

Transforming Arabic Language Learning with AI Integration: Empowering Self-Efficacy in Language Mastery

Nor Ain binti Manap¹, Noorafini binti Kassim², Esther Jawing³

¹²³Centre for the Promotion of Knowledge and Language Learning, University Malaysia Sabah, Kota Kinabalu, Sabah, Malaysia

DOI: <https://doi.org/10.47772/IJRISS.2026.101800015>

Received: 08 May 2026; Accepted: 14 May 2026; Published: 30 July 2026

ABSTRACT

The world is experiencing a rapid surge in the use of Artificial Intelligence (AI) across various fields, including education. Foreign language learning, such as the Arabic language, is no exception and has felt the impact. This study explores several self-efficacy strategies and AI integration to help students in learning Arabic. Previous studies have indicated that learning a language is generally perceived as boring and very difficult at every stage. This study aims to measure the extent of AI usage among students in Arabic language teaching and learning, to identify self-efficacy usage in AI-integrated Arabic learning. It also examines the relationship between self-efficacy and AI-integrated Arabic learning among the Arabic language course students at the CPKLL, UMS, Kota Kinabalu, Sabah. This study employs a quantitative method with simple random sampling by distributing questionnaires via Google Form to 96 students. The findings reveal that self-efficacy and Artificial Intelligence (AI) are at a moderate level (mean 3.94, SD=0.65). There is also a significant moderate correlation between self-efficacy combined with Artificial Intelligence (AI) and Arabic language learning ($r=0.67$, $p < .001$). The study identifies several types of Artificial Intelligence (AI) used by students to learn Arabic, such as ChatGPT, Google Translate, Copilot, Gemini and Deep Seek. It is hoped that future research can expand to other foreign languages that offered in CPKLL, UMS. This study is vital as it can expand existing theories and the conceptual framework through AI application in Arabic language and its aligns closely with one of the conference themes, Current Practice in Teaching and Learning.

Keywords: Arabic, Self-efficacy, Language, AI

INTRODUCTION

Arabic is not a foreign language in Malaysia as it has been incorporated into the syllabus starting from kindergarten, primary, secondary schools, to higher education institutions. Arabic learning was strengthened with the establishment of J-QAF by the late Tun Abdullah Hj. Ahmad Badawi in 2004, emphasising mastery of Jawi, Quran, Arabic language and Fardhu Ain (KPM, 2007).

Despite Arabic learning being introduced long ago, several weaknesses still exist today. It is considered one of the challenging languages to learn due to various factors to this day. Among them, Arabic so rich in vocabulary and influences many world languages. Its grammar changes according to gender and number (Nor Ain Manap et al., 2024). Students learning Arabic from school to higher education often struggle with grammar, especially *nahu* and *sarf* (Yeniati Ulfah and Anyes Lathifatul Insaniyah, 2023), vocabulary weaknesses (Mohd Zaid Ismail et al., 2024), text comprehension (Khadijah Kamaruddin et al., 2025) and speaking skills (Nurul Amalia Ruslan et al., 2022).

Currently, Arabic language learning development and student achievement remain low, unsatisfactory, and have not met implementation objectives. Multiple internal and external factors may contribute, including

cultural, social diversity and environment. Differences in school types such as *Sekolah Menengah Kebangsaan* (Government High School), *Sekolah Menengah Kebangsaan Agama* (National Islamic Secondary School) and *Sekolah Menengah Agama Negeri* (State Religious Secondary School) also play a role (Mohammad Haafiz Ahmid et al., 2018). Another factor impacting student grammar mastery in uncreative, non-innovative teaching methods that fail to stimulate motivation in learning grammar and the perception that Arabic is difficult (Nor Ain Manap et al., 2024).

At the Centre for the Promotion of Knowledge and Language Learning (CPKLL), University Malaysia Sabah (UMS), Arabic courses were started to be offered in 1999, using specially crafted modules to suit Arabic learning from Basic Level 1 up to Level 3. This course, including grammar, conversation, and exercises, enables students to master four main skills, reading, writing, listening and speaking (Undergraduate Prospectus 1999/2000). The language course is an open offering to diverse faculties, backgrounds, geography, ethnicity and religion.

Teaching and learning strategies for Arabic courses at Centre of Promotion on Knowledge And Language Learning (CPKLL), UMS have evolved, especially during and after the COVID-19 pandemic. Conventional method with face-to-face shifting to online (e-learning). Arabic teaching expanded from teacher-centred to language games (*lu'bah al-Arabiyyah*), singing (*ghina*), mixed with activities encouraging speaking, such as role-playing (*tamthil*) and interviews (*muqabalah*). The learning world then expanded to video creation (*fidiyu*) 100 per cent in the Arabic language, and then they will post it to their media social like WhatsApp, Telegram, Instagram, Facebook and use of website such as YouTube. Recently, learning methods have transformed by integrating Artificial Intelligence (AI) in teaching and learning towards revolutionary education 5.0.

Self-efficacy strategies or self-control are alternative methods to improve students' academic achievement (Iswandi Harahap et al., 2022). It also gives an influence on personality, confidence and belief to face challenges (Nurulakhma Yahya et al., 2023). Bandura (1982) stated that self-efficacy discusses motivation and self-confidence, especially when facing competition to improve achievement and manage emotions. This strategy involves students' ability to self-motivate, cognitive and metacognitive capabilities, goal focus and attitude. Pintrich (2004) explains that it includes students' confidence, discipline, time management, cognitive and metacognitive thinking in handling tasks and assessment. Zimmerman and Schunk (1989) agreed that self-efficacy learning depends on students' willingness and ability to reflect on learning strategies through past achievement. This enables refocusing to manipulate the learning environment by actively monitoring, controlling and organising their learning methods.

Artificial Intelligence (AI) today is no longer strange in everyday life. It grows rapidly like a mushroom after rain and significantly influences society. AI facilitates various tasks, enhances efficiency and skills, also provides new opportunities across fields (Sinar Bestari, 2024). The majority know and use AI in their lives. It has transformed the education landscape and become the favoured method (Jusak Patty, 2024). However, AI should be optimally used in various fields, including education, especially foreign language learning like Arabic (Evy Nur Rohmawaty et al., 2024). Now, Google has introduced Little Language Lesson, combining Google Gemini AI and existing Google tools for language learning, divided into phrases, dialect, text translation and labelling (Amanz, 2025).

