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Improving The Academic Self-efficacy Among Students Using Akademi Youtuber Application

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ABSTRACT

To succeed in the twenty-first century, today's generations must be exceedingly competitive and knowledgeable in many areas. The Education 4.0 effort is focused on the diffusion of technology in education. Therefore, today's students need to embrace digital learning rather than just being taught via memorization exercises and rote learning. The purpose of this research is to investigate the ways in which the Akademi Youtuber application (AYU application) assists students in developing their self-directed learning abilities and serves as a reference for both educators and parents. A group of twenty-five information technology specialists and content experts evaluated the content and usability of the AYU application. It was determined, on the basis of the percentage of agreement among the experts (91.2 percent agreement), that AYU application is appropriate for developing self-learning abilities and can be readily accessible by students, parents, and instructors.

Keywords: Akademi Youtuber application, education 4.0, self-learning skills, technologies

INTRODUCTION

Malaysia's education system is inevitably undergoing transformation due to the rapid developments associated with Industry 4.0 (IR4.0), which is fundamentally reshaping all aspects of life and sectors. This technological revolution, characterized by automation, artificial intelligence, and enhanced connectivity, necessitates significant shifts in teaching and learning strategies to equip young learners for the evolving job market. Government programs and scholarly discussions underscore the pervasive impact of IR4.0 on the Malaysian educational landscape. As Cheok and Ran (2022) suggests, critical thinking and problem-solving skills are essential for a workforce navigating complex technological contexts in the IR4.0 era. Educational systems must therefore transcend traditional rote learning approaches, emphasizing the development of problem-solving and analytical abilities (Nilimaa, 2023). Key competencies such as communication, collaboration, creativity, and adaptability are crucial for success in this evolving environment (Mibrand, 2017). Consequently, educational institutions must integrate the cultivation of these soft skills into their curricula (Nasreen et al., 2022). Given the increasing prominence of technology in various fields, digital literacy and data analysis will become indispensable skills. The incorporation of these competencies across different subjects, along with the promotion of computational thinking, is vital for empowering students with the necessary tools to succeed (Moreno-León et al., 2018; Tang et al., 2020; Wang et al., 2022).

Moreover, the online learning platforms such as Massive Open Online Courses (MOOCs), can be effectively integrated with traditional classroom methods to enhance accessibility and accommodate diverse learning styles. Practical activities, role-play, and apprenticeships are valuable instructional strategies that enable students to apply theoretical knowledge in real-world contexts (Cheok & Ran, 2022). The use of technology allows educators to personalize instruction according to individual student needs and progress, thereby fostering better comprehension and participation (Haleem et al., 2022). Four key strategies have been identified for embedding elements of Industry 4.0 (IR4.0) into the education system: enhancing teachers' skills, promoting STEM education, and incorporating technological advancements into schools (Ministry of Education Malaysia, 2020). It also emphasizes the transformation of higher education institutions through curriculum redesign aimed at producing graduates who are prepared for IR4.0, fostering industry collaboration, and encouraging research on emerging technologies (Ministry of Higher Education Malaysia, 2021).

Although IR4.0 is full of exciting prospects for the educational system in Malaysia, there are still hurdles to overcome. There remain many barriers such as access to technology by all people equally (Simamora et al., 2020), dealing with the digital divide (Mubarak & Suomi, 2022), and preparing teachers who can effectively integrate technology into their teaching practices (Salam et al., 2018). Nonetheless, Malaysia can prepare its youth for IR4.0 moment by embracing these changes and implementing appropriate strategies. For instance, IR4.O has great chances for Malaysian education however it has some challanges as well. These include ensuring that all individuals have equal access to new technologies, addressing digital divide, and preparing teachers who are able to integrate technology into their instructional framework properly (Lythreatis et al., 2022; Hennessy et al., 2022). Despite the challenges that remain in fully leveraging the opportunities presented by Industry 4.0 (IR4.0) within Malaysia's education system, it offers a significant potential to create a more inclusive society. However, it is crucial to address key issues such as economic disparities among different social groups in order to ensure equitable access to this form of learning (Alam & Mohanty, 2023). Nevertheless, these challenges can be overcome so that Malaysia is able to prepare the futuregeneration with the necessary skills required for survival in the era of digitalization.

