Artificial Intelligence and The Teaching of Subject Bahasa Kebangsaan A In Higher Education: Challenges, Pedagogical Shifts, and Academic Integrity

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ABSTRACT

The integration of Artificial Intelligence (AI) into higher education is rapidly reshaping teaching and learning practices, creating both opportunities and challenges for language education. In the context of National Language A (Bahasa Kebangsaan A) courses, the growing use of AI tools has raised important concerns related to academic integrity, language authenticity, and the preservation of cultural and linguistic nuances. This study explores the challenges associated with AI use in the teaching and learning of National Language A, with particular attention to issues such as digital plagiarism, overreliance on machine-generated content, and the limitations of AI in accurately reflecting the subtleties of Malay linguistic etiquette and cultural expression.

Using a qualitative approach based on literature review and teaching and learning module analysis, the study examines how AI is influencing classroom practices, assessment methods, and student engagement in language learning contexts. The findings suggest a growing need to move beyond conventional written assessments toward more process-based, reflective, and oral forms of evaluation that can better capture authentic language use and critical thinking. The study also proposes a "Human–Machine Synergy" approach, where AI is positioned as a supportive learning tool for idea generation and vocabulary development rather than a substitute for students' original thinking and language competency.

Overall, the study highlights the importance of developing AI literacy among both lecturers and students to ensure the responsible and meaningful integration of technology in language education. It further emphasises the need to preserve the cultural, ethical, and communicative value of the Malay language within increasingly technology-driven learning environments.

Keywords:

Artificial Intelligence (AI); National Language A; Malay Language Education; Academic Integrity; Language Learning; Assessment Transformation; AI Literacy; Higher Education

Introduction

The rapid advancement of Artificial Intelligence (AI) is transforming higher education worldwide, reshaping how students learn, how educators teach, and how knowledge is produced and assessed. In recent years, AI-powered tools such as ChatGPT, Gemini, Claude, and other generative AI applications have become increasingly accessible to students, offering instant assistance for writing, information retrieval, translation, and content generation. While these developments create new opportunities for learning and academic support, they also raise important questions regarding academic integrity, learner responsibility, and the future of language education [1].

The impact of AI is particularly significant in language-related courses, where communication, critical thinking, and authentic language production are central learning outcomes. Unlike content-based disciplines that may focus primarily on factual knowledge, language education requires learners to develop linguistic competence, cultural awareness, and communicative sensitivity. Consequently, the growing reliance on AI-generated content presents unique challenges for educators seeking to ensure that students develop genuine language proficiency rather than simply reproducing machine-generated responses [2].

In the Malaysian higher education context, these concerns are especially relevant for the teaching of **Bahasa Kebangsaan A**, a compulsory language course designed to strengthen students' proficiency in the Malay language while fostering appreciation for its cultural, historical, and national significance. Beyond grammatical accuracy, the course aims to develop students' ability to communicate effectively, apply appropriate language etiquette (*kesantunan bahasa*), and understand the social and cultural dimensions of language use. However, many current AI systems remain limited in their ability to accurately represent the subtleties of Malay linguistic politeness, cultural references, and context-dependent expressions, creating potential tensions between technological efficiency and authentic language learning [3].

Another growing concern relates to academic integrity. Generative AI systems can produce essays, summaries, and written assignments within seconds, making it increasingly difficult to distinguish between original student work and machine-generated content. While AI can serve as a useful learning aid, excessive dependence on these technologies may discourage independent thinking, weaken writing skills, and reduce opportunities for meaningful language practice [4]. The challenge for educators is therefore not merely detecting AI-generated work but developing pedagogical approaches that encourage responsible and ethical use of AI while maintaining the integrity of the learning process.

At the same time, the emergence of AI presents opportunities to rethink traditional teaching and assessment practices. Conventional written assignments may no longer be sufficient indicators of language competence in an era where students can easily access AI-generated content. As a result, educators are increasingly exploring alternative forms of assessment, including process-based evaluation, reflective learning activities, oral presentations, and authentic communication tasks that emphasise students' ability to apply language knowledge in meaningful contexts [5].

In response to these developments, this paper examines the challenges associated with AI integration in the teaching and learning of Bahasa Kebangsaan A in higher education. Particular attention is given to issues of academic integrity, language authenticity, and the preservation of cultural and linguistic values. The paper further proposes a **Human–Machine Synergy** approach that positions AI as a supportive educational tool while preserving the central role of human creativity, critical thinking, and authentic language use. By exploring these issues, the paper seeks to contribute to ongoing discussions regarding the responsible integration of AI in language education and the future of Malay language learning in higher education.

2. The Evolving Role of Ai In Language Education

Artificial Intelligence (AI) has emerged as one of the most influential technological developments affecting contemporary education. Over the past decade, AI technologies have evolved from relatively simple automated systems into sophisticated tools capable of generating text, analysing language, providing personalised feedback, and supporting interactive learning experiences. These developments have significantly influenced language education, where communication, literacy, and learner engagement are central to teaching and learning processes [6].