Previous studies have rarely connected self-efficacy and AI simultaneously in Arabic language learning. For example, Muhamad Fairuz Ali and Mohd Jaffri Abdul Rani (2024) studied AI use as a medium for transforming Arabic teaching and learning by analysing articles in credible databases. Their finding showed, AI is very helpful in forming sentences, translating, adding *harakat*, and making interactive and interesting teaching methods. Muhamad Fahmi and Syifaul Adhimah (2024) examined the challenges and opportunities of AI in Arabic learning. AI's potential includes transforming teaching methods, creating personalised materials for different students, providing instant feedback, implementing more effective strategies, and attracting students. The main challenges are the lack of data banks and the need to improve algorithms for more accurate results. Although AI offers opportunities, content adaptation and a deep understanding remain crucial to maximise its educational benefits.

Suhaimi Taat and Azlin Ariffin (2020) researched self-efficacy's influence on Arabic language mastery of primary school students. Conducted with 200 students in Northwest Sabah using questionnaires and SPSS analysis, the study found a very significant relationship between self-efficacy and Arabic mastery. Similarly with Nurulakma Yahya et al., (2018) studied Arabic teachers' self-efficacy. Surveying 48 teachers from 11 religious primary schools under Selangor Islamic Department (JAIS), the result showed high teacher efficacy in teaching, classroom management and student engagement.

Thus, this study focuses on the three main objectives: to measure the extent of AI usage among students in Arabic language teaching and learning, to identify self-efficacy usage in AI-integrated Arabic learning, and to examine the relationship between self-efficacy and AI-integrated Arabic learning among Arabic language course students at Centre of Promotion on Knowledge and Language Learning (CPKLL), UMS.

Arabic Language Learning

Past studies on Arabic learning indicate that in this global age, mastering Arabic among Islamic studies students is very important. However, many students struggle with speaking, understanding texts, translating Arabic and applying it in daily life. Basic challenges include weak vocabulary, conventional teaching methods, and a lack of speaking practice. This study suggests focusing on innovative, interactive teaching strategies and encouraging practical communication (Khadijah Kamaruddin et al., 2025). Writing skills especially in Arabic, are crucial. Writing not only enhances skills but also improves students' achievement through a continuous, long-term process. Anuar Sopian (2024) researched students' weaknesses in writing skills and solutions. Findings showed main weaknesses during dictation, spelling and grammar. He recommends exposing students to various strategies, checking spelling mistakes and increasing writing practice.

Arabic teaching still faces challenges at every stage. Nazratul Aini Ramli (2021) found difficulty among beginners in distinguishing Arabic letter sounds due to primary language influence, dialect clashes and psychological factors. Letter recognition skills are vital for listening and speaking skills that boost motivation to communicate better.

Self-Efficacy

Previous studies link self-efficacy to students, such as Abd Halim Tahir et al., (2024), who studied academic motivation in upper secondary students in Kota Kinabalu. Findings showed moderate-high self-efficacy but low motivation. Internal factors mainly drive students to continue their education and impact their learning styles and achievement. This study recommends intervention programs to enhance self-efficacy and motivation. Self-efficacy determines chosen activities, effort and persistence. Higher self-efficacy leads to challenging activities and resilience. Studies found that students with high self-efficacy in academics, social and emotional areas tend to succeed, while those with low motivation to plan life face failure (Syarinah Mad Sehat, 2022).

Students with high self-efficacy have better learning quality, control over academic achievement and effective learning methods compared to those with low self-efficacy. Good results stimulate academic achievement through diligence and interest (Zulyna Adila Zainuddin and Faridah Mydin Kutty, 2021).

Artificial Intelligence (AI)

Artificial Intelligence development is rapidly changing human work and lifestyle, creating new opportunities and challenges in business, health, industry, education and more (Aayush, 2024; Ali, 2023). In education, ChatGPT is highly recognised and beneficial (Mat Rejab, 2023). (Muhammad Zaid Daud et al., 2024) studied perceptions of university students and the impact of AI in facilitating Malay language assignments. The study found AI very helpful but suggests monitoring and guidelines to avoid misuse. Rapid transformation in education over the past decade is powered by technological advances, including AI. Generative AI (GAI) offers huge potential in education. Grassini (2023) studied AI's potential and impact in education, forecasting its paradigm shift and suggesting effective uses and problem resolution.

Ahmad Shukur Arifen (2024) examined the use and impact of AI-based e-modules in science subjects, following declining science student enrolment. The study found that digital technology helps improve student performance in teaching and learning. AI integration fosters diverse learning methods, continuous guidance, interactive content and better understanding to produce high IQ and critical thinking generations in facing the digital economy revolution.

CONCEPTUAL FRAMEWORK

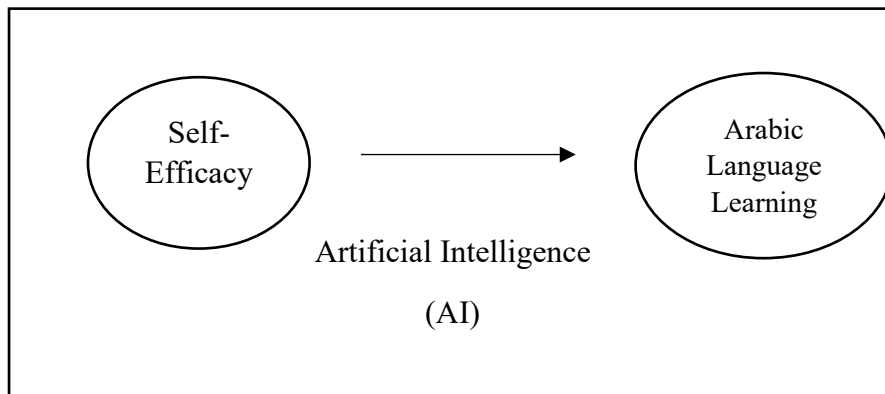


Fig. 1. Conceptual Framework

This conceptual framework is developed to provide a comprehensive overview of this study. Several theories from the main foundation, such as Zimmerman's theory (2000) and Pintrich's theory (1991), as well as contemporary learning theories that have been applied, including Connectivism, Cybergogy, Heutagogy and Peergogy. These theories are interconnected to explore self-efficacy and AI in the transformation of Arabic language learning today and a summarised as follows:

Conceptual Framework for Arabic Learning



Fig. 2. Conceptual Framework for Arabic learning.

