Artificial General Intelligence: Advantages in English Language Learning

Yulian Purnama [1], Sherly Gaspersz [2]
[1] *Universitas Saizu Purwokerto, Indonesia*
[2] *Universitas Victory Sorong, Indonesia*

Corresponding Author: Name, Yulian Purnama   E-mail; yulianpurnama@uinsaizu.ac.id

Article Information:	ABSTRACT
	Learning English has become a major focus in this modern era, where cross-cultural communication is increasingly important. However, the language learning process is often challenging for many individuals, especially those who do not have adequate access or resources. The advent of Artificial General Intelligence promises significant advances in language learning approaches, with the potential to increase the accessibility, speed and effectiveness of learning. This research aims to explore the potential benefits of Artificial General Intelligence in English language learning, especially in the context of accessibility, speed and effectiveness of learning. The research method uses a qualitative approach involving a comprehensive literature study on the latest developments in the use of Artificial General Intelligence in language learning. The research results show that Artificial General Intelligence has great potential to improve English language learning. Apart from that, there are also many benefits to be gained from using Artificial General Intelligence in English language learning. The conclusions in this research confirm that the use of Artificial General Intelligence in English language learning offers significant potential to increase the accessibility, speed and effectiveness of learning. However, challenges related to ethics, privacy and data security also need to be seriously considered in the development and implementation of this technology. With a careful and integrated approach, Artificial General Intelligence can be a valuable tool in supporting inclusive and effective English language learning for all individuals. The limitation of this research is that this research only conducted research at the educational unit level, specifically in English language learning. **Keywords**: *Artificial General Intelligence, English Language Learning*

INTRODUCTION

In an increasingly advanced digital era, technology has become an inseparable factor in the world of education, bringing transformation in the way of teaching and learning (Aparicio dkk., 2018). The use of technology in learning has opened the door to new opportunities, allowing wider access to learning resources, increasing interaction between teachers and students, and increasing the overall effectiveness of learning (Clow, 2012). From the use of computer-based learning software to interactive online learning platforms, technology has become an important tool in empowering education to reach and meet students' needs in this digital era (Bell, 2010). Therefore, it is important to understand the role of technology in learning and how its use can have a positive impact on education in the future.

Literatur of Refiew
Artificial General Intelligence

Artificial General Intelligence is one of the most important concepts in the field of artificial intelligence (AI). Artificial General Intelligence refers to a type of artificial intelligence that has versatile capabilities, capable of executing intellectual tasks with a level of proficiency comparable to that of humans (Ahmad dkk., 2022). Artificial General Intelligence differs from more limited AI, known as Artificial Narrow Intelligence (ANI), which focuses only on specific tasks or specific domains ("Retracted," 2022). The development of Artificial General Intelligence is the ultimate goal of the field of artificial intelligence (Kocaballi dkk., 2020). This goal not only includes the creation of programs or systems that are intelligent in performing specific task (Bales, 2023), but also includes the creation of computational entities that have the ability to think, learn, and adapt in various situations, as humans do.

In understanding Artificial General Intelligence, it is important to understand the difference between Artificial General Intelligence and narrower Artificial Intelligence (Baraldi dkk., 2023). Artificial Intelligence, in its narrower form, is already around in various forms (Dharamsi dkk., 2023). Examples include chatbots used in customer service, recommendation systems in streaming platforms, and facial recognition in security applications (Amalia dkk., 2020). This type of Artificial Intelligence is limited to specific tasks and does not have the ability to think or learn outside the task domain (Efimov, 2020). On the other hand, Artificial General Intelligence is about creating artificial intelligence that is more similar to humans in terms of flexibility and capabilities (El Sherbini dkk., 2024). Artificial General Intelligence will be able to perform a variety of intellectual tasks, such as problem solving, reasoning, learning, and adapting to changing environments (Mahlknecht dkk., 2023). This means Artificial General Intelligence can be applied in a variety of contexts and is not limited to certain tasks or specific domains (Raikov, 2022).

Artificial General Intelligence has been around since the emergence of the concept of artificial intelligence in the 1950s (Roli dkk., 2022). At first, researchers were optimistic that Artificial General Intelligence would soon be achieved, but its

development turned out to be more complicated than expected (Schepman & Rodway, 2020). Since then, researchers have developed various approaches and techniques in an effort to achieve Artificial General Intelligence, including the use of machine learning algorithms, the development of expert systems, and experiments with more complex neural network architectures (Shelepa dkk., 2022). One of the biggest challenges in achieving Artificial General Intelligence is understanding how humans acquire and apply intelligence (El Hajjar & Rey, 2020). Humans have the ability to learn from experience, understand context, use knowledge to solve problems, and adapt to changing environments. Replicating these capabilities in a computational form is a complex challenge, as it requires a deep understanding of human cognition and the ability to design systems capable of mimicking these cognitive processes.

