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ASKME247: AN AI-DRIVEN PEDAGOGICAL INNOVATION FOR HIGHER EDUCATION IN MALAYSIA

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Abstract:

The concept paper introduces the notion of using AskMe247, an artificial intelligence-powered tool created to help IMC413 students acquire mastery in information searching and storing and the important. AskMe247 is designed to be a versatile, around-the-clock learning partner that brings together independent learning and classroom teaching. It is an application that helps simplify technical topics through self-directed learning via providing personalized feedback, guidance and explanations. This paper highlights the use of AskMe247 as an AI-enabled innovation in Malaysian higher education based on literature from abroad, policy framework in the country, and pedagogical philosophy.

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Adaptive Learning, AI-Driven Learning Educational Technology, Higher Education, IMC413, Information Storage and Retrieval, Self-Directed Learning



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Introduction

The integration of AI is presently a central feature of transformation process in the educational sphere. Several scholars, including Holmes (2019) and Luckin (2016), emphasize on the transformation on educational environment from a fixed to a dynamic state that fluctuates according to the needs of the learner. Unlike static materials that have been used in classrooms, AI systems offer dynamic assistance, giving the learners the chance to interact with concepts that may be beyond the classroom environment. It becomes more important in the higher education sector as learners experience the difficulty of grasping abstract theoretical concepts and complex terminologies (Chen et al., 2020).

AI tools in general work on the basis of “black boxes,” with no links between them and particular learning objectives of the course, evaluation criteria, or academic conventions. The problem with currently available AI-assisted learning tools is that they provide learners with information in the way that makes it hard for them to grasp, and there is no clear metacognitive framework that can help students to follow the way they manage their learning journey.

The adoption of broad AI systems, however, could present information bias, over-dependence on AI, privacy issues, and the difficulty in differentiating between AI created material and the original work of the student. The issues above are important when considering the importance of information literacy, which calls for students to make an ethical use of the information available. In general, the above-mentioned gaps indicate the need for a course-specific AI-based learning program that aligns with the learning outcomes of IMC413.

Courses like IMC413 which is known as Information Storage and Retrieval are not easy to comprehend due to the level of intricacies involved. Some of the concepts like indexing, Boolean logic, search algorithms and retrieval models can be difficult to grasp. Many students thus find it hard to understand these theories and put them into practice. The best way of addressing this problem would be to think of new ways of passing this information to the learners. Using an AI-based learning assistant would be the perfect solution in this case since it can help the process of learning and understanding of the material is made easier.

Literature Review

Global scholarship highlights the significance the role of AI in education, including adaptive tutoring systems offer context-specific feedback and guidance allowing for personalized progression and mastery (Woolf, 2021; Rolim et al., 2021). In a similar vein, chatbot-based platforms increase levels of engagement and confidence through conversational support that reduce hesitation in asking questions (Jiao et al., 2021; Perez et al., 2020). Collaborative learning supported by mobile-based tools, on the other hand, enhance self-directed abilities that promote learner ownership of progress (Sung et al., 2017).

Recent systematic reviews have shown an increase in the application of AI within intelligent classrooms and online learning platforms. First, Llurba et al. (2026) concluded that the overall trend in education was to embrace AI in a technological dimension, but pedagogical use of the technology was personalized and focused on instruction. In other words, teachers are moderators of information generated by AI and determine its use in the classroom. George-Reyes et al. (2026) also revealed that the pedagogical application of AI was transforming from a purely technological phenomenon to a human-centered approach. In this regard, educators are now rethinking their role within the tripartite relationship between AI, learners, and teaching while emphasizing ethical, academic, and AI literacy issues.

Finally, according to Huang (2026), the application of AI in education raises opportunities and threats characterized mainly by personalization and efficiency and require a global understanding of the phenomenon. These two trends demonstrate that AI learning systems should move beyond “simple” responses to offer meaningful and efficient solutions. Specifically, students should be able to function in an environment in which they are encouraged to question, assess, scrutinize the research process, and conduct their own investigations. This is particularly relevant to IMC 413 (Information Literacy and Research Skills) which aims to equip students with competency in searching, assessing, managing, and applying information efficiently.