METHODOLOGY

Research Design

This study uses a quantitative design with simple random sampling and employs a closed-ended questionnaire instrument adapted from previous researchers and modified according to current needs to obtain the required data.

Sample and Data Source

The sample consists of students enrolled in the basic level Arabic language course at the Centre Of Promotion On Knowledge and Language Learning (CPKLL), UMS only, with no consideration of other institutions. This is appropriate due to the diverse background of the students, many of whom have little or no foundation in Arabic. A simple random sampling technique was used because all subjects had an equal chance to participate (Rahman et al., 2023).

The source and collection of data were taken directly from the questionnaires distributed to the respondents. Meanwhile, students taking the Arabic course at Centre Of Promotion On Knowledge and Language Learning (CPKLL), UMS come from different faculties and locations with varied backgrounds and environments. This questionnaire was distributed to 96 students using a 5-point Likert interval scale through Google Form online.

Data Collections

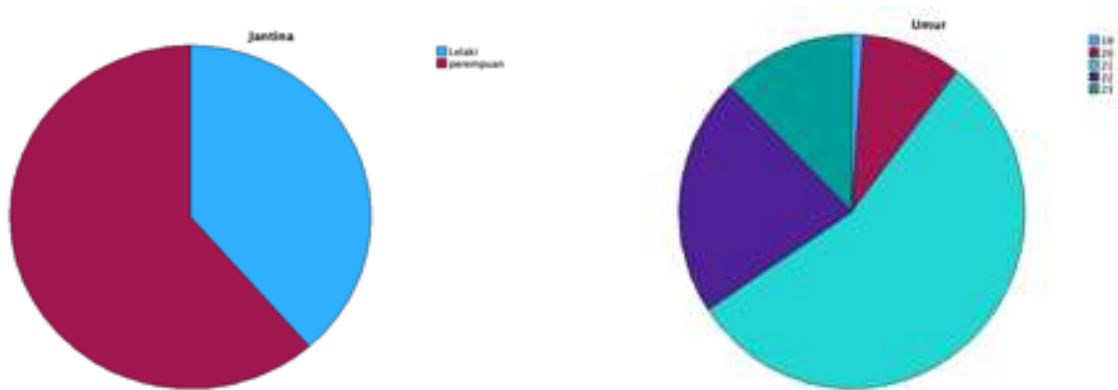


Fig. 3. Sampel demographics

Data collection began with the sample demographics consisting of 37 males, accounting for 38.5% shown in blue on the pie chart, and 59 females, making up 61.5% shown in red, indicating that females are the majority. The sample ages range between 19 and 23 years, with the largest group being 21 years old at approximately 55.2%, shown in the light green, followed by 22 years old at 21.9%, shown in purple. This means the majority are students in their 2nd year, semester 1 to 2.

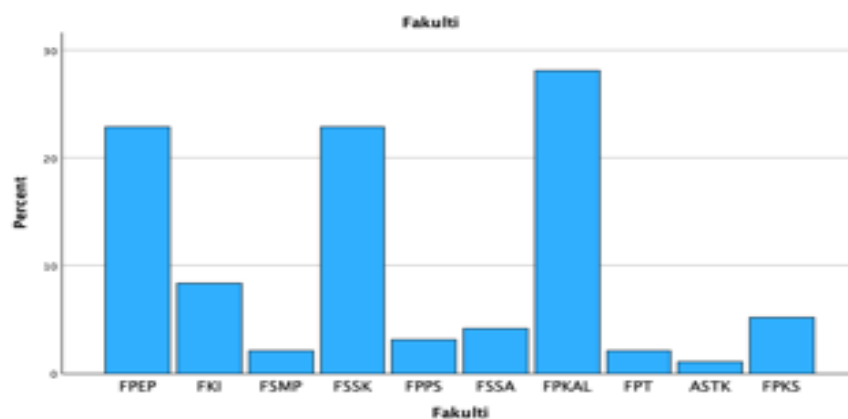


Fig. 4. Faculty

The figure above shows that the study sample consists of students from different faculties because the Arabic language course offered at Centre Of Promotion On Knowledge and Language Learning (CPKLL), UMS, is open to all UMS students and is an elective subject. UMS has a total of 10 faculties. The largest sample comes from respondents of the faculty of *Fakulti Kewangan Antarabangsa Labuan* (FKAL) with 28.1%, followed by respondents from the *Fakulti Sains Sosial and Kemanusiaan* (FSSK) with 22.9%, and respondents from

the *Fakulti Perniagaan Ekonomi and Perakaunan* (FPEP) with 22.9%. The remainder are from various other faculties.

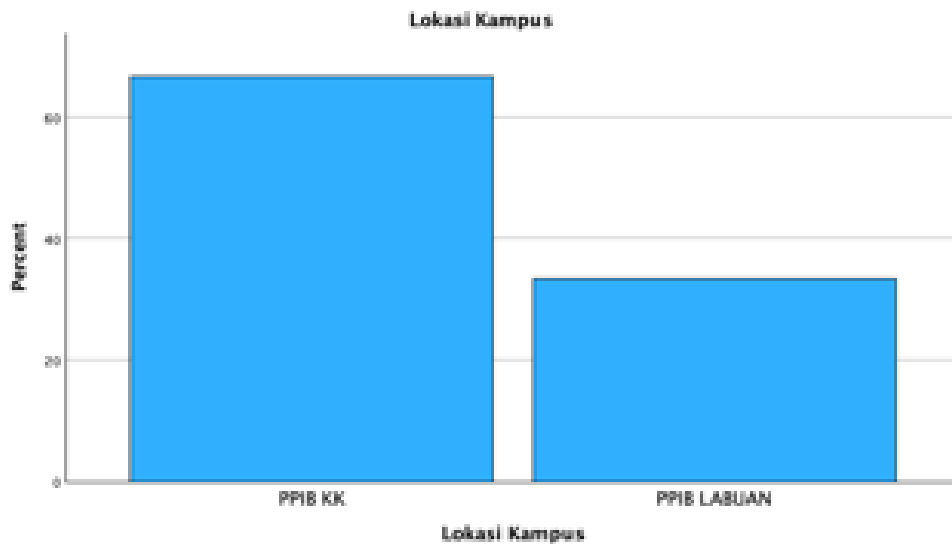


Fig. 5. Location Campus

The sample locations were taken from two main campuses of CPKLL. One is from CPKLL Main Campus at Kota Kinabalu, and the second one is from CPKLL Campus Wilayah Persekutuan Labuan only. Although CPKLL has three main branches, including the CPKLL Sandakan Campus, only two campuses were involved because Sandakan has fewer Arabic course students compared to these two main campuses. The largest sample is from CPKL Main Campus Kota Kinabalu with 66.7%, followed by CPKLL Labuan Campus with 33.3%.