The application of AI in language learning is not entirely new. Earlier forms of AI were primarily incorporated through computer-assisted language learning (CALL) systems, automated grammar checkers, and intelligent tutoring programmes that provided structured feedback and repetitive language practice [7]. While these tools supported language acquisition, their capabilities were generally limited to predefined responses and rule-based interactions. Recent advances in natural language processing and machine learning have expanded these capabilities considerably, allowing AI systems to engage in more dynamic and context-sensitive communication.

The emergence of generative AI has further accelerated this transformation. Applications such as ChatGPT, Gemini, Claude, and other large language model-based systems are now capable of generating essays, answering questions, summarising information, translating text, and engaging in conversational interactions that closely resemble human communication [8]. For language learners, these tools provide immediate access to explanations, vocabulary support, writing assistance, and opportunities for independent practice. Consequently, AI has become increasingly integrated into both formal and informal learning environments.

From a pedagogical perspective, AI offers several potential benefits for language education. One significant advantage is the ability to provide personalised learning support. AI systems can adapt feedback, generate customised learning materials, and respond to individual learner needs in real time. Such capabilities support learner autonomy by enabling students to learn at their own pace and access assistance whenever needed [9]. AI also has the potential to reduce language anxiety by providing low-stakes opportunities for practice without fear of negative judgement from peers or instructors.

In addition, AI can enhance accessibility and flexibility in language learning. Students can engage with AI-powered learning tools beyond classroom hours, allowing learning to continue regardless of time and location constraints. This flexibility is particularly valuable in higher education, where students often balance academic responsibilities with work, family commitments, and other personal obligations. AI-supported learning environments may therefore contribute to more inclusive and learner-centred educational experiences [10].

Despite these advantages, the increasing use of AI in language education has also generated considerable debate. Concerns have been raised regarding the accuracy and reliability of AI-generated information, the potential erosion of critical thinking skills, and the growing dependence of learners on automated assistance [11]. Furthermore, language learning involves more than acquiring vocabulary and grammatical structures. Effective communication requires an understanding of cultural norms, contextual appropriateness, interpersonal relationships, and linguistic subtleties that may not always be adequately represented by AI systems.

These concerns are particularly important in language courses where cultural identity and linguistic heritage play a significant role. While AI may effectively support technical aspects of language learning, its ability to capture cultural nuances, social conventions, and context-specific expressions remains limited. This raises important questions about the extent to which AI can support authentic language development without diminishing the human and cultural dimensions of language education [12].

As AI continues to influence educational practices, language educators face the challenge of balancing technological innovation with pedagogical integrity. Rather than viewing AI solely as a threat or a solution, there is a growing need to examine how it can be integrated responsibly within language learning environments. Understanding this broader transformation provides an important foundation for exploring the specific implications of AI for the teaching and learning of Bahasa Kebangsaan A in higher education, which is discussed in the following section.

3. Ai and The Teaching of Bahasa Kebangsaan A

Bahasa Kebangsaan A occupies a unique position within Malaysian higher education. As a compulsory course for eligible students, it serves not only as a platform for developing Malay language proficiency but also as a medium for strengthening national identity, cultural understanding, and effective communication skills. Unlike many content-based subjects, the learning outcomes of Bahasa Kebangsaan A extend beyond factual knowledge to include language accuracy, critical thinking, communication competence, and the appropriate application of *kesantunan bahasa* (linguistic politeness) in various social contexts. Consequently, the integration of Artificial Intelligence (AI) into the teaching and learning of this subject presents both opportunities and challenges that require careful consideration.

The increasing accessibility of generative AI tools has transformed how students engage with language-related tasks. Applications such as ChatGPT, Gemini, and other AI-powered writing assistants can generate essays, summaries, reflections, and translations within

seconds. For students, these tools offer convenient access to information, vocabulary suggestions, grammar support, and writing assistance. In Bahasa Kebangsaan A, AI can potentially support language learning by helping students understand sentence structures, expand vocabulary, and explore different ways of expressing ideas in Malay. Such capabilities may enhance independent learning and provide additional opportunities for practice beyond the classroom environment [13].

At the same time, the use of AI raises important questions about language authenticity. Language learning is not merely about producing grammatically correct sentences; it also involves developing the ability to communicate meaningfully within specific cultural and social contexts. Malay language communication places considerable emphasis on politeness, respect, indirectness, and context-sensitive language use. While AI systems are increasingly capable of generating fluent text, they may not always accurately reflect the cultural subtleties and communicative norms that underpin authentic Malay language interactions [14]. As a result, students who rely heavily on AI-generated content may produce linguistically acceptable responses while demonstrating only a limited understanding of the cultural dimensions of language use.