Within this context, AskMe247 is conceptualized as a course-specific AI-supported learning environment for IMC413. Its design is grounded primarily in Self-Directed Learning (SDL), Constructivism, and Personalized/Adaptive Learning, supported by the Zone of Proximal Development and Metacognitive Regulation frameworks. Self-Directed Learning Theory provides the foundation for encouraging students to take responsibility for their learning. AskMe247 prompts students to formulate research questions, identify appropriate information resources, evaluate sources, monitor their progress, and reflect on their search strategies. Rather than simply providing answers, the system guides students through the learning process and supports the development of independent information literacy skills. Constructivism supports the use of interactive and inquiry-based learning.

AskMe247 can utilize guided questioning, iterative search activities and feedback to facilitate the students’ construction of information searching, database utilization, source evaluation knowledge and skills. This process allows redirecting the student away from the information towards their own learning process. Personalized/Adaptive Learning can be implemented by utilizing the platform to adapt to the students’ prior knowledge, learning rate, and research experience. Using adaptive tests, evaluations, and feedback, AskMe247 can differentiate learners and provide the necessary help and guidance depending on their level of skill and

knowledge. Zone of Proximal Development can be used to implement scaffolding in the student's research process.

Ask Me247 can provide the necessary support to help the students complete a research task, which they would not be able to complete independently. The scaffolding will be gradually removed in the student's learning process. Finally, the Metacognitive Regulation can be implemented through prompting students to ask about the planning, monitoring, and evaluation of their learning process. For example, prompting them to determine the research goals, analyze the sources, and evaluate the search results.

Therefore, AskMe247 is more than just another chatbot or an AI tool because it is an AI learning platform that focuses on personalization, guided discovery, self-learning, and metacognition. The tool's ability to assess, provide feedback, analyze, and track progress, as well as its capacity to integrate into learning information management systems (LMS), makes it an element shaping how artificial intelligence will influence education ahead and learning analytics (Tsai & Gašević, 2017). Indeed, the role of AI in Malaysia's tertiary education is steadily expanding. According to Mat Yusoff et al. (2025), most learners express positive views about using AI in technical fields of study, while Hamzah (2025) highlighted its potential to drive personalization in pedagogy.

Policy frameworks such as the National AI Roadmap 2021-2025 emphasize on curriculum design, teacher training and institutional readiness (MIDA, 2025). This shows that Malaysia is determined to nurture its human capital and be future ready. AskMe247 fits into this by providing assessments that are adaptive, providing real-time feedback and being integrated with a Learning Management System. In terms of concepts, AskMe247 is an innovative initiative to advance digital transformation in higher-education contexts, and it fits with Tsai & Gašević's (2017) call for education analytics to underpin future-ready educational ecosystems. By situating AskMe247 in both global and national contexts, this concept paper highlights the potential that such an initiative has for bridging gaps in pedagogy, empowering self-directed learning, and contributing to the broader agenda of digital education in Malaysia.

Conceptual Framework

AskMe247 is grounded in three pillars:

1. Pedagogical Uniqueness – Simplifies complex IMC413 topics through contextual explanations and adaptive guidance.
2. Educational Value – Encourages inquiry-based learning, reduces anxiety, and supports hybrid/flipped classrooms.
3. Scalability & Commercialization – Modular design allows replication across disciplines, with potential for institutional adoption and subscription models.