Data Analysis

Data analysis was conducted using the software Statistic Package for Social Science (SPSS) 29 and 30 then presented descriptively. Using this software, data can be organised and interpreted using appropriate techniques to test the study hypothesis. The descriptive presentation illustrates the sample characteristics, including demographics such as gender, age, faculty and campus location.

RESULT

Artificial Intelligence is Most Used by Students Arabic Course

In this result and discussion section, it will discuss the finding to the research and address all the three research objectives.

The figure below shows the Artificial Intelligence (AI) most frequently used by respondents enrolled in the Arabic Language Course at CPKLL, UMS. More than 26 applications were listed, and respondents indicated the following applications are the most frequently or predominantly used by them.

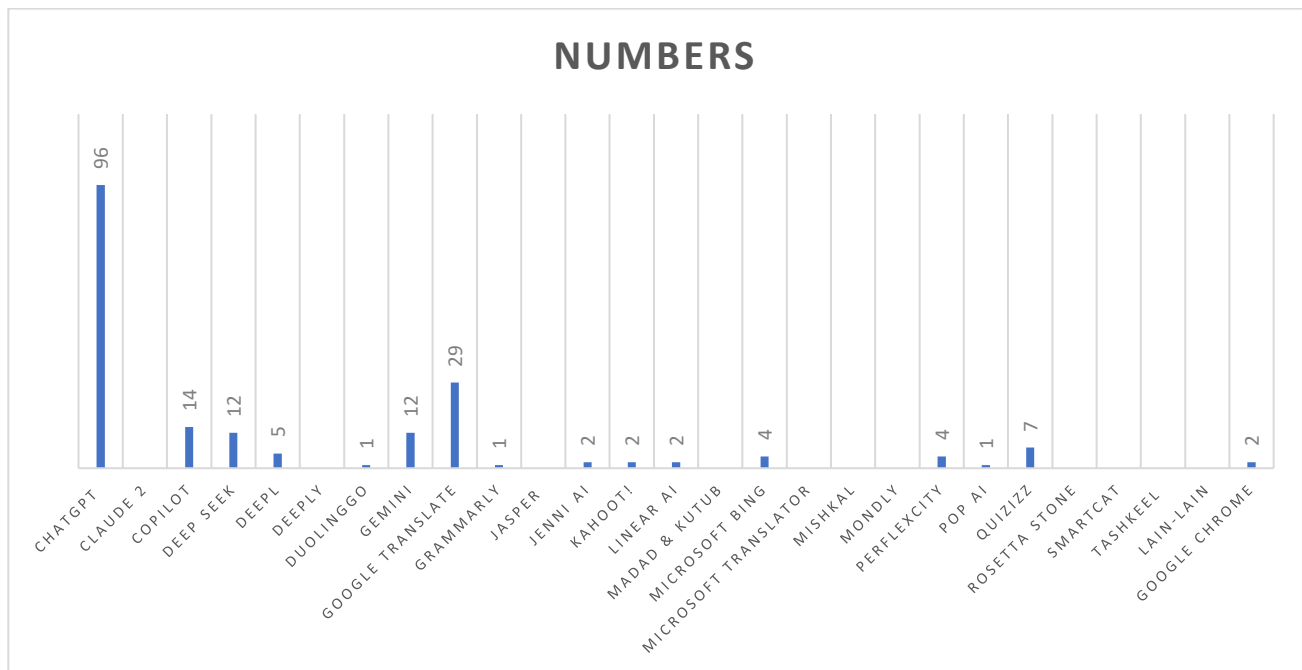


Fig. 6. Most used AI for Arabic Language Learning.

The study found 5 types of AI most used by students, with ChatGPT leading at 96 uses and used by all the students. All of them. Followed by Google Translate with 29 users, then Copilot with 14 users, while Deep Seek and Gemini jointly hold the fourth most used position with 12 users each. The fifth place goes to Quizizz with 7 users.

Other AI applications such as Deep L, Duolingo, Grammarly, Jenni AI, Kahoot!!, Linear AI, Microsoft Bing, Perplexity, Pop AI and Google Chrome were used by only 7 to 1 users each. Others like Claude 2, Deeply, Jasper, Madad and Kutub, Mondly, Rosetta Stone, Smartcat and Tashkeel were never used by the students.

Next, Table 1 below shows a 5-point Likert scale questionnaire for self-efficacy together with AI according to the construct in Arabic language teaching and learning.

Table 1. Likert interval 5 questionnaires for self-efficacy together with AI, according to the construct in Arabic language learning.

Self-Efficacy in AI Integrated with Constructs	Strongly Disagree	Disagree	Not sure	Agree	Strongly Agree
Cognitive	1.0%		22.9%	33.3%	42.7%
Emotional		2.1%	27.1%	35.4%	35.4%
Behavioral			10.4%	27.1%	62.5%
Contextual	8.3%	7.3%	30.2%	20.8%	33.3%

Table 1 above shows the use of self-efficacy in AI-integrated Arabic language learning according to constructs in the 5-point Likert interval scale questionnaires. Overall, the majority of respondents answered strongly agree for all four constructs representing cognitive at 42.7%, emotional at 35.4%, behavioural at 62.5% and contextual at 33.3%. This means the majority agree that all four question constructs in the self-efficacy section greatly assist AI-integrated Arabic language learning.