The Industrial Revolution (IR) represents a significant milestone in human civilizational progress (Rafikov & Ansary, 2020). In response, the Malaysian Ministry of Education (MOE) continues to prioritize educational development programs aimed at cultivating ICT-literate, skilled, knowledgeable, and ethically sound citizens. Various policies and strategies, such as the Massive Open Online Course (MOOC), which was initially introduced by George Siemens and Stephen Downes as a course format aligned with the theory of connectivism, have been implemented to strengthen the educational system. Furthermore, the global disruption of educational activities during the Covid-19 pandemic highlighted the accelerated growth and adoption of remote teaching. The increasing utilization of video-assisted online learning, expected to remain a strategic pedagogical approach in the post-pandemic recovery phase, further exemplifies this trend. However, one of the primary challenges associated with online learning is the difficulty in comprehending subject content (Chung et al., 2020). Malaysia's education system thus faces both challenges and opportunities in the context of IR4.0. If these challenges are addressed and opportunities leveraged, the system will be well-positioned to equip learners with the necessary skills and knowledge to thrive in the digital age. To maximize the

potential of video technology in online learning environments, further research is needed to explore more pedagogically meaningful ways to utilize video content. In line with this, the research objective is to examine the impact of the Akademi Youtuber application on enhancing students' academic self-efficacy within specific subject areas.

LITERATURE REVIEW

The work of Maria et al. (2015) and Burden et al. (2019) introduced several innovative applications designed to address learners' needs from kindergarten to university. These applications aim to enhance skills in arithmetic, graph representation, geometric construction, algebra problem solving, and mathematical programming. The results of these studies revealed that online and mobile learning applications not only motivated students but also made learning activities more enjoyable and interactive compared to traditional teaching methods. These engaging, technology-driven experiences fostered greater learner engagement, which is a critical component in influencing academic self-efficacy.

Self-efficacy (SE), a concept introduced by Bandura within his social cognitive theory, refers to an individual's confidence in their ability to succeed in specific situations or accomplish particular tasks (Bandura, 1977; 1997; 2012). In an academic context, students with higher self-efficacy demonstrate greater motivation to study and achieve better academic outcomes, as they believe in their capacity to succeed. Educational technology, particularly innovative learning applications, can significantly impact students' self-efficacy by providing mastery experiences, such as solving complex problems or witnessing their own progress in a subject area. These apps can also offer vicarious learning opportunities through peer interactions and direct feedback, reinforcing students' belief in their academic capabilities.

By leveraging mobile and online learning platforms, students are not only more likely to enjoy the learning process but are also exposed to repeated mastery experiences that boost their self-efficacy. Moreover, these applications offer continuous and personalized feedback, which further bolsters learners' confidence in their ability to achieve academic success. Thus, integrating innovative applications into the learning process serves as a powerful tool for enhancing academic self-efficacy and fostering higher academic achievement. Consequently, the research aims to examine how the Akademi Youtuber application impacts students' self-efficacy, particularly in enhancing their confidence in mastering specific subject areas.

METHODOLOGY

This study utilised a mixed-method approach with a sequential explanatory design as its research methodology. Mixed methods design, as defined by Taherdoost (2022), involves using approaches to gather, analyse, and combine both quantitative and qualitative data within a single or sequential series of research investigations. Researchers used a sequential explanatory design to collect and analyse quantitative data first, then gathered and analysed qualitative data to deepen their comprehension of the research issue. The researchers utilised qualitative research as the suitable method for investigating and emphasising the exploration of meaning, comprehension, concepts, qualities, symptoms, symbols, and descriptions of a phenomenon. This

strategy is concentrated and thorough, utilising a methodical and all-encompassing approach, with a focus on quality. It employs several approaches and provides results in a narrative style.