Another important consideration concerns the role of Bahasa Kebangsaan A in fostering national identity and cultural appreciation. The subject is designed not only to improve language skills but also to strengthen students' understanding of the historical, cultural, and societal significance of the Malay language. Through reading, writing, discussion, and reflection, students are encouraged to appreciate the role of Bahasa Melayu as a unifying language in Malaysia's multicultural society. Excessive dependence on AI-generated content may reduce opportunities for personal reflection and critical engagement with these broader educational objectives. In this sense, the challenge is not simply linguistic but also cultural and educational.

The growing use of AI has also begun to influence student learning behaviours. Many students now use AI tools as the first point of reference when completing assignments, generating ideas, or seeking explanations. While such practices can support learning when used responsibly, they may also encourage passive learning habits if students rely on AI-generated responses without evaluating or refining the information provided. This concern is particularly relevant in language education, where learning is often strengthened through drafting, revising, reflecting, and receiving feedback. When these processes are bypassed, opportunities for meaningful language development may be diminished [15].

Nevertheless, AI should not be viewed solely as a threat to language learning. When integrated appropriately, it can serve as a valuable educational resource. For example, students may use AI to explore alternative vocabulary choices, identify grammatical errors, practise writing, or generate discussion prompts. Lecturers can also utilise AI tools to develop learning materials, create formative activities, and provide supplementary language support. The educational value of AI therefore depends largely on how it is used rather than on the technology itself.

The challenge facing educators is to ensure that AI supports rather than replaces authentic language learning. This requires a shift from viewing AI as either entirely beneficial or entirely problematic toward a more balanced perspective that recognises both its opportunities and limitations. In the context of Bahasa Kebangsaan A, this means encouraging students to use AI critically and responsibly while continuing to develop their own linguistic competence, cultural awareness, and communicative confidence.

As AI becomes increasingly embedded within higher education, its influence on Bahasa Kebangsaan A is likely to continue expanding. Understanding these developments is essential for designing teaching approaches that preserve the educational, cultural, and communicative objectives of the subject while embracing the opportunities offered by technological innovation. The following section therefore examines the major challenges associated with AI use in Bahasa Kebangsaan A, particularly those relating to academic integrity, language authenticity, and learner development.

4. Challenges of Ai In Bahasa Kebangsaan A Education

The growing use of Artificial Intelligence (AI) in higher education has created new opportunities for learning and teaching. However, its integration into Bahasa Kebangsaan A also presents several challenges that directly affect language development, assessment practices, and academic integrity. While AI tools can support students in generating ideas, improving grammar, and accessing information quickly, concerns have emerged regarding the authenticity of student work, the quality of language learning, and the preservation of cultural and linguistic values. These concerns are particularly significant in language education, where learning outcomes extend beyond content mastery to include communication skills, critical thinking, and cultural competence.

4.1 Digital Plagiarism and Academic Integrity

One of the most widely discussed concerns surrounding generative AI is its potential impact on academic integrity. AI-powered platforms are now capable of producing essays, reports, summaries, and reflective writing that closely resemble human-generated content. As a result, students may be tempted to submit AI-generated work as their own without engaging meaningfully with the learning process [16].

Unlike traditional plagiarism, which involves copying existing sources, AI-generated plagiarism can be more difficult to identify because the content is often original in form while lacking genuine student authorship. This development challenges conventional understandings of academic misconduct and raises important questions regarding ownership, originality, and ethical technology use in higher education [17].

In the context of Bahasa Kebangsaan A, the issue is particularly problematic because language learning requires students to develop their own writing abilities, communication skills, and critical thinking capacities. When students rely excessively on AI-generated essays or assignments, opportunities for practising language production and developing independent thought may be significantly reduced. Consequently, educators face increasing pressure to

redesign assessments that emphasise process, reflection, and authentic language use rather than solely evaluating final written products.

4.2 Overreliance on AI-Generated Content

Another challenge relates to students' growing dependence on AI-generated content. The convenience and speed offered by AI tools make them highly attractive to learners who seek quick solutions to academic tasks. While AI can provide useful guidance and support, excessive reliance may discourage students from actively engaging in research, analysis, and language construction [18].

Language learning is inherently developmental and requires continuous practice. Students improve their language proficiency through drafting, revising, making mistakes, and receiving feedback. When AI performs many of these functions automatically, learners may become passive recipients of information rather than active participants in the learning process. Over time, this dependency may weaken students' confidence in their own language abilities and reduce their willingness to engage in independent learning activities.

Furthermore, AI-generated responses often provide polished and coherent outputs that may create an illusion of mastery. Students may perceive that they understand language concepts simply because they can generate acceptable responses using AI, even when deeper linguistic understanding has not been achieved. Such situations can undermine the development of genuine language competence and critical literacy skills.

4.3 Loss of Authentic Language Production

Authentic language production remains a fundamental objective of Bahasa Kebangsaan A. Students are expected to express ideas, construct arguments, and communicate effectively using their own language resources. However, the increasing use of AI-generated text raises concerns regarding the authenticity of student language production.

