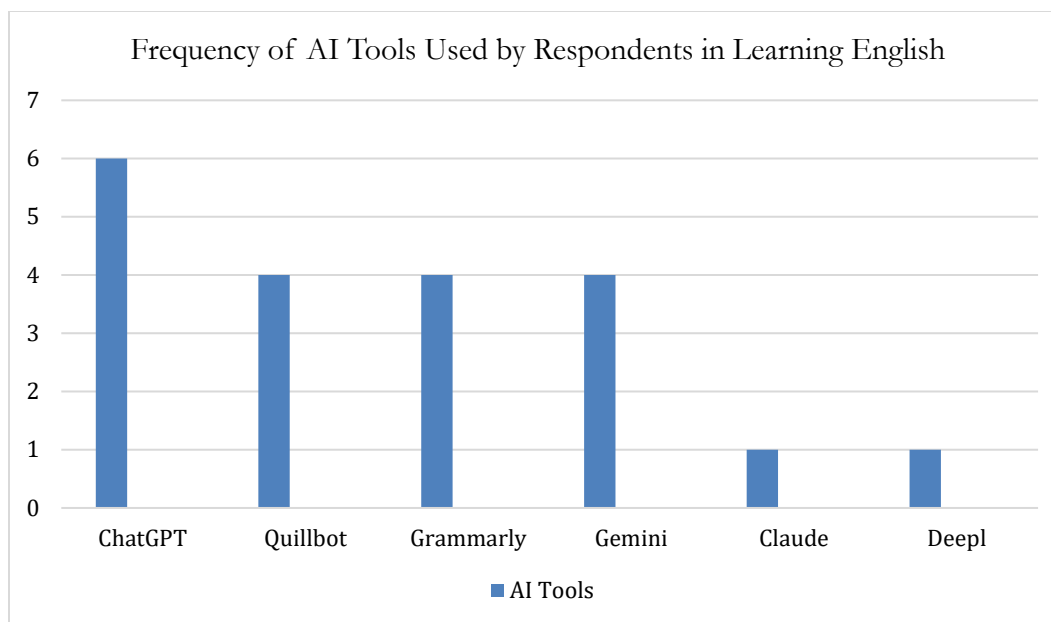


Figure 4.1: *Most Frequently Used AI Tools in English Learning*

Based on the interview results and as reflected in the frequency diagram, ChatGPT emerged as the most frequently mentioned AI tool, used by all six respondents (R1–R6). Respondent 1 (R1) reported regularly using Claude, ChatGPT, and Gemini, indicating a preference for multiple AI platforms in English learning. Similarly, Respondent 2 (R2) frequently utilized ChatGPT, Gemini, Grammarly, and Quillbot, especially for tasks such as paraphrasing and grammar checking.

Respondent 3 (R3) shared the same tools, stating regular use of ChatGPT, Gemini, Grammarly, and Quillbot. Respondent 4 (R4) highlighted their comfort with ChatGPT, especially due to its availability as a mobile application, and also mentioned using Gemini, Quillbot, and Grammarly. Respondent 5 (R5) emphasized using ChatGPT not only for writing support but also for practicing speaking in English. They also used Quillbot and Gemini as alternatives due to limitations in ChatGPT usage. Meanwhile, Respondent 6 (R6) used ChatGPT and Grammarly for grammar-related tasks, and additionally used DeepL for translation purposes.

From this data, ChatGPT appears to be the most widely adopted tool, followed by Grammarly, Quillbot, and Gemini. Claude and DeepL were mentioned less frequently, with only one respondent each citing their use. This variety of AI tool usage reflects how students adapt AI features based on their individual learning needs, from productivity and language accuracy to interaction and speaking fluency.

b. Familiarity with Artificial Intelligence (AI)

Table 4.2: *Frequency of AI Familiarity Levels among Respondents*

No	Code	Number of Respondents	Respondents (R)
1	Very familiar	3	R1, R2, R5
2	Fairly familiar	1	R3
3	Newly introduced to AI in college	2	R4, R6