Although there are still many challenges to overcome, the development of Artificial General Intelligence continues at a rapid pace (Kashou dkk., 2021). Advances in computing technology, such as increases in processing speed and data storage capacity, have enabled further research and development in this field (Molhoek, 2022). In addition, developments in the field of machine learning, especially in the development of deep learning algorithms, have brought significant advances in the system's ability to understand and manipulate data on a larger and more complex scale (Zhu dkk., 2019). However, while this progress is encouraging, there are still many questions that need to be answered in the quest to achieve Artificial General Intelligence (Slavin, 2023). One of the main questions is about the ethical and social implications of creating artificial intelligence entities comparable to humans (Blease dkk., 2019). This includes questions about the moral responsibility of Artificial General Intelligence (Martínez & Winter, 2021), data security and privacy, as well as the potential social and economic impacts of the use of Artificial General Intelligence in various contexts.

Factors that influence Artificial General Intelligence in English Language Learning

There are several factors that influence the implementation and use of Artificial General Intelligence in English language learning (Buck dkk., 2022). The first is advances in computer technology and artificial intelligence. These advances include increases in computing capacity, improvements in machine learning and deep learning algorithms, and developments in natural language processing (Szegedy, 2020). The increasingly rapid progress of this technology allows the development of more complex and sophisticated Artificial General Intelligence, which in turn increases the ability of Artificial General Intelligence to assist English language learning (Taylor, 2019). The second factor is the availability of quality data. Artificial General Intelligence requires large and diverse data to train models and produce accurate results. In the context of English learning, quality data includes various types of text, audio and video in English, as well as data about students' level of understanding, progress and preferences (Denkenberger dkk., 2021). The availability of adequate data allows Artificial General

Intelligence to produce models that are more effective and responsive in helping students learn English.

Apart from that, policies and regulations can also influence the use of Artificial General Intelligence in English language learning. Strict regulations related to data privacy, security, and ethical use of AI technology may limit access and use of Artificial General Intelligence in educational contexts (Denkenberger dkk., 2022). Therefore, it is important that there is a clear and detailed regulatory framework to govern the use of Artificial General Intelligence in education, while ensuring the security and privacy of student data (D. Kelley & Twyman, 2020). Furthermore, adoption and support from educational institutions and teachers are also important factors influencing the use of Artificial General Intelligence in English language learning (D. Kelley & Atreides, 2020). The introduction and acceptance of new technology often requires appropriate support and training for teachers and educational staff. Therefore, it is important for educational institutions to provide the necessary resources and training for teachers to adopt and utilize Artificial General Intelligence effectively in English language learning.

Apart from these factors, cultural and social factors can also influence the adoption and use of Artificial General Intelligence in English language learning (D. J. Kelley & Atreides, 2020). For example, a conservative educational culture or lack of awareness of the benefits of AI technology in education can be a barrier to the adoption of Artificial General Intelligence (Allam & Dhunny, 2019). Therefore, it is important to educate the public about the benefits and potential of Artificial General Intelligence in improving English language learning, as well as promoting a culture of innovation and experimentation in education. Finally, economic factors can also influence the use of Artificial General Intelligence in English language learning (Yakar dkk., 2022). The costs of developing and implementing AI technology, as well as maintenance and support costs, can be prohibitive for educational institutions, especially those with limited resources. Therefore, there needs to be sufficient investment in technological infrastructure and staff training to ensure successful implementation of AGI in English language learning.

There are several previous research opinions. The first research according to (Johanes B. Bunyamin, 2018), with the research title AGI (Artificial General Intelligence): Indonesia's Opportunity to Leap Far Ahead. The results of his research stated that AGI can be used to brighten the nation's life, in accordance with the mandate of UUD 1945. Progress will accelerate in all fields including the economy, health, education, culture, science, technology and military, so that Indonesia will become the most advanced country. Considering its strategic value, the government should immediately start the AGI project. The second research according to (Sofyan Siregar, 2023), with the research title Utilization of Artificial Intelligence Based Learning Media in Learning at MAN 2 Padangsidimpuan. The results of his research stated that in conclusion, the use of AI-based media at MAN 2 Padangsidimpuan is common, but further efforts are needed to increase understanding and optimize its potential in

learning. Suggestions for future research include focusing on strategies for developing learning with AI-based media in the classroom. The third research according to (Albahra dkk., 2023), with the research title Artificial intelligence and machine learning overview in pathology & laboratory medicine: A general review of data preprocessing and basic supervised concepts. The results of his research stated that Overall, this review will offer a broad overview of the key concepts and algorithms in machine learning, with a focus on pathology and laboratory medicine. The objective is to provide an updated useful reference for those new to this field or those who require a refresher.