Generative AI systems are designed to produce fluent and grammatically accurate text, often making it difficult to distinguish between student-generated and machine-generated writing. While this may improve the surface quality of written assignments, it may simultaneously mask weaknesses in students' actual language proficiency [19].

More importantly, authentic language use involves creativity, personal voice, and contextual judgement. Students develop these abilities through meaningful interaction with language rather than through reliance on automated text generation. Excessive dependence on AI may therefore limit opportunities for learners to develop their own writing style and linguistic identity. In the long term, this may affect students' confidence and ability to communicate independently in academic and professional settings.

For lecturers, this challenge necessitates a reconsideration of assessment practices. Greater emphasis may need to be placed on oral communication, classroom discussions, reflective activities, and process-oriented tasks that require students to demonstrate authentic language use and personal engagement with learning content.

4.4 Cultural and Linguistic Limitations of AI

Although AI systems have demonstrated impressive capabilities in generating Malay language content, they continue to face limitations in accurately representing the cultural and social dimensions of language. Language is not merely a collection of grammatical rules but a reflection of cultural values, social relationships, and contextual meanings.

In Malay communication, concepts such as *kesantunan bahasa* (linguistic politeness), respect for hierarchy, indirectness, and cultural sensitivity play a significant role in shaping language use. These elements often depend on context, speaker intention, and social relationships, making them difficult for AI systems to interpret consistently [20].

As a result, AI-generated responses may occasionally produce language that is grammatically correct but culturally inappropriate or lacking in contextual sensitivity. Such limitations are particularly relevant in Bahasa Kebangsaan A, where students are expected not only to master linguistic structures but also to appreciate the cultural values embedded within the Malay language.

Additionally, many generative AI systems are trained primarily on large multilingual datasets that may not adequately represent the diversity and richness of Malaysian Malay language usage. Variations in regional expressions, cultural references, and local communication practices may therefore be underrepresented in AI-generated outputs. This limitation highlights the importance of maintaining human guidance in language education to ensure that cultural authenticity and linguistic integrity are preserved.

Overall, the challenges discussed above demonstrate that the integration of AI into Bahasa Kebangsaan A is not simply a technological issue but also a pedagogical, ethical, and cultural one. While AI offers considerable benefits as a learning support tool, its use must be carefully managed to ensure that it strengthens rather than weakens students' language proficiency, critical thinking abilities, and appreciation of the Malay language. These challenges also underscore the need for new teaching and assessment approaches that respond effectively to the realities of AI-enhanced learning environments.

5. Pedagogical Shifts In The Ai Era

The increasing presence of Artificial Intelligence (AI) in higher education is prompting educators to reconsider traditional approaches to teaching, learning, and assessment. In language education, particularly within Bahasa Kebangsaan A, conventional assessment methods that rely heavily on written assignments are becoming increasingly vulnerable to AI-generated content. As a result, there is growing recognition that pedagogical practices must evolve to ensure that students continue to develop genuine language competence, critical thinking skills, and communicative abilities. Rather than viewing AI solely as a challenge, educators can use this technological shift as an opportunity to redesign learning experiences in ways that promote deeper engagement and authentic language use.

5.1 From Product-Based to Process-Based Assessment

Traditionally, assessment in language courses has focused primarily on the final product, such as essays, reports, and written assignments. However, the ability of AI systems to generate sophisticated written content has raised questions about whether these products accurately reflect students' actual language proficiency and understanding [21].

Consequently, there is increasing support for process-based assessment approaches that emphasise how students develop their work rather than simply evaluating the final outcome. Process-based assessment may include proposal submissions, draft development, peer feedback activities, learning journals, and revision exercises. Such approaches allow lecturers to observe students' thinking processes, language development, and engagement with learning tasks over time.

In Bahasa Kebangsaan A, process-based assessment can encourage students to actively participate in language construction and reflection while reducing opportunities for inappropriate AI dependence. By documenting the stages of learning, students demonstrate not only what they produce but also how they arrive at their final work.

5.2 Reflective and Authentic Learning Activities

The AI era also highlights the importance of reflective learning activities that encourage students to think critically about their learning experiences. Reflection enables students to evaluate their language use, identify areas for improvement, and develop greater awareness of their learning strategies. These activities are particularly valuable because reflective responses are often rooted in personal experiences and individual perspectives, making them less susceptible to complete AI automation.

Authentic learning tasks further support meaningful language development by connecting classroom activities to real-world communication contexts [22]. Examples include analysing current social issues, evaluating media content, conducting interviews, or discussing contemporary cultural topics using Bahasa Melayu. Such activities encourage learners to apply language knowledge in practical situations while strengthening critical thinking and communication skills.

By emphasising authenticity and reflection, lecturers can create learning experiences that prioritise personal engagement and meaningful language use rather than merely producing written outputs.