Table 2. Mean and standard deviation of self-efficacy integrated with AI.

Self-Efficacy in AI Integrated with Constructs	Mean	Standard Deviation	Level
Cognitive	4.17	.854	High
Emotional	4.04	.845	High
Behavioral	4.52	.680	High
Contextual	3.64	1.249	Moderately High
Overall	3.94	.65144	High

Table 2 analyses the mean and standard deviations of self-efficacy levels in AI-integrated Arabic learning at CPKLL, UMS. The behavioural element has the highest mean level with $M=4.52$ and $SD=0.68$. The second highest is the cognitive element with a mean and standard deviation of $M=4.17$ and $SD=0.854$. The next element is emotional, with a high mean and standard deviation of $M=4.04$, $SD=0.845$. The last element is the contextual with mean and standard deviation of $M=3.64$ and $SD=1.24$, which is at a moderately high level. For all four constructs, the overall mean and standard deviation are moderate to high, with an overall mean of $M=3.94$ and a moderate standard deviation of $SD=0.65$.

Table 3. Interpretations of mean values for study data.

Mean	Level
1.00 to 2.00	Low
2.01 to 3.00	Moderately Low
3.01 to 4.00	Moderately High
4.01 to 5.00	High

Note: Source from Rosmawati (2020)

Table 3 shows the mean value readings in the study data. Values from 1.00 to 2.00 are considered low, 2.01 to 3.00 are moderately low, 3.01 to 4.00 are moderately high, and 4.01 to 5.00 are high.

Table 4. Interpretation of value standard deviation.

Value of Standard Deviation	Consensus Among Respondent
0.00 to 0.25	Very low
0.26 to 0.50	Low
0.51 to 0.75	Moderate
0.76 to 1.00	high
> 1.01	Very High

Note: Source from Ramlee (1999)

The next table shows the interpretation of standard deviation values used in the study. Values from 0.00 to 0.25 are considered very low, 0.26 to 0.50 are low, 0.51 to 0.75 are moderate, 0.76 to 1.00 are high, and >1.01 are high level. Very low values indicate a very high consensus among respondents, while high standard deviation values indicate less consensus (Jaya Mathy et al, 2021).

Relationship between self-Efficacy and AI integrated Arabic Language Learning

In the figure below, the term “PB” refers to self-efficacy learning integrated with AI, while “KM” refers to Arabic language communication or learning. After analysis, the study found a relationship between self-efficacy and AI-integrated Arabic language learning at CPKLL, UMS.

Fig. 7. Relationship between self-efficacy and AI-integrated Arabic Language Learning

Correlations			
		PB	Km
PB	Pearson Correlation	1	.679**
	Sig. (2-tailed)		<.001
	N	96	96

**Correlation is significant at the <0.01 level (2-tailed)

Based on Pearson correlation analysis, Figure 7 shows that dimensions of self-efficacy and AI-integrated Arabic learning have a significant moderate relationship with a correlation coefficient value of $r=0.67$ ($p < .001$).

Table 5. Interpretation correlation coefficient.

Correlation Coefficient (r)	Strength Relationship
0.00	No correlation
Less 0.19	Very low
0.20 hingga 0.39	Low
0.40 hingga 0.69	Moderate
0.70 hingga 0.89	High
0.90 hingga 1.00	Very high

Note: Sources from Cohen & Holiday (1982)

From the above table, the interpretation of the correlation coefficient (r) is 0.00 with no correlation, less than 0.19 very low, 0.20 to 0.39 low, 0.40 to 0.69 moderate, 0.70 to 0.89 high and 0.90 to 1.00 very high. The study found the self-efficacy and AI relationship at $r=0.67$.

DISCUSSION

An analysis was done to examine the interplay between self-efficacy and AI in Arabic language learning guided by established self-efficacy constructs. The findings revealed that out of 26 AI-integrated applications, respondents primarily used five main applications: ChatGPT, Google Translate, Copilot, DeepSeek and Gemini. AI use among today’s generation Z has become a necessity to be more creative, as it boosts efficiency, simplifies tasks and produces better results (Ummu Hani, 2025).

AI further supports self-directed learning, problem-solving, creative thinking and helps improve communication skills (Anim Zalina Azizan and Muhaini Othman, 2025). As a modern tool, it has become the latest teaching and learning tool that can assist students in understanding lessons to their individual needs (Bernama, 2024). This aligns with the fact that the current generations have different learning methods than before. Learners today prefer to use online platforms, multitasking effectively with information streams, process content through visuals and videos, and exhibit active, cooperative, as well as being information seekers and critical thinkers (Febriana Ramadhanya, 2024). Therefore, educators need to create a suitable environment for learners to follow current methods to keep them competitive, relevant, innovative and creative (Mohamed Amin Embi, 2016).

In the table of the 5-point Likert scale questionnaire assessing the use of the four self-efficacy constructs is considered. The majority of respondents agreed that it had a very high effect on the behaviour by 62.5%. An example of an activity in the behavioural element is a student creating Arabic scripts with the help of an AI tool and then practising speaking in front of a mirror. Besides, they conversed to peers in Arabic.

The cognitive construct in language learning, especially vocabulary, showed a significant relationship and a positive impact on students, with 42.7%, which is also very important because of its strong influence in education, aligned with Aqila Najiha Md Afandi's study in 2023. Examples of activities students carry out include reading and speaking activities with AI support, and attempting to translate words encountered with the help of AI

The emotion-related construct followed with 32.4%, and a sample of an emotion-related question asked if students felt prepared and happy about practising Arabic. Related activities carried out, including understanding strategies to practice speaking, building courage to speak and preparing themselves to face various difficulties in Arabic learning. Collectively, this also indicates that these items provide a good understanding to respondents regarding self-efficacy and AI in Arabic language learning.

A Pearson correlation analysis confirmed a strong relationship between self-efficacy and AI-integrated Arabic language learning ($r=0.67$, $p < .001$). This is supported by the study of Suhaimi Taat and Azlin Ariffin (2020), which found self-efficacy related to Arabic language learning. Similarly, Muhamad Fairuz Ali and Mohd Jaffri Abdul Rani (2024) stated that AI can assist in Arabic teaching and learning in sentence formation, translation, vowel marking, interactive learning and self-efficacy enhancement. The results also show that students who apply self-efficacy with AI can learn Arabic more effectively and improve their skills, even at the basic level. This is illustrated in more detail in Figure 7.

