


Research Article

The Effectiveness of the AYU-OCS Portal in Improving Teachers' Teaching Activities in The Classroom.

Hamidah Mat^{1, *}, Farrah Wahilda Khirluddin², Nurlisa Kamba³, Wan Hazaruddin Wan Hassan⁴, Muhammad Suffi Yusof⁵, Zuly Rahimie Zulkfli⁶, Lim Yiet Im⁷, and Agila Themmedu⁸

¹ Institut Aminuddin Baki; hamidah@iab.moe.gov.my;  0000-0001-9766-6180


² SMK Gunung Rapat; spkgirlz@edidik.edu.my;  0009-0007-9858-5607


³ SK Saint John Beaufort; nurlisak@gmail.com;  0009-0001-2826-9832

⁴ SK Sri Limau; onehazar@gmail.com;  0009-004-3144-4947

⁵ SK Pangkalan TLDM; Muhammad Suffi Bin Yusof; suffi83@gmail.com;  0000-0003-0079-0359

⁶ SK Ulu Semenyih; Zuly Rahimie Zulkfli ; hanyluz@gmail.com;

⁷ Kolej Tingkatan Enam, Tapah; Lim Yiet Im ; emilylimyietim@gmail.com;  0009-0005-1664-9570

⁸ SMK ST Michel; Agila Themmedu; agilask@gmail.com;  0009-0001-5667-0789

* Correspondence: email; telephone.

Abstract: This study evaluates the AYU-OSC Portal, a digital education platform designed to enhance teaching practices and student engagement. Leveraging a quantitative approach, data were collected from 135 educators, predominantly female (85.9%), aged 35–54 years (88.2%), with most holding bachelor's degrees (69.6%) and having 10–20 years of teaching experience (63.7%). The portal demonstrated high usability, with mean scores of 4.45 ($SD = 0.70$) for ease of use and 4.30 ($SD = 0.81$) for frequent usage. Accessibility ratings were also strong, particularly in enhancing self-education (Mean = 4.59, $SD = 0.55$) and adaptability (Mean = 4.56, $SD = 0.53$). Aligned closely with curriculum needs, the portal's resources scored highly for their effectiveness, with mean scores of 4.53 for both alignment and multimedia engagement. Teachers highlighted its positive impact on knowledge exchange, self-directed learning, and overall classroom dynamics. However, some challenges were noted, including navigation complexity (Mean = 3.53, $SD = 1.16$), suggesting areas for refinement. To further optimize the portal, respondents recommended integrating interactive elements, gamification, and advanced content to cater to higher education needs. These enhancements would elevate engagement levels and address diverse user preferences. The AYU-OSC Portal stands out as a scalable and inclusive solution, leveraging digital tools to meet modern educational demands. By addressing user feedback and refining its features, the platform demonstrates significant potential to transform teaching methodologies, foster equitable learning opportunities, and support educational innovation on a broader scale.

Keywords: Digital Education Platform, AYU-OSC Portal, Usability and Accessibility, Teaching Practices, Curriculum Alignment

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1. INTRODUCTION

Digital education platforms have become a cornerstone of modern learning, offering a wide range of tools and resources that enable students and educators to connect beyond traditional classrooms. To study and understand, students are increasingly using newer technologies these days. This has prompted academics and site designers to capitalize on this and create even more innovative technology (Albashtawi et al., 2020). Thus, an online learning platform has been seen as a tool that can educate social skills, teach self-learning and self-discovery, save time, and inspire people to keep up with the latest technology. To facilitate education-based information exchange activities between academia and enterprise, the goal is to identify the functional components of a digital learning platform by utilizing the various, multifaceted network effects of digital platforms (Linzalone et al., 2020).

During the COVID-19 pandemic, the use of digital technologies became crucial because distance learning made it possible to continue the educational process while reducing the amount of in-person interaction between teachers and students. This helped to slow the virus's rapid spread and lower the number of new cases. The implementation of quarantine regulations accelerated the adoption and widespread use of digital technologies, which are now an essential component of classroom instruction at all educational levels, including higher education (Bader et al., 2022). The focus is especially on digital education platforms. Nevertheless, there are drawbacks to online learning using digital platforms as well, such as lack of interest, technological limitations, distractions, and a loss of a sense of community and connection (Xie et al., 2020). By incorporating artificial intelligence (AI), mobile learning, and digital platforms pave the way for a more adaptive, inclusive, and forward-thinking education system.