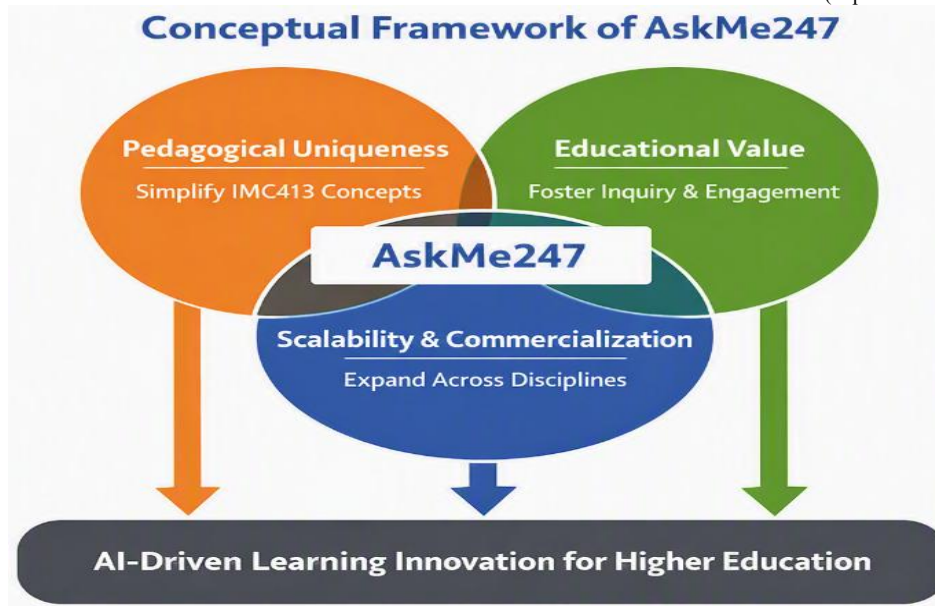


Figure 1: Conceptual Framework Of Askme 247

This framework is used to position AskMe247 as a pedagogical tool and innovative solution for higher education. It is divided into three sections: Pedagogical Uniqueness, Educational Value, and Scalability & Commercialization. These sections were chosen to demonstrate how AskMe247 can be integrated into a wider pedagogical concept and prove its educational potential, as well as the ability to scale and commercialize the product.

Proposed Implementation

The concept envisions AskMe247 as a multi-functional learning assistant designed to address both pedagogical and institutional needs.

A 24/7 Tutor Offering Personalized Support.

AskMe247 serves as an academic aide that is always available to the learner, facilitating continued education in areas such as Boolean logic, metadata indexing, or retrieval modeling of the IMC413 outside of the classroom. This availability decreases the fear of asking for assistance, encouraging independent learning and empowering learners that may struggle in the classroom environment.

Integration with LMS platforms (UFuture, Moodle, Google Classroom).

It is important to make sure that AskMe247 is compatible with most used learning management systems. In this way, the tool can be easily integrated into the existing educational infrastructure, enabling instructors to manage the technology, control student progress, and utilize the tool within the framework of their course. This efficiency is critical in terms of the software's scalability to meet the needs of various academic fields.

Enhanced By Multilingual Support, Mobile Access, And Speech-Based Interaction.

Being aware of the multilingual nature of Malaysian society, AskMe247 can be designed to be bilingual or multilingual to cater to students who are more comfortable with one language or the other. The software can also be mobile friendly to enable students to learn on the go, as well as fit into the micro-learning and mobile-first educational trends (Nguyen, 2025). The application can also be voice-enabled to enhance accessibility and benefit those who prefer auditory mode of learning and understanding.

Collectively, these innovations suggest that AskMe247 could act as more than just an AI assistant – it could be a truly groundbreaking innovation in the Malaysian higher education sector. By creating a personalized tutoring experience, promoting institutional adoption, and embracing accessibility, AskMe247 showcases cutting edge approaches in a field that is seeing rapid development across disciplines.

Copyright & Licensing Considerations

AI driven platforms pose challenges in terms of ownership and attribution. Malaysian Copyright Act 1987 is silent on matters of AI outputs, thus raising questions of legality (Naimat et al., 2025). Practically, AskMe247 should integrate citation friendly and remuneration centered approaches (Latif et al., 2024). This is aligned with international best practices where countries such as EU and US stress on the need for fair use, citations and compensation to creators of works that are used in training data sets of AI systems.