5.3 Oral and Performance-Based Assessment

One of the most significant pedagogical shifts associated with AI integration is the renewed importance of oral and performance-based assessment. Language proficiency extends beyond writing and includes speaking, listening, interaction, and the ability to communicate effectively in real-time situations.

Oral presentations, debates, interviews, storytelling activities, and group discussions provide opportunities for students to demonstrate authentic language competence while reducing reliance on AI-generated responses [23]. These forms of assessment allow lecturers to

evaluate not only linguistic accuracy but also communication effectiveness, confidence, spontaneity, and the appropriate use of *kesantunan bahasa*.

For Bahasa Kebangsaan A, oral assessment is particularly valuable because it reflects how language is used in everyday social and professional interactions. Through face-to-face communication tasks, students can demonstrate their ability to apply linguistic and cultural knowledge in meaningful contexts that are difficult for AI systems to replicate fully.

5.4 Redefining the Role of the Lecturer

The growing use of AI also requires a reconsideration of the lecturer's role within the learning process. Traditionally, lecturers have been viewed as primary sources of knowledge and information. However, in an environment where information is increasingly accessible through AI technologies, educators are assuming broader roles as facilitators, mentors, and guides.

Rather than competing with AI, lecturers can focus on helping students develop skills that AI cannot easily replace, including critical thinking, ethical reasoning, intercultural understanding, and reflective judgement [24]. In the context of Bahasa Kebangsaan A, lecturers play an essential role in guiding students to appreciate the cultural, historical, and social dimensions of the Malay language that extend beyond grammatical correctness.

Lecturers are also responsible for helping students develop AI literacy. This includes teaching students how to use AI responsibly, evaluate the accuracy of AI-generated information, recognise potential biases, and understand the ethical implications of technology use. By fostering these competencies, educators can help students become informed and responsible users of AI rather than passive consumers of machine-generated content.

Overall, the integration of AI into higher education is driving significant pedagogical changes that extend beyond technology itself. The shift toward process-based assessment, reflective learning, authentic communication tasks, and enhanced educator facilitation reflects a broader movement toward more meaningful and learner-centred educational practices. These developments provide a foundation for rethinking how Bahasa Kebangsaan A can be taught effectively in an increasingly AI-driven educational landscape.

6. The Human–Machine Synergy Approach

The growing influence of Artificial Intelligence (AI) in education has often been framed as a debate between technological innovation and traditional teaching practices. Some view AI as a transformative tool capable of enhancing learning efficiency, while others express concern that excessive reliance on technology may undermine critical thinking, creativity, and authentic learning. In the context of Bahasa Kebangsaan A, this debate is particularly significant because language learning involves not only linguistic competence but also cultural understanding, communication skills, and the development of personal voice. Rather than positioning AI as either a threat or a replacement for human learning, this paper proposes a **Human–Machine Synergy** approach that emphasises collaboration between human intelligence and artificial intelligence.

The Human–Machine Synergy approach is grounded in the belief that AI should function as a supportive educational tool rather than as a substitute for students' thinking, creativity, or language proficiency. While AI can provide rapid access to information, vocabulary suggestions, grammar support, and idea generation, the responsibility for analysing, evaluating, adapting, and communicating knowledge remains with the learner. In this model, technology enhances learning processes while human learners retain ownership of intellectual and linguistic development.

6.1 AI as a Learning Support Tool

Within the Human–Machine Synergy framework, AI serves primarily as a learning companion that supports language development. Students may use AI to explore vocabulary options, clarify grammatical structures, generate writing prompts, or obtain explanations of unfamiliar concepts. These functions can be particularly beneficial for learners who require additional language support outside classroom hours.

However, AI-generated outputs should be viewed as starting points rather than final products. Students are encouraged to critically evaluate AI-generated responses, verify information, adapt content to specific contexts, and express ideas using their own linguistic resources. This process promotes active engagement with learning materials and helps prevent passive dependence on technology.

For Bahasa Kebangsaan A, AI can assist students in expanding their vocabulary and improving language awareness while still requiring them to demonstrate independent communication skills and cultural understanding.

6.2 Preserving Human Creativity and Critical Thinking

One of the primary concerns associated with generative AI is the possibility that students may become passive users of technology, relying on AI-generated content instead of developing their own ideas. The Human–Machine Synergy approach addresses this concern by positioning critical thinking as a central component of AI-supported learning.

Students are expected to engage actively with AI-generated information by questioning assumptions, comparing perspectives, identifying inaccuracies, and refining ideas. Rather than accepting AI responses at face value, learners should treat them as resources for reflection and discussion. In this way, AI becomes a catalyst for deeper thinking rather than a replacement for intellectual effort.

This approach aligns closely with the objectives of higher education, which seek to develop graduates who are capable of analysing information critically, making informed decisions, and communicating effectively in complex social and professional environments.