The AYU-OSC Portal represents a significant advancement in leveraging digital learning platforms to enhance teachers' instructional practices. De Lima et al. (2020) highlights the vital role digital learning platforms play in the internationalisation and modernisation of higher education. Their integrative review underscores the potential of these platforms to provide diverse educational resources, facilitate global collaboration, and offer flexible learning opportunities. This research supports the idea that AYU-OSC Portal can empower teachers with access to a wide array of digital tools, resources, and international educational networks, ultimately improving the efficacy of their teaching activities in the classroom.

Moreover, the digital transformation of education through innovative platforms, as discussed by Wang et al. (2023), emphasizes the importance of integrating project-based teaching and real-world applications into academic curricula. The design of a "Project-Based Teaching" service platform exemplifies how digital tools can bridge the gap between theoretical knowledge and practical skills, promoting a more engaging and interactive learning experience for students. By applying these principles to the AYU-OSC Portal, teachers can create curricula that not only align with academic standards but also incorporate real-world problem-solving and project-based learning. This approach can enhance students' critical thinking and practical skills, thereby making the AYU-OSC Portal an effective tool in transforming traditional teaching methods and improving overall classroom dynamics.

2. METHOD & FINDINGS

This study adopted a quantitative approach to assess the usability, accessibility, and content quality of the AYU-OSC Portal. Data was gathered through a survey of 135 participants, predominantly teachers, with varying levels of experience and educational backgrounds. The demographic

distribution, as shown in Table 1, highlights a significant majority of female respondents (85.9%) compared to male participants (14.1%).

Table 1 : Gender

Gender	Frequency	Percentage
Male	19	14.1%
Female	116	85.9%
Total	135	100%

The age distribution of participants, as presented in Table 2, indicated that the majority were mid-career professionals, with 45.2% aged between 35–44 years and 43.0% between 45–54 years. Table 3 highlighted that the ethnic composition was predominantly Malay (83.0%), with smaller representations of Chinese (5.9%), Indian (5.2%), and other ethnic groups (5.9%). Regarding educational qualifications, Table 4 revealed that while a small proportion held teaching diplomas (4.4%) or PhDs (0.7%), the majority possessed either a bachelor's degree (69.6%) or a master's degree (25.3%). Table 5 further demonstrated that most participants (63.7%) had 10–20 years of service experience, with another 27.4% having served for 21–30 years.

Table 2 : Age

Age	Frequency	Percentage
18-34 years old	5	3.7%
35-44 years old	61	45.2%
45-54 years old	58	43.0%
Above 55 years old	11	8.1%
Total	135	100%

Table 3 : Race

Age	Frequency	Percentage
Malay	112	83.0%
Chinese	8	5.9%
Indian	7	5.2%

Other	8	5.9%
Total	135	100%

Table 4 : Educational Background

Educational Background	Frequency	Percentage
Teaching Diploma	6	4.4%
Degree	94	69.6%
Master	34	25.3%
PhD	1	0.7%
Total	135	100%

Table 5 : Period of Service

Period of Service	Frequency	Percentage
Below 10 years	4	3.0%
10-20 years	86	63.7%
21-30 years	37	27.4%
more than 30 years	8	5.9%
Total	135	100%

Biography Scales adapted and adopted from Uchida & Sugimoto (2020); Mystakidis & Christopoulos (2022).

The evaluation of the AYU-OSC Portal utilized validated and adapted scales from previous research to ensure the reliability and relevance of the measurements. Usability was assessed using scales adapted from Oliha (2021), as presented in Table 6, while accessibility and availability were evaluated using scales from Lazar et al. (2020), shown in Table 7. Additionally, content and resource quality were measured using scales developed by Cabero-Almenara et al. (2022) and Bygstad et al. (2023), as detailed in Table 8. All responses were recorded on a five-point Likert scale, with mean scores and standard deviations calculated to quantify and analyze the findings comprehensively.