This is also supported by the study by Muhammad Helmi Petri (2024), which found a relationship between self-efficacy and student achievement, particularly in second-language acquisition. Maryam Norazan (2023) also stated that there is a relationship between self-efficacy and Malay language instruction because if teachers have high self-efficacy, teaching and learning will be more effective.

The self-efficacy strategies applied are closely related to students' behavioural, emotional, cognitive and contextual aspects. They are finally integrated seamlessly with AI, which allows students to learn without time and boundary limits. This approach increases learners' opportunities to learn better and more effectively, and is aligned with the current Education Revolution 5.0 (George, 2025).

CONCLUSION

Teaching and learning methods and strategies, especially for foreign languages, notably Arabic, should be dynamic and adaptable because they involve various factors such as language itself, psychomotor and cognitive aspects. They must also encompass four components: planning, management, implementation and evaluation (Richards & Rodgers, 2016). We can implement this Arabic language learning method with AI-assisted communication strategies for all students where taking Arabic courses, especially at PPIB, UMS, as well as in all secondary schools who taking Arabic course too, universities, and private higher educational institutions, to improve students' speaking skills.

We also can change students' perceptions that learning Arabic is not as complicated as they previously thought. Learning is a dynamic process that evolves. In the past, we could not avoid traditional or *talaqqi* methods using various applications powered by Artificial Intelligence (AI), which can be accessed anytime and anywhere according to students' convenience, without having to wait for a specific place and time and can fill their spare time. For future recommendations, more research on the transformation of Arabic teaching and learning methods as a third language at the school and institutional levels should be conducted. It also needs to be expanded to other foreign language learning, especially at CPKLL, UMS and other institutions in Sabah and Malaysia to face the Education Revolution 5.0.

ACKNOWLEDGEMENTS

A millions thanks to all parties involved, especially both my supervisors, all Arabic language course instructors, the students taking the Arabic language course and my colleagues at PPIB and UMS.

REFERENCES

1. Aayush, T. (2024, February 16). Perplexity AI: Review, Advantages & Guide (2024). *Elegant Themes Blog*. <https://Www.Elegantthemes.Com/Blog/Business/Perplexity-Ai/#%3A~%3Atext%3dperplexity%20AI%20is%20an%20excellent%20tool%20because%20it%20has%20advanced>
2. Abd Halim Tahir, Getrude C. Ah Gang @ Grace & Patricia Joseph Kimong. (2024) Efikasi Kendiri dan Motivasi Akademik Dalam Kalangan Pelajar Tingkatan Enam di Sabah. *Jurnal Psikologi dan Kesihatan Sosial*, 8, 125-130.
3. Ahmad Arifen, S., Suriani, A. B., Wong, K. T., Aliya, N., Adli, M., Azzam, A. B., Mamat, M. H., & Ahmad, M. K. (2024). Comprehensive Literature Review: Use Of E-Modules Based On Artificial Intelligence In Science Subjects And Its Implications On Teaching And Learning. *Jurnal Pendidikan Bitara UPSI*, 17(2), 77–90. <https://Doi.Org/10.37134/Bitara.Vol17.2.7.2024>.
4. Amanz. (2025, Januari 5). Google Guna AI Generatif Untuk Mudahkan Pembelajaran Bahasa Asing. *Astro Awani*, <https://Www.Astroawani.Com/Berita-Malaysia/Google-Guna-Ai-Generatif-Untuk-Mudahan-Pembelajaran-Bahasa-Asing-518917>
5. Anim Zalina Azizan, Muhaini Othman. (2025, April 15). *Kecerdasan buatan dan pengaruhnya terhadap Generasi Z*. UTHM News Portal. <https://news.uthm.edu.my/ms/2025/04/kecerdasan-buatan-dan-pengaruhnya-terhadap-generasi-z/>
6. Albert Bandura. (1982). *Self-Efficacy Mechanism in Human Agency*. Stanford University. <https://dradamvolungis.com/wp-content/uploads/2012/01/s2-bandura-1982-self-efficacy-mechanism-in-human-agency.pdf>.
7. Anuar bin Sopian. (2024). Kemahiran Menulis Bahasa Arab: Analisa Kelemahan Pelajar Uitm Melaka. *International Journal Of Humanities, Philosophy And Languages*, 2(7). <https://gaexcellence.com/ijhpl/article/view/417>
8. Aqila Najiha Mohd Afandi, A. Zaini, Nor Azhan Norul 'Azmi. (2023). Strategi Kognitif Dalam Pembelajaran Kosa Kata Bahasa Arab Sebagai Bahasa Kedua: Relevansi dan Impak. *e-Jurnal Bahasa dan Linguistik*. <https://doi.org/10.53840/ejbl.v5i1.130>.
9. Cohen, L. and Holliday, M. (1982) *Statistics for Social Sciences*. Harper & Row, London.
10. Febriana Ramadhanya. (2024, Mei 10). *Kebenaran Terdedah: Memahami Gaya Pembelajaran Gen Z untuk Pengajaran yang Lebih Baik*. <https://www.classpoint.io/blog/ms/kebenaran-terdedah-memahami-gaya-pembelajaran-gen-z-untuk-pengajaran-yang-lebih-baik>
11. Evy Nur Rohmawaty, Danial Hilmi, M Sholih Salimul Uqba, & Ummu Sulaimah Saleh. (2024). Peran Artificial Intelligence (AI) dalam Pembelajaran Bahasa Arab Mahasiswa Pascasarjana UIN Maulana Malik Ibrahim Malang. *Jurnal Pendidikan Dan Sosial Humaniora*, 4(3), 316–328. <https://doi.org/10.55606/khatulistiwa.v4i3.4023>
12. Fahmi, M., & Syifaul Adhimah. (2024). Peran Artificial Intelligence dalam Pembelajaran Bahasa Arab: Peluang Dan Tantangan. *Journal Of Practice Learning And Educational Development*, 4(4), 330–336. <https://Doi.Org/10.58737/Jpled.V4i4.320>