6.3 Preserving the Cultural and Communicative Value of Bahasa Melayu

A key strength of the Human–Machine Synergy approach lies in its recognition that language learning is inherently human and cultural. While AI can support technical aspects of language

use, it cannot fully replicate the cultural sensitivity, contextual judgement, and interpersonal awareness required for effective communication.

In Bahasa Kebangsaan A, students are expected to understand and apply concepts such as *kesantunan bahasa*, respect, social appropriateness, and cultural identity. These elements are shaped by lived experiences, social interactions, and cultural understanding that extend beyond the capabilities of current AI systems.

Consequently, educators should continue to emphasise authentic communication experiences that allow students to practise language in meaningful contexts. Activities such as discussions, debates, storytelling, interviews, and reflective writing remain essential for developing the human dimensions of language competence that technology cannot fully reproduce.

6.4 The Role of Lecturers in Human–Machine Synergy

Within this framework, lecturers play a critical role in guiding responsible AI use. Rather than acting solely as knowledge transmitters, educators become facilitators who help students navigate the opportunities and limitations of AI technologies.

Lecturers are responsible for creating learning environments where AI is used ethically and purposefully. This includes establishing clear expectations regarding AI use, encouraging transparency in AI-assisted work, and designing learning activities that require critical engagement rather than simple content generation. Educators also play an important role in helping students develop AI literacy, including the ability to evaluate AI-generated information, recognise bias, and use technology responsibly.

Most importantly, lecturers remain central to fostering the interpersonal, ethical, and cultural dimensions of education. These aspects of learning continue to rely heavily on human interaction, mentorship, and guidance.

6.5 A Conceptual Framework for Human–Machine Synergy

The Human–Machine Synergy approach can be conceptualised as a balanced relationship between AI capabilities and human learning competencies.

AI Contributions	**Human Contributions**
Vocabulary support	Critical thinking
Grammar assistance	Ethical judgement
Information retrieval	Cultural understanding
Idea generation	Creativity
Personalised feedback	Reflection
Learning flexibility	Authentic communication

Within this framework, AI enhances efficiency and accessibility, while human learners contribute interpretation, judgement, and meaning-making. Effective language learning occurs when both dimensions work together rather than competing with one another.

Overall, the Human–Machine Synergy approach offers a practical pathway for integrating AI into Bahasa Kebangsaan A without compromising the educational, cultural, and ethical goals of the subject. By positioning AI as a supportive tool and preserving the central role of human learning, this framework promotes a more balanced, responsible, and sustainable model of language education in the digital age.

7. Implications For Higher Education Practice

The findings of this study suggest that the integration of Artificial Intelligence (AI) into Bahasa Kebangsaan A education should not be approached solely as a technological innovation but as a pedagogical transformation that requires careful planning and responsible implementation. While AI offers significant opportunities to enhance learning, its successful integration depends on how educators, institutions, and policymakers respond to emerging challenges related to academic integrity, language authenticity, and learner development. The Human–Machine Synergy approach proposed in this paper provides a useful framework for guiding these efforts.

7.1 Implications for Lecturers

The increasing use of AI in higher education requires lecturers to reconsider traditional teaching practices and assessment methods. Rather than focusing exclusively on content delivery, lecturers are increasingly expected to facilitate learning, guide critical inquiry, and support students in using AI responsibly.

For Bahasa Kebangsaan A, lecturers should encourage students to engage critically with AI-generated content rather than accepting it uncritically. Classroom activities can be designed to require students to evaluate AI responses, identify inaccuracies, compare alternative interpretations, and adapt generated content to specific cultural and linguistic contexts. Such practices can help students develop critical thinking skills while maintaining active engagement with the learning process.

Lecturers should also provide explicit guidance regarding ethical AI use, including acceptable and unacceptable forms of AI assistance in academic work. Clear expectations can help students understand how AI may be used as a learning aid without compromising academic integrity.

7.2 Implications for Assessment Design

The emergence of generative AI highlights the need to reconsider how student learning is assessed. Traditional written assignments are increasingly vulnerable to AI-assisted

completion and may no longer provide reliable evidence of students' actual language proficiency.

Higher education institutions should therefore consider adopting more diverse and authentic assessment approaches. These may include oral presentations, debates, reflective journals, portfolios, project-based learning, classroom discussions, and performance-based assessments. Such methods provide greater opportunities for students to demonstrate authentic language use, critical thinking, and communication skills while reducing dependence on AI-generated outputs.

Assessment should also place greater emphasis on learning processes rather than final products. Draft submissions, peer reviews, self-reflections, and learning portfolios can provide valuable insights into students' intellectual and linguistic development throughout the learning journey.

7.3 Implications for Curriculum Development

The findings suggest that AI literacy should become an important component of higher education curricula. As AI technologies become increasingly embedded within academic and professional environments, students require the knowledge and skills necessary to use these tools responsibly and effectively.