The research methodology employed the ADDIE model (Spatioti et al., 2022), a systematic framework that encompasses five phases: Analysis, Design, Development, Implementation, and Evaluation. This structured approach ensured a comprehensive and methodical process for the development and assessment of the study. A total of 42 expert teachers from the states of Negeri Sembilan, Selangor, Perlis, and Sabah were selected to evaluate the effectiveness of the Akademi Youtuber application. These experts were chosen based on their extensive experience and relevant expertise in the field. The study used purposive sampling to recruit participants who met the specific criteria relevant to the research objectives.

Data collection was conducted through a combination of questionnaires, in-depth interviews, and document analysis, adapted to accommodate physical distancing requirements. Quantitative data were analysed using descriptive statistics in SPSS version 23 to obtain frequency scores from the questionnaires. The qualitative data were subjected to thematic analysis, following Braun and Clarke's (2021) six-phase framework: familiarisation with the data, development of codes, creation of initial themes, theme refinement, theme definition and identification, and final reporting. This mixed-methods approach allowed for a comprehensive exploration of the research objectives, providing both numerical insights and in-depth qualitative understanding.

RESULTS AND DISCUSSION

The development of the Akademi Youtuber application significantly enhances the teaching and learning process, making it more efficient and effective. Designed to support teachers in improving students' comprehension, the application serves as a personalized learning tool, with teachers assuming the role of facilitators. This approach allows students to engage in self-directed learning while receiving guidance from their teachers, promoting a more individualized and interactive learning experience.

The results from the expert evaluation, as presented in Table 1, demonstrate a high level of agreement regarding the effectiveness of the Akademi Youtuber application in facilitating the teaching process. The percentage of expert agreement across various evaluation items indicates strong endorsement of the application’s ability to improve both teaching efficacy and student understanding. These findings highlight the application’s potential to serve as a supplementary educational tool, acting as a personal tutor for students while enabling teachers to adopt a more facilitative role in the classroom.

Table 1. Percentage of Expert Agreement for Each Item in the Evaluation of the Effectiveness of AYU Application Development

No	Item	Strongly Disagree %	Disagree %	Neutral %	Agree %	Strongly Agree %
1	The app's interface is simple, clear, and interesting	0	2.2	0	28.3	69.6
2	The language used is clear and easy to understand.	0	1	0	15	65.2
3	The objectives given are clear and achievable using these apps.	0	2.2	0	39.1	58.7
4	The videos in the apps are clear and easy to understand.	0	2.2	0	34.8	63.0
5	Usage of this application can build student-based learning.	0	2.2	0	37.0	60.9
6	Activities in the apps are interesting, simple, and appropriate.	0	4.3	0	41.3	54.3
7	The app is user-friendly and easily accessed.	0	2.2	0	58.7	39.1
8	The content available in this application is suitable for use by all.	0	0	0	37.0	63.0
9	The content of the apps is easily accessed.	0	0	0	45.7	54.3
10	The content of the apps is suitable for teachers' reference.	0	0	0	47.8	52.2
11	The content of the apps can inculcate a self-learning culture in students.	0	4.3	0	30.4	65.2
12	The content of the apps can assist teachers, students, and parents.	0	2.2	0	37.0	60.9

In Table 1, the data indicates that 97.9% of users find the app's interface simple, clear, and interesting. This is a very positive result, suggesting that the app is designed effectively to provide users with a pleasant and engaging experience. The research by Criollo-C et al. (2021) found that students' achievement and learning were improved due to the use of the mobile application in the classroom. The administrator should mandate and encourage the use of the mobile app to its fullest extent to provide the highest quality of education possible. For their students to be successful on a global scale, educators must provide them with the tools they need to compete.