13. George, A. S., Baskar, T., & Siranchuk, N. (2025). The evolution of Education 5.0 in the innovation era: A review of the progression from teacher-centered learning to student-driven models. Zenodo. <https://doi.org/10.5281/zenodo.14944042>
14. Grassini, S. (2023). Shaping The Future Of Education: Exploring The Potential And Consequences Of AI And Chatgpt In Educational Settings. *Education Sciences*, 13(7), 692-704. <https://doi.org/10.3390/Educsci13070692>
15. Iswandi Harahap, Mohd Adlin Salleh, Mohammad Razali Ali, Muhamad Wazir Muslat, Nasrudin Md Rahim & Mohd Bakri Abu Bakar. (2022) Hubungan Antara Efikasi Kendiri Dengan Tahap Pencapaian Akademik Mahasiswa Semasa Proses Pembelajaran Atas Talian. *Malaysian Journal Of Social Sciences And Humanities*, 7(6) DOI:[10.47405/mjssh.v7i6.1566](https://doi.org/10.47405/mjssh.v7i6.1566)
16. Jaya Mathy Subramaniam, Zulkifli Osman, Anida Sarudin & Husna Faredza Mohamed Redzwan. (2021). Tahap Gaya Pembelajaran Pelajar Universiti Swasta Bagi Bahasa Kebangsaan Berdasarkan Model Grasha-Riechmann Yang Diperluas. *Jurnal Kurikulum & Pengajaran Asia Pasifik*, 9,(4). <https://share.google/rLXnvOuWFpRzCQ8AK>
17. Khadijah Kamaruddin, Marina Abu Bakar & Nurul Izzatie Aziz. (2025). Cabaran dan Strategi Penguasaan Bahasa Arab Dalam Program Diploma Pengajian Islam: Kajian Di Unishams: *International Journal Of Education, Psychology And Counselling*, 10(57). <https://doi.org/10.35631/IJEPC.1057052>
18. Kementerian Pelajaran Malaysia. (2007). *Buku Panduan Dasar, Pelaksanaan Dan Pengurusan Kurikulum Dan Kokurikulum Program J-QAF*. Putrajaya: Jabatan Pendidikan Islam Dan Moral, H. 1.
19. Maryam Norazan. (2023). Perbezaan Faktor Jantina, Umur dan Pengalaman Mengajar dengan Tahap Efikasi Kendiri dan Pelaksanaan Pendekatan Pengajaran Terbeza Guru Bahasa Melayu Sekolah Rendah. *Jurnal Pendidikan Bahasa Melayu*, 13, 38-49.
20. Mat Rejab, M. (2023, Mac 17). *Penggunaan Teknologi Chatgpt Dalam Pendidikan, Kawan Atau Lawan?* Malaysiagazette.Com. <https://Malaysiagazette.Com/2023/03/17/Penggunaan-Teknologi-Chatgpt-Dalam-Pendidikan-Kawan-Atau-Lawan/>
21. Mohammad Haafiz Ahmid, Mohd Khairuddin Abdullah, Khalid Johari. (2018). Pengajaran Guru Dan Kepercayaan Motivasi Pelajar dalam Pembelajaran Bahasa Arab Di Sekolah Menengah. *Malaysian journal of Social Sciences and Humanities*, 3(3): 136-147. <https://www.neliti.com/publications/322546/pengajaran-guru-dan-kepercayaan-motivasi-pelajar-dalam-pembelajaran-bahasa-arab>
22. Mohd Afandi, A. N., Zaini, A. R. ., & Norul 'Azmi, N. A. . (2023). Strategi Kognitif Dalam Pembelajaran Kosa Kata Bahasa Arab Sebagai Bahasa Kedua: Relevansi dan Impak: *E-Jurnal Bahasa Dan Linguistik*, 5(1), 63-74. <https://doi.org/10.53840/ejbl.v5i1.130>
23. Mohamed Amin Embi, (2016, September 26). *Kaedah Pengajaran dan Pembelajaran Baru bagi Generasi Z*. Portal UKM. <https://www.ukm.my/news/>
24. Mohd Zaid bin Ismail, Saipolbahrin bin Ramli, Salmiza Abd Rahim .(2024). Isu Dan Cabaran Dalam Pengajaran Bahasa Arab dan Hafazan Al-Quran Pendidikan Awal Kanak-Kanak. *Jurnal al- Sirat*, 24 (1).
25. Muhamad Fairuz Ali, Mohd Jaffri B. Abdul Rani (2024). Kecerdasan Buatan (AI) Sebagai Medium Transformasi Pembelajaran Bahasa Arab. *Jurnal Al-Haady*, 5 (1), <https://ejournal.unipasas.edu.my/index.php/haady/article/view/387>
26. Muhammad Helmi Petri. (2024). *Pengaruh Motivasi Dan Efikasi Kendiri Terhadap Pencapaian Pelajar Dalam Pembelajaran Bahasa Mandarin Sebagai Bahasa Kedua Di Kolej Vokasional*. (Tesis Ijazah Sarjana Pendidikan, UPSI). https://ir.upsi.edu.my/sw_inc/doc.php?t=p&did=12123&id=13373053.
27. Muhammad Zaid Daud et. al., (2024). Perspektif Mahasiswa Universiti Teknikal Di Malaysia Terhadap Kecerdasan Buatan (AI) Sebagai Pemudah Cara Menyiapkan Tugas Berbahasa Melayu. *Article In Innovative Teaching And Learning Journal*, (7),6. <https://doi.org/10.47405/Mjssh.V7i6.1566>
28. Nazratul Aini Ramli. (2021) Faktor Kesukaran Pelajar Melayu dalam Mengenalpasti Bunyi Huruf-huruf Arab. *e-Jurnal Bahasa Dan Linguistik*,3(1), <http://ejbl.kuis.edu.my>.