Within Bahasa Kebangsaan A, AI literacy can be integrated alongside language learning outcomes. Students should be encouraged to understand how AI systems generate information, recognise potential inaccuracies and biases, evaluate the credibility of AI-generated content, and reflect on the ethical implications of technology use. Such competencies are increasingly important for preparing graduates to function effectively in AI-enhanced workplaces and societies.

Curriculum developers should also ensure that language learning continues to emphasise cultural understanding, communication competence, and critical literacy alongside technological proficiency.

7.4 Implications for Students

Students themselves play a central role in determining how AI influences their learning experiences. While AI tools can provide valuable support, students must recognise that technology cannot replace genuine learning, reflection, and personal effort.

Responsible AI use requires students to view AI as a learning assistant rather than an answer-generating machine. Students should be encouraged to use AI for idea exploration, language support, and feedback while maintaining responsibility for developing their own arguments, interpretations, and communication skills.

In the context of Bahasa Kebangsaan A, students should continue to engage actively with the cultural, social, and communicative dimensions of the Malay language. Authentic language

development depends on meaningful practice, interaction, and reflection, all of which remain fundamentally human activities.

7.5 Implications for Institutional Policy

Universities have an important responsibility in creating policies that support the ethical and responsible use of AI in education. Rather than relying solely on detection mechanisms or restrictive policies, institutions should adopt balanced approaches that promote transparency, accountability, and educational integrity.

Institutional guidelines should clearly define acceptable AI use, establish expectations for disclosure when AI tools are utilised, and provide support for both students and lecturers navigating emerging technological challenges. Professional development programmes may also be necessary to help educators develop the knowledge and confidence required to integrate AI effectively into their teaching practices.

Furthermore, institutions should ensure that technological innovation does not compromise educational equity. Access to AI-supported learning tools, digital literacy training, and technological resources should be made available to all students to avoid widening existing educational disparities.

7.6 Implications for Policymakers

At a broader level, policymakers must consider the long-term implications of AI for language education and national linguistic development. In Malaysia, Bahasa Melayu serves not only as a medium of communication but also as a symbol of national identity and cultural heritage. As AI technologies become increasingly influential, policies should ensure that technological advancement supports rather than undermines these broader educational and cultural objectives.

Efforts to improve AI systems for Malay language applications should continue, particularly in areas related to cultural sensitivity, linguistic politeness, and local language variation. Collaboration between educational institutions, technology developers, and language experts may contribute to the development of more culturally responsive AI tools that better support Bahasa Melayu learning and usage.

Overall, the integration of AI into Bahasa Kebangsaan A presents both opportunities and challenges. The findings of this study suggest that successful implementation depends not on the technology itself but on the pedagogical, institutional, and policy decisions that shape how technology is used. By adopting a Human–Machine Synergy approach, higher education institutions can harness the benefits of AI while preserving the human, cultural, and communicative values that remain central to meaningful language education.

8. Conclusion

The rapid advancement of Artificial Intelligence (AI) is transforming higher education and reshaping how teaching, learning, and assessment are conducted across disciplines. Within the context of Bahasa Kebangsaan A, the growing accessibility of generative AI tools presents both significant opportunities and complex challenges. While AI offers new possibilities for personalised learning, language support, and increased accessibility, it also raises important concerns regarding academic integrity, authentic language production, and the preservation of cultural and linguistic values.

This paper examined the implications of AI for the teaching and learning of Bahasa Kebangsaan A in higher education. The discussion highlighted several key challenges, including digital plagiarism, overreliance on AI-generated content, diminished opportunities for authentic language use, and the limitations of AI in capturing the cultural nuances and communicative sensitivity that are central to the Malay language. These challenges demonstrate that language education involves far more than grammatical accuracy or content generation. Effective language learning requires critical thinking, contextual understanding, interpersonal communication, and appreciation of cultural identity, all of which remain fundamentally human dimensions of learning.

The findings also suggest that the emergence of AI is accelerating important pedagogical shifts. Traditional assessment approaches that rely heavily on written products are becoming increasingly insufficient in evaluating genuine language competence. Consequently, higher education institutions are encouraged to adopt more process-based, reflective, and authentic forms of assessment that emphasise students' learning journeys, communication abilities, and critical engagement with language. Oral presentations, discussions, reflective journals, portfolios, and performance-based assessments offer valuable alternatives that can better capture students' actual language proficiency and intellectual development.

In response to these developments, this paper proposed the Human–Machine Synergy approach as a framework for integrating AI responsibly into Bahasa Kebangsaan A education. Rather than viewing AI as a replacement for human learning, this approach positions AI as a supportive tool that complements students' learning processes. AI can assist with vocabulary development, idea generation, and language support, while students remain responsible for critical analysis, creativity, ethical judgement, and authentic communication. Within this framework, lecturers continue to play a central role in guiding learning, fostering cultural understanding, and promoting responsible AI use.