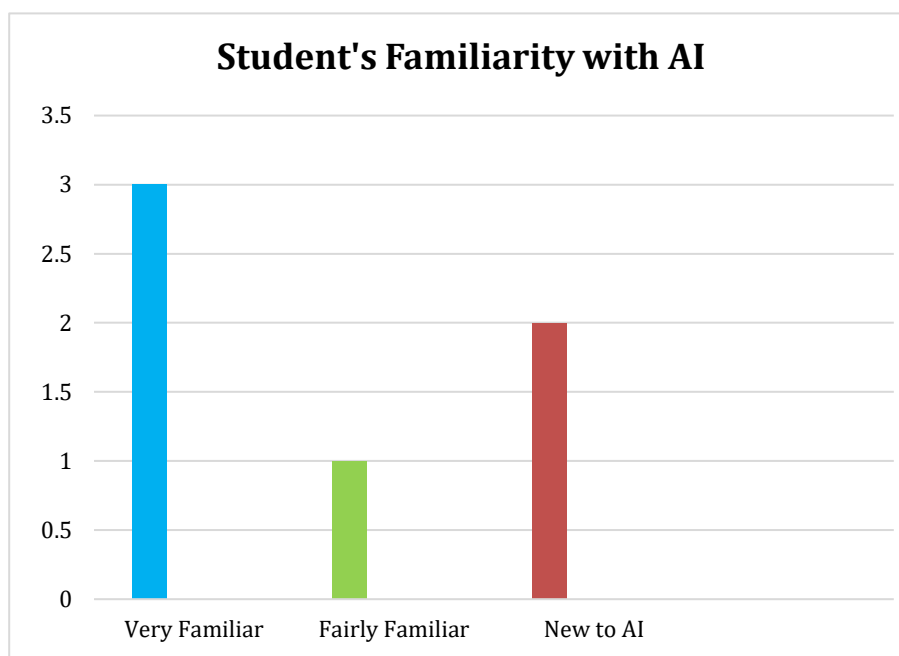


Figure 4.2: *Diagram showing respondents' familiarity levels with AI tools*

Based on the interview results, the majority of respondents demonstrated a relatively high level of familiarity with Artificial Intelligence (AI), particularly in using it to support their learning processes, complete assignments, and enhance research efficiency. Three respondents (R1, R2, R5) expressed strong familiarity and regularly used tools such as ChatGPT, Gemini, Claude, and Quillbot for academic purposes such as writing, searching for information, and summarizing learning materials.

One respondent (R3) stated that they became fairly familiar with AI during their second semester in college. Meanwhile, two other respondents (R4, R6) mentioned that they were only introduced to AI upon entering university, often through peer recommendations, and have since come to recognize

its usefulness in education for both students and teachers. Respondent R6, for example, noted that AI helps not only learners but also educators in preparing teaching materials and organizing lessons. This pattern of responses suggests that while levels of familiarity vary, AI is widely acknowledged by students as a helpful tool in their academic journey. Most of the students encountered AI more intensively after entering college, and many began to use it consistently to support independent learning and manage their workload more efficiently.

Discussion

The Artificial Intelligence can be broadly categorized into three types: weak AI, general AI, and strong AI (Ghosh & Arunachalam, 2023). Weak AI is designed for specific tasks and does not possess human-like reasoning or consciousness. In contrast, general and strong AI, which are still largely theoretical, aim to replicate or surpass human cognitive capabilities. In the context of education, particularly in English as a Foreign Language (EFL) learning, most practical applications fall under the category of weak AI (Kisno et al., 2023) including tools like ChatGPT, Grammarly, Quillbot, and DeepL. These tools assist with writing, grammar correction, translation, and conversational practice, but do not exhibit awareness or general intelligence. This theoretical framework supports the interpretation of students' use of such tools in the learning process.

To better understand how weak AI is applied in English learning, this section presents the data on the types of AI tools used by students by adopting affective approach as proposed by Ajlouni et al., (2023), which considers students' emotional and motivational responses along with the variety of tools used, their frequency, and their specific functions. The discussion explores how each tool supports different aspects of English learning, such as writing, grammar, speaking practice, and translation. This discussion will be organized into several subsections as follows:

a. ChatGPT

Among all AI tools, ChatGPT is the most dominant, with every respondent reporting its use. Its versatility allows learners to seek grammar feedback, generate content, and practice interactive communication. ChatGPT was praised for its role in sentence construction, idea development, summarization, contextual explanations, and speaking simulation (Sa'adah et al., 2025; Ho & Nguyen, 2024).