Discussion

AskMe247's conceptual design reflects broader debates in AI-enabled education, situating it at the intersection of pedagogy, policy, ethics, and commercialization.

Pedagogical Gaps in Technical Subjects.

The information management classes such as IMC413 are filled with abstract concepts, including Boolean logic, metadata indexing, and retrieval models, which can be confusing to many students. In addition, a lecture-based teaching approach in a textbook-centered environment offer limited opportunities for learners to ask questions and receive personalized support. AskMe247 is a great tool to bridge the knowledge gap, as it provides a “24-hour tutor,” helping students feel more confident about their academic performance without the fear of asking too many questions. Indeed, several sources suggest that conversational bots promote inquiry-based learning and enable learners to progress according to their personal rhythm, thereby addressing diverse learning preferences (Jiao et al., 2021; Perez et al., 2020).

Policy Alignment with Malaysia's Digital Transformation Agenda.

Malaysia's National AI Roadmap 2021–2025 focuses on the infusion of instruction, teacher training, and preparedness (MIDA, 2025). AskMe247 aims to contribute to the agenda by embracing utilization of AI in the context of advanced education instruction, making easy to adopt in different fields. The tool has been designed to meet the government's vision of cultivating a future-ready workforce and leverages AI to actualize its potential in transforming the country's education system.

Ethical Challenges in Copyright and Attribution.

Employing AI in education introduces several emerging challenges for intellectual property. Malaysia's Copyright Act 1987 makes no provision for ownership of works generated by AI, raising questions and uncertainties over intellectual property and ownership of such works (Naimat et al., 2025). AI can create false information, and students could rely too much on the technology instead of doing their own research. Privacy and data protection are also a concern because of what students are putting into the system and how it can be used to train other models. Meanwhile, algorithmic bias may compromise the relevance or reliability of information generated by AI tools for educational purposes (Latif et al., 2024). However, AskMe247's conceptual framework can address such issues through the responsible AI use, including proper sources' citation and the utilization of tagging and compensation tools inspired by the EU and US frameworks. All these methods help to ensure academic integrity, encourage learning, judgement, and cultivate independent thinking and guide the responsible application of AI in classrooms.

Commercialization Pathways for Sustainable Adoption.

Apart from the pedagogical benefits, the software can be commercialized. The product is designed in such a way that it allows the easy integration of the LMSs like UFuture, Moodle, Google Classroom, etc. It can also be sold under different brands, and its subscription-based business model facilitates its wide adoption in the academic and professional training marketplaces. Moreover, the ability to provide multilingual, mobile, and speech-based access will make it more relevant in the current dynamic educational technology market. These opportunities can be considered as a way to ensure the sustainability of the platform while taking care of the pedagogical benefits it offers.

By embedding AskMe247 within these discussions, the concept paper gives the idea its proper context and demonstrates how this product could revolutionize the way students receive knowledge, the way teachers teach, and the way institutions plan to embrace such a product as a new facet of learning. It is a comprehensive idea that takes into account learning strategies, ethical concerns and even commercial viability while presenting a revolutionary new approach to higher education.

Conclusion

AskMe247 is suggested to be a groundbreaking innovation to the IMC413 and beyond as it is designed for student's engagement with complicated topics in their studies at higher education. This paper aims to propose the utilization of artificial intelligence as a concept to offer a better understanding of the course, achieve information literacy, enable self-learning, and reflective research. The work describes the potential advantages of AI in terms of increased mastery level, self-learning, and reduced academic burden. The design concepts of the software are based on the unique educational value and scalability to engage students in research-intensive learning, support self-sufficiency or confidence, and implement flipped or hybrid classes. Overall, the paper argues that AskMe247 can be a useful tool in the country's strategy to promote digital education, and the global competitiveness of Malaysia through the strategic use of AI in the curriculums.