Ultimately, the future of Bahasa Kebangsaan A education should not be defined by technology alone but by how technology is used to support meaningful learning. The challenge for educators is not to resist AI but to integrate it thoughtfully in ways that strengthen rather than weaken language competence, critical thinking, and cultural appreciation. By adopting balanced pedagogical approaches and developing AI literacy among both lecturers and students, higher education institutions can harness the benefits of technological innovation while preserving the educational, communicative, and cultural significance of the Malay language.

As AI continues to evolve, ongoing dialogue among educators, researchers, policymakers, and technology developers will be essential to ensure that language education remains both relevant and human-centred. Through responsible implementation and thoughtful pedagogical design, AI can become a valuable partner in supporting the future development of Bahasa Kebangsaan A while safeguarding the linguistic and cultural heritage that it represents.

References:

1. Holmes W, Bialik M, Fadel C. Artificial intelligence in education: Promises and implications for teaching and learning. Boston: Center for Curriculum Redesign; 2019.
2. Luckin R, Holmes W, Griffiths M, Forcier LB. Intelligence unleashed: An argument for AI in education. London: Pearson Education; 2016.
3. Zawacki-Richter O, Marín VI, Bond M, Gouverneur F. Systematic review of research on artificial intelligence applications in higher education. International Journal of Educational Technology in Higher Education. 2019;16(1):39. doi:10.1186/s41239-019-0171-0.
4. Kasneci E, Sessler K, Küchemann S, Bannert M, Dementieva D, Fischer F, et al. ChatGPT for good? On opportunities and challenges of large language models for education. Learning and Individual Differences. 2023;103:102274. doi:10.1016/j.lindif.2023.102274.
5. UNESCO. Guidance for generative AI in education and research. Paris: UNESCO; 2023.
6. Selwyn N. Should robots replace teachers? AI and the future of education. Cambridge: Polity Press; 2019.
7. Selwyn N. Education and technology: Key issues and debates. 3rd ed. London: Bloomsbury Academic; 2021.
8. Chapelle CA. Computer applications in second language acquisition. Cambridge: Cambridge University Press; 2001.
9. Thomas M, Reinders H, Warschauer M. Contemporary computer-assisted language learning. London: Bloomsbury Academic; 2013.
10. Asmah Haji Omar. Kesantunan bahasa dalam pengurusan pentadbiran dan media. Kuala Lumpur: Dewan Bahasa dan Pustaka; 2007.
11. Awang Sariyan. Santun berbahasa. Kuala Lumpur: Dewan Bahasa dan Pustaka; 2015.
12. Dewan Bahasa dan Pustaka. Pedoman umum ejaan bahasa Melayu. Kuala Lumpur: Dewan Bahasa dan Pustaka; 2016.
13. Dwivedi YK, Kshetri N, Hughes L, Slade EL, Jeyaraj A, Kar AK, et al. So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. International Journal of Information Management. 2023;71:102642. doi:10.1016/j.ijinfomgt.2023.102642.
14. Cotton DRE, Cotton PA, Shipway JR. Chatting and cheating? Ensuring academic integrity in the era of ChatGPT. Innovations in Education and Teaching International. 2024;61(2):228–239. doi:10.1080/14703297.2023.2190148.
15. Holmes W, Porayska-Pomsta K, Holstein K, Sutherland E, Baker T, Shum SB, et al. Ethics of AI in education: Towards a community-wide framework. International Journal of Artificial Intelligence in Education. 2022;32(3):504–526. doi:10.1007/s40593-021-00239-1.

16. Brown HD. Language assessment: Principles and classroom practices. 2nd ed. New York: Pearson Education; 2018.
17. Herrington J, Reeves TC, Oliver R. A guide to authentic e-learning. New York: Routledge; 2010.
18. Biggs J, Tang C. Teaching for quality learning at university. 4th ed. Maidenhead: Open University Press; 2011.
19. Garrison DR. E-learning in the 21st century: A community of inquiry framework for research and practice. 3rd ed. New York: Routledge; 2017.
20. Mayer RE. Multimedia learning. 3rd ed. Cambridge: Cambridge University Press; 2021.
21. Bandura A. Social cognitive theory: An agentic perspective. Annual Review of Psychology. 2001;52:1–26. doi:10.1146/annurev.psych.52.1.1.
22. Deci EL, Ryan RM. Self-determination theory: Basic psychological needs in motivation, development, and wellness. New York: Guilford Press; 2017.
23. Zimmerman BJ. Becoming a self-regulated learner: An overview. Theory Into Practice. 2002;41(2):64–70. doi:10.1207/S15430421TIP4102_2.
24. Williamson B, Eynon R, Potter J. Pandemic politics, pedagogies and practices: Digital technologies and distance education during COVID-19. Learning, Media and Technology. 2020;45(2):107–114. doi:10.1080/17439884.2020.1761641.
25. UNESCO. Artificial intelligence and education: Guidance for policy-makers. Paris: UNESCO; 2021.