RESEARCH METHODOLOGY

The research method uses a qualitative approach involving a comprehensive literature study on the latest developments in the use of Artificial General Intelligence in language learning. The literature study research method is an approach used to investigate and analyze relevant literature that already exists on a particular research topic. This approach involves searching, selecting, and critically analyzing articles, books, papers, and other sources of information related to the research subject. The literature study research method is often used in the initial stages of research to build a theoretical framework or to provide a context for further research (Young dkk., 2021). The steps in this research involve several stages of in-depth analysis of relevant literature and related research. First, the initial step in this methodology is to identify relevant literature sources. To ensure broad and representative coverage, a literature search was conducted through leading academic databases such as Google Scholar, PubMed, IEEE Xplore, and Scopus. Keywords used in the search include 'Artificial General Intelligence', 'language learning', 'English language learning', 'Artificial General Intelligence applications in language learning', and other variations that are appropriate to the research topic.

After identifying literature sources, the next step is to filter relevant and quality articles. This is done by considering certain inclusion criteria, such as year of publication (limited to the last five years to ensure flexibility and relevance of information), the quality of the journal or conference where the article is published, as well as the suitability of the topic to the research focus. Articles that met the inclusion criteria were then compiled into a database for further analysis. Next, a literature analysis process was carried out to explore and summarize the main findings of the selected articles. This involves careful reading of each article, identifying relevant patterns, trends, and implications, and taking detailed notes on important information discovered. This analysis was carried out systematically and structured to ensure completeness and consistency in understanding of the research topic. During the process of literature analysis, several important aspects were explored including the concrete application of Artificial General Intelligence in the context of English language learning (Edwards dkk., 2022). This includes the use of Artificial General Intelligence in the development of customized e-learning platforms, the use of natural language processing

algorithms to improve language comprehension and production, and the application of artificial intelligence technologies in providing personalized feedback to learners.

Furthermore, case studies and implementation of Artificial General Intelligence in English language learning are also analyzed in depth to provide practical insights into the effectiveness and challenges associated with implementing this technology (Williams, 2020). The case studies considered include current research projects, software development, and industrial applications relevant to the research focus. Finally, the results of the literature analysis are consolidated to form a more comprehensive understanding of the role of Artificial General Intelligence in English language learning. The main findings, trends, as well as practical and theoretical implications of the application of Artificial General Intelligence in the language learning context are then summarized in this research report. Through this comprehensive literature survey methodological approach, it is hoped that this study can make a significant contribution to the understanding of the potential benefits of Artificial General Intelligence in English language learning, as well as the challenges that need to be overcome in its application.

RESULT AND DISCUSSION

The development of Artificial General Intelligence has had a significant impact on English language learning, changing the way the language is taught and studied. With the ability to understand, process, and respond to language information with a level of complexity that approaches human capabilities, Artificial General Intelligence opens the door to more personalized, adaptive, and effective learning. One of the most important developments in the use of Artificial General Intelligence in English language learning is its ability to provide an individually tailored learning experience (Sarraf dkk., 2021). Artificial General Intelligence can collect and analyze data about each learner's abilities, preferences, and needs, then use that information to create a personalized curriculum. For example, Artificial General Intelligence can adjust the level of difficulty, type of learning material, and teaching methods used based on each student's individual abilities and interests. This allows each student to learn in the most effective way for them, increasing motivation and overall learning outcomes.

Artificial General Intelligence also enables more adaptive and responsive learning. With its ability to provide instant personalized feedback, Artificial General Intelligence can help students to identify errors, strengthen understanding, and improve their language skills progressively. For example, Artificial General Intelligence can provide exercises and assignments specifically designed to target specific areas a student needs improvement, ensuring that learning occurs efficiently and effectively. The development of Artificial General Intelligence has also changed the way of accessing English language learning. By utilizing online platforms and connected technology, students can now access learning materials from anywhere and at any time, without being limited by time constraints or geographic location. This not only

increases the accessibility of learning for students around the world, but also opens the door to independent learning and lifelong learning.