Respondent R5 highlighted the voice note feature for speaking practice, simulating real conversations and enhancing fluency and confidence showing AI's shift from written to oral skill development. This aligns with Üstünbaş, (2024), who found that students practicing speaking with ChatGPT improved their fluency and accuracy. Likewise, Cha, n.d., (2024) emphasized that ChatGPT, via the CHOP platform, provides personalized feedback in presentations.

ChatGPT also serves as an academic assistant. Bukhori et al., (2024) found that 66% of students used it primarily for writing tasks, while Kim et al., (2023) noted its strengths in creating structured writing plans and vocabulary support. Students also reported using it during high-pressure situations like class presentations, where rapid and coherent content generation was needed.

b. Grammarly

Grammarly is a sophisticated AI-powered writing assistant designed to enhance written communication by providing real-time feedback on grammar, punctuation, and style (Bulatović et al., 2024). It leverages machine learning and natural language processing to analyze texts and suggest improvements, making it an essential tool for students aiming to improve the clarity, cohesiveness, and fluency of their academic writing.

In this research, Grammarly was frequently used alongside ChatGPT to refine written outputs. Respondents R2 through R6 reported using Grammarly to check grammar, punctuation, and overall writing clarity. R6 emphasized its role in verifying grammar correctness in real time, while R5 appreciated the Grammarly mobile app's ability to detect unnoticed punctuation issues and grammatical slips. These experiences align with Al-Ahdal, (2020), who emphasized Grammarly's core strength in providing automated, real-time grammar correction, enabling users to self-edit and learn incrementally through usage.

Furthermore, Nabila et al., (2025) recognized Grammarly as an effective tool for improving academic writing, particularly in higher education contexts, due to its efficiency and detailed feedback. It supports self-directed learning, helping students build confidence in their writing skills by offering instant suggestions and structural clarity.

Overall, based on both literature and respondent data, Grammarly stands out as a practical, accessible, and educationally impactful AI tool, particularly for students striving to produce accurate and academically appropriate writing.

c. QuillBot

QuillBot was identified by respondents R2 through R5 as essential for paraphrasing complex sentences, especially during academic writing and research preparation. It is valued for its ability to reword text naturally while maintaining the original meaning an important feature for avoiding plagiarism and improving the clarity and tone of academic content. Students specifically noted using QuillBot when writing papers or paraphrasing long or difficult sentences into more refined and scholarly language.

Functionally, QuillBot is a web-based platform offering a suite of writing tools, including sentence rewriting, grammar correction, summarization, and translation (Nurmayanti & Suryadi, 2023). It also provides features such as plagiarism detection, collaborative support for research, citation creation, and tone adjustment, which make it particularly useful for academic contexts (Amyatun & Kholis, 2023). Respondents appreciated QuillBot's capacity to enhance sentence structure and readability, especially when dealing with complex academic passages.

Raad et al., 2023 emphasized QuillBot's strength in providing real-time feedback that improves both sentence clarity and grammatical accuracy. This makes it an effective tool not only for students seeking to improve their academic tone but also for those aiming to streamline their writing process. The tool's ability to help users paraphrase with ease and academic precision has made it a go-to choice for students at UIN Alauddin Makassar when managing their academic workload efficiently.

d. Gemini and Claude

Although mentioned less frequently than ChatGPT, Grammarly, or QuillBot, Gemini and Claude were both identified as valuable tools for clarifying vocabulary, idiomatic expressions, and generating summaries, particularly when students encountered complex or unfamiliar academic content. Respondents R1 and R6 emphasized that they used Gemini and Claude when studying independently to better understand difficult phrases, idioms, or concepts, with R5 noting a shift to Gemini when ChatGPT access was limited.