The findings reveal a high level of user satisfaction regarding the content suitability of the Akademi Youtuber application. Notably, 100% of users indicated that the content provided is appropriate for a wide range of audiences, including students, teachers, and parents. This aligns with Jiang's (2023) findings, which suggest that the app offers a diverse array of content tailored to meet the varied needs of different user groups. The comprehensive nature of the content ensures that it is adaptable to multiple educational contexts, thus enhancing its overall utility.

In terms of user-friendliness, the data indicates that 97.8% of users find the application to be highly user-friendly and easily accessible. This demonstrates that the app's design and

functionality are intuitive, enabling users to navigate the platform with minimal effort. The high user-friendliness score reflects the platform's success in providing a seamless user experience, making it a practical and efficient tool for both educators and learners. These findings underscore the app's potential to facilitate widespread adoption, given its accessibility and ease of use across diverse user groups.

The Akademi Youtuber application has proven to be highly effective, offering several key benefits such as time-saving, cost-efficiency, increased productivity, and ease of use. One of the most notable features is its ability to save users time by providing direct access to a wide range of educational videos and live courses. Users no longer need to search extensively for relevant content; instead, they can easily select videos aligned with the curriculum, organized according to topics or chapters based on the Curriculum and Assessment Standard Document for Malaysian Schools (CASDMS). This streamlined access to curriculum-specific content highlights the app's practical value and its ability to support efficient teaching and learning processes.

The fact that the Akademi Youtuber application is the first of its kind in the Google Play store to offer Teaching and Facilitation (T&F) videos that adhere to the CASDMS further emphasizes its innovative approach. By tailoring its educational resources to meet the specific standards of the Malaysian school curriculum, the app addresses a critical gap in the educational landscape. This alignment not only ensures that the content is relevant and beneficial to Malaysian students and educators but also enhances the app's credibility and authority within the educational sector.

Furthermore, the developers' decision to file for copyright protection with the Malaysian Intellectual Property Corporation (MyIPO) demonstrates their commitment to safeguarding their intellectual property and maintaining the integrity of the platform. This step underscores the app's significance in the field of educational technology, as it seeks to protect its unique contributions and ensure its long-term sustainability in the rapidly evolving digital learning environment. The combination of innovation, curriculum alignment, and legal protection positions the Akademi Youtuber application as a valuable resource in enhancing education in Malaysia.

By securing copyright protection, the developers of the Akademi Youtuber application can protect their investment in the creation, development, and maintenance of the app. This legal protection not only prevents unauthorized use, duplication, or reproduction of its content but also ensures the developers retain control over the platform's intellectual property. The copyright status strengthens the app's position in the educational technology market, offering a secure foundation for future enhancements and wider adoption.

The availability of the Akademi Youtuber application, coupled with its copyright protection, highlights its potential to make a substantial impact on the Malaysian education system. By offering Teaching and Facilitation (T&F) videos that are closely aligned with the Curriculum and Assessment Standard Document for Malaysian Schools (CASDMS), the app provides a valuable resource for both teachers and students. Teachers can leverage these videos to enhance the effectiveness of their instruction, while students benefit from structured,

curriculum-relevant content that supports their learning. This alignment ensures that the app serves as a reliable tool in reinforcing curriculum goals, helping to bridge the gap between traditional teaching methods and modern, digital learning tools.

The availability of high-quality, curriculum-aligned videos contributes to improved educational outcomes by fostering more effective teaching and personalized learning experiences. The app's ease of access and alignment with national curriculum standards empower teachers to focus on facilitating deeper understanding, while students can independently explore topics at their own pace. These features can lead to enhanced student engagement, better comprehension of subject matter, and ultimately, greater academic success.