29. Nor Ain Manap, Saini Ag. Damit, Asiah Abas & Noorafini Kassim. (2024). Tahap Penguasaan Literasi Bahasa Arab Dalam Kalangan Masyarakat Awam Di Sabah. *International Journal Of Humanities, Philosophy And Languages*, 5(17). <https://gaexcellence.com/ijhpl/article/view/558>
30. Noorafini Kassim, Dr. Saini Ag. Damit, Dr. Muhammad Suhaimi Taat. (2017). Pengaruh Sikap Pelajar Dan Pengajaran Guru Terhadap Penguasaan Bahasa Arab Dalam Kalangan Pelajar CENTRE OF PROMOTION ON KNOWLEDGE AND LANGUAGE LEARNING (CPKLL), UMS. *'Ulwan's Journal*, (1), 125-142.
<https://Unimel.Edu.My/Journal/Index.Php/JULWAN/Article/View/183>
31. Nurulakhma Yahya, Harun Baharudin & Mohd Isa Hamzah. (2018). Efikasi Kendiri Gurudalam Pengajaran Bahasa Arab. *Attarbawiy: Malaysian Online Journal Of Education*, 2, (1), 10-17.
<https://Attarbawiy.Uis.Edu.My/Index.Php/Jurnal/Article/View/162/135>
32. Nurul Amalia binti Ruslan, Norhafizah binti Abd Kadir & Mohd Rusdan bin Hasan (2022). Halangan Bertutur Bahasa Arab di Kelas dalam Kalangan Pelajar IPT. *i-STET 2022*.
<https://oarep.usim.edu.my/server/api/core/bitstreams/8a19024a-7144-4f45-ba31-df05a2df7d8a/content>
33. Patty, J. (2024). The use of AI in language learning: What you need to know. *Jurnal Review Pendidikan dan Pengajaran (JRPP)*, 7(1), 642-654. <https://doi.org/10.31004/jrpp.v7i1.24609>
34. Pintrich, P. . (2004). A Conceptual Framework For Assessing Motivation And Self-Regulated Learning In College Students. *Educational Psychology Review*, 16(4), 385–407.
<https://doi.org/10.1007/S10648-004-0006-X>
35. Prospektus Prasiswazah 1999/2000. (1999). Kota Kinabalu: Universiti Malaysia Sabah.
36. Rahman, Md. Mizanur.(). Sample Size Determination for Survey Research and Non-Probability Sampling Techniques: A Review and Set of Recommendations. *Journal of Entrepreneurship, Business and Economics*, [S.l.], 11, p. 42-62, <https://scientificia.com/index.php/JEBE/article/view/201>
37. Ramlee, M. (1999). *The Role Of Vocational And Technical Education In The Industrialization Of Malaysia As Perceived By Educators And Employers*. Tesis Phd. Tidak Diterbitkan. Purdue University.
<https://docs.lib.purdue.edu/dissertations/AAI9952000>
38. Richards, J. C., & Rodgers, T. S. (2016). *Approaches And Methods In Language Teaching*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511667305>
39. Rosmawati. (2020, Mei 10). *Analisis Tahap Dalam Ujian Statistik Deskriptif*.
<https://Rosma212.Wordpress.Com/2020/05/10/Analisis-Tahap-Dalam-Ujian-Statistik-Deskriptif/>
40. Saini Ag. Damit, Noorafini Kassim & Nor Ain Manap (2016) Bahasa Arab Dalam Ibadah: Satu Kajian Kefahaman Pelajar Universiti Malaysia Sabah (UMS). *MANU*, 24, 67–89, 2016ISSN 1511-1989©.
<https://Jurcon.Ums.Edu.My/Ojums/Index.Php/MANU/Article/View/517/359>
41. Syarinah Mad Sehat, Nurdyana Tasripin & Norsyazwanie Mohamad Zamal. (2022). Tahap Efikasi Kendiri Pelajar Pendidikan Awal Kanak-Kanak, Universiti Melaka. *Jurnal Kesidang*, 7(1), 135-144.
<https://unimel.edu.my/journal/index.php/JK/article/view/1165>
42. Taat, M. S., & Ariffin, A. (2020). Pengaruh Efikasi Kendiri Terhadap Penguasaan Bahasa Arab Dalam Kalangan Murid Sekolah Rendah. *International Journal Of Education, Psychology And Counseling*, 5 (35), 10-20. DOI: 10.35631/IJEPC.535002.
44. Ummu Hani. (2025, Oktober 27). *Beda Penggunaan AI di Kalangan Gen Z, Milenial, Gen X dan Boomer, Untuk Apa Saja?*. Kontan.co.id. Indonesia. <https://industri.kontan.co.id/news/beda-penggunaan-ai-di-kalangan-gen-z-milenial-gen-x-dan-boomer-untuk-apa-saja>
45. Wartawan Sinar Bestari. (2024, Disember 13) Teknologi AI mengubah kehidupan seharian masyarakat. *Sinar Bestari*. <https://sinarbestari.sinarharian.com.my/my-ipt/karya-kampus/teknologi-ai-mengubah-kehidupan-seharian-masyarakat>
46. Yahya, N. ., Baharudin, H. ., & Hamzah, M. I. . (2023). Efikasi Kendiri Guru dalam Pengajaran Bahasa Arab: (Teacher's Self Efficacy in Teaching Arabic Language). *Attarbawiy: Malaysian Online Journal of Education*, 2(1), 10–17. <https://doi.org/10.53840/attarbawiy.v2i1.162>
47. Yeniaty Ulfah & Anyes Lathifatul Insaniyah (2023). Kesulitan Belajar Bahasa Arab Mahasiswa Program Studi Pendidikan Agama Islam Universitas Islam Zainul Hasan Genggong. *Tadris Al-Arabiyyat: Jurnal Kajian Ilmu Pendidikan Bahasa Arab*, 3(1), 79-92.
<https://doi.org/10.30739/arabiyyat.v3i1.1824>

48. Zimmerman, B. J., & Schunk, D. H. (1989). *Self-Regulated Learning And Academic Achievement: Theory, Research And Practice*. New York: Springer-Verlag.
49. Zulyna Adila Zainuddin & Faridah Mydin Kuty. (2021). Hubungan Antara Efikasi Kendiri dan Motivasi Terhadap Pencapaian Akademik Pelajar Perempuan Jurusan STEM. *Malaysian Journal of Social Sciences and Humanities*, 6,(3), 180 - 190. <https://doi.org/10.47405/mjssh.v6i3.716>
50. Zimmerman, B. J. (2000). *Attaining self-regulation: A social cognitive perspective*. In *Handbook of self-regulation*. Academic Press.