Gemini, a next generation multimodal AI developed by Google's DeepMind, has emerged as a powerful educational tool due to its ability to process and generate responses from various input types including text, images, and audio. Launched on December 6, 2023, Gemini provides contextually rich, responsive feedback tailored to students' queries, making it highly effective for vocabulary learning,

comprehension, and academic clarification (Imran & Almusharraf, 2024). Its flexibility makes it particularly useful in dynamic academic environments, offering personalized learning pathways and efficient task support.

Meanwhile, Claude serves as a generative AI assistant for text-based tasks such as summarizing, paraphrasing, editing, and providing writing feedback. Respondents appreciated Claude for its ability to deliver natural, coherent explanations that support independent study. Studies have found that Claude enhances students' ability to draft logically organized texts, detect grammatical errors, and develop structured outlines making it a practical aid for overcoming issues such as writer's block and lack of clarity (Amelia & Failasuf Alim, 2024; Aljanabi et al., 2023; Aydın & Karaarslan, 2023). Its added features like uploading up to five files totaling 10MB and processing PDFs and Word documents further boost its usability in academic contexts (Sadikoglu et al., 2023).

Furthermore, Claude is praised for encouraging originality and supporting autonomous learning by helping students transform AI-generated content into their own words while still aligning with academic standards (Farrelly & Baker, 2023; Zhao, 2023). Despite some limitations such as word count caps and challenges in verifying sources, Claude remains a reliable tool for enhancing comprehension and academic writing (Leung et al., 2023; Gayed et al., 2022).

Overall, both Gemini and Claude function as interactive academic aides, providing responsive and detailed explanations that support students in navigating difficult materials. Their use fosters independent learning and deeper engagement with content, making them valuable additions to the broader ecosystem of AI tools used by English Education students at UIN Alauddin Makassar.

e. DeepL

DeepL was reported by R6 as a preferred tool for translating Indonesian to English, valued for its natural and accurate output. Unlike general translators, DeepL delivers more context-aware results that aid students in understanding and producing better-quality academic English.

This observation is supported by Yulianto & Supriatnaningsih, (2021), who found DeepL to be 99.04% accurate in translating closely related language pairs, and Kamaluddin et al., (2024), who highlighted its ability to preserve specialized terminology, idiomatic expressions, and natural sentence flow. These features make DeepL highly suitable for academic tasks and language learning.

Its strength lies in the use of Transformer architecture (Vaswani et al., 2017), which enhances contextual translation. Compared to other tools, DeepL requires less post-editing effort (Ahmadnia et al., 2019) and supports better comprehension, especially for EFL learners (Deng & Yu, 2022). However, some limitations remain in translating culture-specific content.

Overall, DeepL supports students in translating complex content more effectively, enriching their vocabulary, sentence structure, and confidence in independent learning.

The findings demonstrate that English Education students at UIN Alauddin Makassar use a wide range of AI tools, with ChatGPT emerging as the most multifunctional and frequently used platform. It supports various aspects of language learning including writing, vocabulary, and speaking skills. Grammarly and QuillBot are instrumental in refining grammar and enhancing paraphrasing in academic writing. Gemini and Claude aid in content comprehension and clarification, while DeepL stands out in producing accurate, natural translations.

Overall, the integration of these weak AI tools into students' learning processes promotes independence, efficiency, and deeper engagement. The diverse functions these tools serve reflect students' creativity and adaptability in addressing their language learning challenges. AI is no longer just a support tool but a collaborative partner in building language competence across multiple domains.

4) CONCLUSION

This research reveals that students in the English Education Department at UIN Alauddin Makassar actively use various Artificial Intelligence (AI) tools, especially those categorized as weak AI. These tools include ChatGPT, Grammarly, Quillbot, Gemini, Claude, and DeepL, each serving specific functions such as assisting with writing, grammar correction, translation, content clarification, and speaking practice. Among them, ChatGPT stands out as the most commonly used due to its multifunctionality and easy accessibility, while other tools are employed selectively based on the students' individual learning needs. This diverse and adaptive use of AI reflects the students' growing independence and strategic approach toward personalizing their learning process for greater effectiveness.

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