Moreover, the formal filing of the application for copyright protection with the Malaysian Intellectual Property Corporation (MyIPO) on October 27, 2021, under application number DV2021E04521, as shown in Figure 1, further legitimizes the Akademi Youtuber application as an essential educational tool. This legal recognition ensures that the content remains exclusive to its intended audience and contributes to a more structured and secure learning ecosystem, thereby safeguarding the app's role in enhancing education in Malaysia.

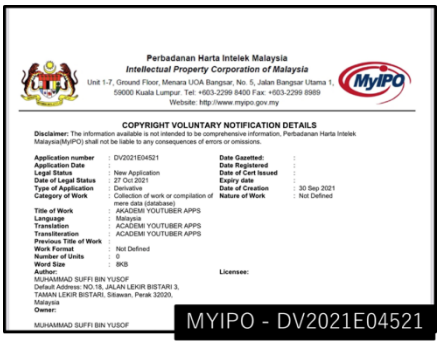

Figure 1. Registration with the Malaysian Intellectual Property Corporation (MyIPO)

The collaboration of teachers across Malaysia ensures that the educational videos embedded in the application are of high quality and authenticity. These videos are original works created by experienced teachers who are experts in their respective fields. This not only enhances the credibility of the content but also ensures that it is aligned with the curriculum standards and reflects best practices in teaching and learning. The application has gathered an impressive collection of over 25,000 educational videos, making it a comprehensive resource for students, teachers, and parents. This large volume of content ensures that users have access to a wide range of topics and subjects, catering to diverse learning needs and preferences. Additionally, the availability of these videos on a digital platform enhances accessibility, especially during times of remote learning such as the COVID-19 pandemic.

The collaboration and training provided to YouTubers contribute to the professional development of teachers across Malaysia. By sharing their expertise and learning from each other, teachers improve their skills in creating educational content and leveraging digital tools for teaching and learning (Townley, 2020). This collaborative effort also fosters a positive community among Malaysian teachers, strengthening connections and promoting knowledge

sharing and support. The availability of educational videos on the application has had a significant impact on education during the COVID-19 pandemic. Tens of thousands of students have benefited from using these videos for remote learning, providing continuity in education despite school closures and disruptions. The application has served as a valuable resource for both students and teachers, helping them adapt to new modes of learning and teaching during challenging times.

CONCLUSION

The digital technology has significantly altered the education scene in the 21st century, providing students with exceptional flexibility and access to learning materials. Educational options have expanded beyond the classroom with platforms like the Academy Youtuber application, enabling students to access content at their convenience. This paradigm change benefits students by improving their understanding and provides educators with an excellent instrument to share knowledge. The Academy Youtuber application is a versatile teaching tool that enables teachers to enhance their classes with interactive multimedia content tailored to various learning preferences. Educators can expand the reach of their lectures outside the classroom by using this platform, allowing students to revisit ideas at their speed. This enhances understanding and promotes a culture of ongoing learning outside of the classroom environment.

Furthermore, the app's accessibility goes beyond students to include a wider audience, such as parents looking to assist their children's education. By accessing the app's selected content and following curricular standards like the CASDMS, parents may engage in their child's learning process, understanding the subjects taught and offering support at home. This collaborative method enhances the parent-teacher-student relationship and promotes a comprehensive learning environment that goes beyond traditional educational settings.

The Academy Youtuber application is a significant breakthrough in education that connects traditional teaching methods with current technology. By making high-quality educational content accessible to everyone, it has the potential to revolutionise the way students learn, support teachers, and increase parental involvement. Through the power of digital learning platforms, the future of education will become more inclusive, dynamic and accessible.

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Conflict of Interest

We confirm that the article is the result of the researcher's own efforts and has not been previously published or is currently being reviewed for publication elsewhere. We affirm that all authors have made substantial contributions to the material submitted to the Journal of Creative Practices in Language Learning and Teaching (CPLT).

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Authors' Contributions

All authors contributed to the idea and development of the study up to the final revision of the manuscript.

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