Apart from providing benefits for students, the development of Artificial General Intelligence also provides new opportunities for educators. Artificial General Intelligence can help teachers plan and deliver more effective learning, freeing up time and energy to focus on interpersonal interactions and individual guidance. For example, Artificial General Intelligence can help teachers analyze learning data to identify trends, predict student needs, and develop more effective teaching strategies. However, the development of Artificial General Intelligence in English language learning also raises a number of challenges and considerations that need to be taken into account. One of the biggest challenges is the issue of data privacy and security. By leveraging students' personal data to create personalized curricula, Artificial General Intelligence requires extensive access to personal information, which can raise concerns about data privacy and security (Carlson, 2019). Therefore, it is important for developers and users of Artificial General Intelligence to ensure that students' personal data is properly protected and used ethically. Apart from that, the use of Artificial General Intelligence in English language learning also raises questions about equality of access. Although Artificial General Intelligence can improve the accessibility of learning for students around the world, there is still a risk that this technology will reinforce inequalities of access for those who do not have access to the necessary technology or resources. Therefore, it is important for Artificial General Intelligence developers to ensure that this technology is accessible to all students, regardless of their background or condition.

Table 1: Advantages of Using Artificial General Intelligence in English Language Learning.

NO	Benefits of Using Artificial General Intelligence
1	Personalized Learning
2	Personalized Feedback
3	Learning Efficiency
4	Improved Accessibility
5	Communication Skills Development
6	Increased Motivation

The use of Artificial General Intelligence in learning English brings a number of advantages, namely 1. Customized learning. One of the main advantages of using Artificial General Intelligence in English language learning is its ability to provide an individually tailored learning experience. By leveraging data about learner preferences, strengths, and weaknesses, AGI can personalize curriculum, learning materials, and teaching strategies. This allows each learner to follow a learning path that suits their level of ability and needs, increasing the overall effectiveness and efficiency of learning. 2. Personalized feedback. Artificial General Intelligence is also capable of providing personalized feedback to learners, helping them to correct mistakes, strengthen

understanding, and speed up the learning process (Blum & Blum, 2023). By leveraging natural language processing algorithms and advanced data analysis, Artificial General Intelligence can identify weaknesses and areas for improvement in learners' language skills, and provide specific and relevant feedback to help them improve better.

Next, namely 3. Learning efficiency. The use of Artificial General Intelligence in English learning can also increase overall learning efficiency. By providing more efficient and focused solutions, Artificial General Intelligence can help learners achieve their learning goals in less time. For example, Artificial General Intelligence can speed up the process of understanding and producing language through exercises specifically designed to improve certain skills. 4. Improved accessibility. The use of Artificial General Intelligence in English language learning also has the potential to increase learning accessibility for individuals from various backgrounds and geographical locations. By leveraging online platforms and easily accessible technology, Artificial General Intelligence can overcome geographic and economic barriers that may hinder access to traditional language learning (Mikki, 2023). This allows individuals to access learning materials from anywhere and at any time, increasing inclusivity and equality in education.

Next, number 5. Development of communication skills. Artificial General Intelligence can provide a learning environment that supports the development of holistic communication skills in English (Keller dkk., 2020). Through conversation simulations, comprehension exercises, written assignments, and other interactive activities, Artificial General Intelligence can help learners to develop comprehensive speaking, listening, reading, and writing skills in English. This is important in helping learners to become more effective and confident communicators in a variety of communication situations. 6. Increased motivation. The use of innovative and interactive technology such as Artificial General Intelligence can also increase learner motivation and involvement in the English learning process (Cloudia Ho, 2020). By providing engaging, challenging, and relevant learning experiences, Artificial General Intelligence can help learners stay motivated and engaged in their learning. This can have a positive impact on their long-term learning success.

Thus, the use of Artificial General Intelligence in English language learning has the potential to provide a number of significant benefits for learners, increasing effectiveness, efficiency, accessibility and engagement in learning, as well as supporting the development of holistic communication skills. However, it is important to remember that the implementation of Artificial General Intelligence in education also requires a careful approach, transparency, and ethical considerations so that the potential of this technology can be fully utilized for the good of learners.

CONCLUSION

Based on the results and discussion above, it can be concluded that applying Artificial General Intelligence in the world of education, especially in learning English, has a positive impact on students. Artificial General Intelligence is a type of artificial

intelligence that has the ability to understand, learn, and complete various tasks with capabilities that are equal to or even exceed human intelligence. Artificial General Intelligence will make it easier for students to learn and can improve students' abilities. Not only that, there are also many benefits obtained from the application of Artificial General Intelligence. These benefits can be in the form of personalized learning, feedback, creating learning efficiency, increasing accessibility, developing communication skills, and increasing student motivation. Thus, the application of Artificial General Intelligence in English language learning promises a number of advantages. However, it is important for teachers to pay attention and review how to use technology correctly with the aim of maintaining and ensuring data security and user privacy.

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