Table 6 : Usability of the AYU-OSC Portal

Code	Item	Mean	Standard Deviation
US01	I think I would like to use this AYU-OSC Portal frequently.	4.30	0.81
US02	I found the AYU-OSC Portal is unnecessarily complex.	3.53	1.16
US03	I thought the AYU-OSC portal was easy to use.	4.45	0.70
US04	I found the various modules in this portal to be well integrated.	4.39	0.67

Scales adapted and adopted from Oliha (2021)

On the other hand, Table 6 illustrates that the AYU-OSC Portal exhibited high usability among respondents. The statement "I think I would like to use this AYU-OSC Portal frequently" received a mean score of 4.30 (SD = 0.81), while "The portal was easy to use" achieved the highest mean score of 4.45 (SD = 0.70), indicating overall user satisfaction. However, a degree of complexity was acknowledged, as evidenced by the lower mean score of 3.53 (SD = 1.16) for the item "The portal is unnecessarily complex," suggesting that some aspects of the portal could benefit from simplification.

Table 7 : Accessibility and Availability

Code	Item	Mean	Standard Deviation
AA01	AYU-OSC portal can improve my knowledge exchange.	4.50	0.57
AA02	AYU-OSC portal can enhance self-education	4.59	0.55
AA03	AYU-OSC portal would help my students to complete homework more quickly.	4.37	0.64
AA04	AYU-OSC portal can increase my student's learning performance.	4.44	0.61
AA05	AYU-OSC portal can increase my student's learning efficiency.	4.45	0.61
AA06	I find AYU-OSC portal easy to use from anywhere.	4.56	0.53
AA07	AYU-OSC portal provides flexibility in interaction with the user.	4.50	0.57

AA08	I find AYU-OSC portal easy to use anytime.	4.53	0.64
AA09	I can use AYU-OSC portal without problems	4.41	0.63

Scales adapted and adopted from Lazar, Panisoara, & Panisoara, (2020).

Furthermore, Table 7 indicates that participants highly rated the portal for its accessibility and effectiveness in facilitating knowledge exchange and self-education. The item "The portal can enhance self-education" received the highest mean score of 4.59 (SD = 0.55), reflecting its perceived educational value. Additionally, the portal's flexibility and usability were positively evaluated, with mean scores of 4.56 (SD = 0.53) for its adaptability to various contexts and 4.53 (SD = 0.64) for its ease of use anytime and anywhere.

Table 8 : Content and Resource Quality

Code	Item	Mean	Standard Devision
CRQ01	The resources on the portal in aligning with the school curriculum.	4.53	0.54
CRQ02	The resources are meeting my teaching needs.	4.45	0.57
CRQ03	The materials are engaging my students.	4.40	0.59
CRQ04	The multimedia elements (e.g., videos, interactive activities) are enhancing my student learning.	4.53	0.58
CRQ05	The resources are addressing the needs of my students with different learning abilities.	4.40	0.63

Scales adapted from Cabero-Almenara et al. (2022); Bygstad & Øvrelid (2024)

Moreover, Table 8 demonstrates that the portal's resources were highly aligned with the school curriculum and effectively addressed teaching needs. The items "The resources align with the school curriculum" and "The multimedia elements enhance student learning" both achieved a high mean score of 4.53, indicating strong agreement among participants. Furthermore, the resources were rated as engaging (Mean = 4.40, SD = 0.59) and inclusive, accommodating students with diverse learning abilities (Mean = 4.40, SD = 0.63).

3. DISCUSSION

The implementation of educational technology platforms has become increasingly crucial in modern teaching environments, and the AYU-OSC Portal stands as a testament to effective educational innovation. A recent comprehensive survey of educators has provided valuable insights into the portal's impact and effectiveness. The survey participants represented a diverse demographic, with a notably strong female majority among respondents. Age distributions showed a healthy spread, with most educators falling between 35-54 years old. These respondents brought substantial experience to their evaluations, with most having 10-20 years of teaching experience. The educational qualifications of the participants were predominantly at the Degree level, though some held Masters and PhDs. The ethnic composition of respondents reflected most Malay educators, followed by Chinese and Indian educators, providing a comprehensive cross-section of perspectives.

On the other hand, the user experience and interface design of the AYU-OSC Portal received overwhelmingly positive feedback from educators. Most respondents expressed strong agreement with the statement that they would like to use the portal frequently, indicating high user satisfaction. While there were some mixed responses regarding the portal's complexity, most users did not find it unnecessarily complicated. The consistent reporting of ease of use suggests a well-designed user interface that meets the needs of its target audience. Particularly noteworthy was the positive feedback regarding the integration of various modules, which demonstrates effective system coherence and thoughtful design implementation.