Aside from the obvious benefits of AskMe247 for the university setting, the program offers a promising future of sustainable development. The course-specific nature of the design can be adapted to other areas of study, as appropriate and relevant. Further development will be focused on the technical design and implementation of the tool, including multilingualism and mobile-first technologies, as well as copyright and ownership considerations. The tool can be commercialized through the use of LMS-specific design and subscription-based services, enabling AskMe247 to be used in multiple capacities and disciplines. Overall, AskMe247 is an innovative concept that can disrupt the traditional education sector while offering a variety of benefits to students, faculty, and institutions at large, preparing them for the future of the academic and professional world.

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References

- Chen, X., Xie, H., Zou, D., & Hwang, G. J. (2020). Application and theory review of artificial intelligence in education. *Educational Technology & Society*, 23(3), 14–30.
- George-Reyes, C., Llorba, C., Fretes, G., & Palau, R. (2026). Artificial intelligence in education: Toward human-centered pedagogical ecologies. *Education Sciences*, 16(4), 215. <https://doi.org/10.3390/educsci16040215>
- Hamzah, M. A. (2025). Revolutionizing higher education in Malaysia: Exploring the impact, potential, and research gaps in AI applications. *Humanity & Social Sciences Journal*, 20(2), 47–53. <https://doi.org/10.5829/idosi.hssj.2025.47.53>
- Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.
- Huang, X. (2026). Artificial intelligence in education in the new era: Opportunity or challenge? *Universal Access in the Information Society*, 25(2), 233–250. <https://doi.org/10.1007/s10209-026-01318-7>.
- Jiao, J., Ba, S., & He, Z. (2021). Chatbot-based learning systems and student engagement: A conceptual framework. *Journal of Educational Computing Research*, 59(6), 1130–1156.
- Latif, M. S. A., Abdul Manap, N., & Althabhwawi, N. M. (2024). Proposal for copyright compensation for artificial intelligence (AI) data training in Malaysia. *IIUM Law Journal*, 32(2), 159–196.
- Llorba, C., Fretes, G., Martínez-Ballesté, A., & Palau, R. (2026). *Artificial intelligence in smart classrooms: A systematic literature review of applications, dimensions, and teacher roles*. *Encyclopedia*, 6(6), 138. <https://doi.org/10.3390/encyclopedia6060138>.
- Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.
- Mat Yusoff, N., Zainal, N. R., & Halim, S. A. (2025). Student perceptions of AI-based learning tools in Malaysian higher education: A case study approach. *Journal of Educational Technology & Society*, 28(1), 45–60.
- Malaysian Investment Development Authority (MIDA). (2025). *AI in education driving Malaysia's future-ready workforce*.
- Naimat, N., Ahmad Mustafa, M. S., & Mahat, I. R. (2025). Copyright protection in Malaysia amid legal challenges of AI-generated content. *International Journal of Business and Economic Development*, 9(6), 1587–1594.
- Nguyen, T. M. (2025). AI-driven EdTech: Personalization, automation, and learner autonomy in the digital age. *Journal of Educational Technology and Innovation*, 18(2), 112–130.
- Perez, S., Daradoumis, T., & Caballé, S. (2020). A chatbot for learning: Improving student engagement in higher education. *IEEE Access*, 8, 102045–102061. <https://doi.org/10.1109/ACCESS.2020.2993581>.
- Rolim, V., Ferreira, R., & Figueiredo, R. (2021). Intelligent tutoring systems for higher education: A review. *Computers & Education*, 173, 104291.
- Sung, Y. T., Yang, J. M., & Lee, H. Y. (2017). The effects of mobile-computer-supported collaborative learning and self-directed learning ability. *Educational Technology Research and Development*, 65(2), 531–554.
- Tsai, Y. S., & Gašević, D. (2017). Learning analytics in higher education: Current status and future directions. *Journal of Learning Analytics*, 4(1), 5–10.
- Woolf, B. P. (2021). *Building intelligent interactive tutors: Student-centered strategies for revolutionizing e-learning*. Morgan Kaufmann.