The portal's impact on academic achievement and teaching effectiveness has been particularly significant. Teachers reported strong positive effects on knowledge exchange capabilities, suggesting that the collaborative features of the platform are working as intended. The self-education enhancement aspects received enthusiastic feedback, indicating that the portal successfully supports independent learning. A notable improvement in homework completion efficiency was reported, with teachers observing enhanced student learning performance and efficiency. The accessibility features of the portal have proven to be one of its strongest assets, with users consistently reporting the ability to access the platform from anywhere and at any time. This flexibility in user interaction has been particularly valuable for both teachers and students, allowing for seamless integration into various teaching and learning contexts.

The alignment of educational content with curriculum requirements has emerged as another significant strength of the AYU-OSC Portal. Resources have been carefully designed to complement the school curriculum, effectively meeting teaching requirements while promoting student engagement. The incorporation of multimedia elements has proven particularly successful in enhancing the learning experience, with the portal demonstrating effectiveness in addressing diverse learning abilities. The platform has shown remarkable success in supporting teaching practices, enabling educators to create more engaging lessons while promoting creativity in their teaching approaches. The facilitation of flexible and efficient resource sharing has been particularly beneficial, allowing teachers to better address diverse learning needs while supporting both independent and guided learning approaches.

While the overall assessment of the portal is decidedly positive, the survey has also identified several areas for potential improvement. Users have suggested the addition of more interactive elements, such as quizzes and live Q&A sessions, to enhance engagement. There have been requests for expanded content at higher education levels and the implementation of gamification features, including a reward system with coins. Looking to the future, several key recommendations have emerged from the survey responses. These include the continued development and expansion of curriculum-aligned resources, the implementation of more interactive and gamified elements, and the addition of advanced content for higher education levels. The enhancement of the reward and

motivation system and the development of more tools for addressing diverse learning needs have also been identified as priority areas for future development.

Overall, the AYU-OSC Portal has demonstrated remarkable success in meeting its educational objectives while maintaining high standards of user-friendliness and accessibility. The platform has successfully integrated modern teaching and learning practices while providing valuable tools for educators and students alike. The suggestions for improvement offer constructive direction for future development, ensuring that the portal will continue to evolve and enhance its effectiveness in supporting educational outcomes. As educational technology continues to play an increasingly important role in modern education, the AYU-OSC Portal stands as a model of successful implementation and continuous improvement in service of educational excellence.

5. CONCLUSION

The findings of this study underscore the AYU-OSC Portal's strong potential as an effective educational tool for enhancing teaching and learning. The portal demonstrated high usability, with participants expressing a strong willingness to use it frequently due to its user-friendly design and ease of access. Its flexibility to be used anytime and anywhere further reinforces its practicality for educators and students alike, highlighting its capacity to support self-directed learning and knowledge sharing. These features align with the increasing need for digital platforms that facilitate both formal and informal education in today's technologically driven educational landscape.

In terms of content, the portal's resources were found to be well-aligned with the school curriculum and highly effective in addressing teaching needs. The high ratings for the inclusion of multimedia elements suggest that the portal successfully leverages digital tools to enhance student learning and engagement. Furthermore, the resources were perceived as engaging and inclusive, accommodating a diverse range of learning abilities. This suggests that the portal not only supports curriculum delivery but also promotes equitable access to quality educational materials, which is a critical aspect of modern education.

Despite these strengths, the study also revealed areas for improvement, particularly regarding the perceived complexity of some features. While the overall usability was rated highly, the lower score for unnecessary complexity indicates that some users may find certain aspects of the portal challenging to navigate. Addressing these issues is essential to ensuring that the portal remains accessible and intuitive for all users, thereby optimizing its potential impact on teaching and learning.

Finally, the AYU-OSC Portal represents a promising platform for enhancing educational practices. Its strengths in usability, accessibility, and curriculum alignment make it a valuable tool for educators seeking to integrate digital resources into their teaching strategies. However, ongoing efforts to refine the portal's design, expand its resource offerings, and address user feedback will be crucial to sustaining its effectiveness and relevance in an evolving educational environment. By prioritizing these enhancements, the portal can continue to play a pivotal role in advancing the quality of education and supporting diverse learning needs.

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