
Using E-portfolios for Comprehensive Student Assessment in Malaysia: Obstacles and Challenges

Joe Onn Lim¹, Puteri Roslina Abdul Wahid², Zaheril Zainudin³

1, 2, 3 Faculty of Education and Liberal Studies, City University Malaysia, 46100 Petaling Jaya, Selangor, Malaysia.

*Corresponding author: 201910050001@student-city.edu.my

Abstract: *Today's digitally driven era requires education assessment systems to be updated. With the internet's pervasive role in learning and the advancement of technology, a more relevant and comprehensive method of assessing students, such as e-portfolios, is needed in Malaysia. E-portfolios are especially valuable in the age of online learning. They enable students to submit assignments digitally, reflecting the shift toward digitalized education. Furthermore, e-portfolios can address the issue of verifying the legitimacy of credentials. Obstacles and challenges on utilizing e-portfolios for comprehensive student assessment in Malaysia are studied by gathering information from past literatures and conducting open-ended interviews with educators in Malaysian tertiary education institutions that use e-portfolios to assess student works. The phenomenological approach applied focuses on the obstacles faced by educators when using e-portfolios for student assessment. Convenience sampling is applied to access the perspectives of respondents, who are educators who use e-portfolios to assess their students. Some obstacles identified are inadequate digital skills among students, lack of proper training and guidelines regarding e-portfolio assessments, and lack of motivation among students in completing and enhancing their e-portfolios.*

Keywords: *e-portfolio, student assessment*

INTRODUCTION

In the rapidly evolving landscape of education, traditional methods of student assessment are increasingly being questioned. The rise of digital technologies and the internet has transformed not only how students learn but also how their achievements and skills are evaluated. In this context, e-portfolios have emerged as a promising tool for comprehensive student assessment. Unlike conventional assessment methods, e-portfolios provide a dynamic and interactive platform that allows students to compile, reflect upon, and showcase their academic and extracurricular achievements over time. This shift towards digitalized education and assessment is particularly relevant in Malaysia, where the integration of technology into the educational system is seen as a key driver of modernization and improved educational outcomes.

E-portfolios have numerous advantages, including the capacity to record a more comprehensive picture of students' learning, support students in self-reflection, and raise student engagement (Madden et al., 2019). Additionally, they offer a workable answer to problems pertaining to the validity and verification of academic credentials, which are become more crucial in the digital era. Nonetheless, there are certain difficulties with the e-portfolio deployment in Malaysia. Educators encounter a variety of challenges when implementing technology in education, ranging from technological glitches and inadequate training to poor strategy implementation and lack of competency amongst educators (Nurin et al., 2022).

This study aims to investigate obstacles and challenges faced by educators when implementing e- portfolios in Malaysian tertiary education institutions, utilizing knowledge from previous research as well as firsthand information gathered from open-ended interview questions given to Malaysian educators who utilize e-portfolios. Through the use of a phenomenological methodology, the study aims to offer a comprehensive grasp of the obstacles and challenges associated with implementing e-portfolios for student assessment in Malaysia.

PROBLEM STATEMENT

It's becoming more widely accepted that Malaysia's traditional approaches to student assessment, which mostly depend on standardized testing and paper-based evaluations, are insufficient to meet the varied demands and skills of students in the digital age. These approaches frequently fall short of capturing the entire range of knowledge and abilities that students possess, especially those that are vital for success in the twenty-first century that includes creativity, critical thinking, and digital literacy (Alismail & McGuire, 2015). The introduction of e-portfolios, which provide a more thorough and ongoing assessment system in line with the requirements of modern-day education, is a viable remedy to these drawbacks.

E-portfolios have a lot of potential for benefits, but there are a lot of obstacles to their implementation in Malaysian schools. The absence of sufficient infrastructure and technical assistance to enable the widespread usage of e-portfolios is one of the main issues (Nurin et al., 2022). Insufficient access to dependable internet and digital devices is a challenge for institutions and universities in Malaysia, impeding the efficient adoption of e-portfolios. Furthermore, there is a significant lack of proficiency with digital tools among educators; many needs intensive guidance and assistance in order to use e-portfolios in assessment procedures (Nurin et al., 2022). Furthermore, the absence of uniform regulations and procedures for the adoption and assessment of e-portfolios leads to ambiguity and inconsistent use of these tools across various educational institutions.

This paper seeks to address these challenges by investigating the obstacles faced by educators in using e-portfolios for comprehensive student assessment in Malaysia. Through a combination of literature review and primary data collection, the study aims to identify the key barriers towards e-portfolio implementation and potentially propose actionable recommendations for overcoming them, thereby facilitating the effective integration of e-portfolios into the Malaysian education system.

LITERATURE REVIEW

Prospective Teachers' Perceptions of Barriers to Technology Integration in Education

With the potential to improve educational outcomes and enrich learning experiences, technology integration in education has grown in significance in the 21st century. However, considerable obstacles still stand in the way of the successful use and integration of technology in classrooms. The literature written by Dinc (2019) looks at a number of barriers to technology integration and divides them into two categories: first-order (external) and second-order (internal). The review also looks at how teacher attitudes, administrative assistance, and professional development affect integrating technology.

First-order barriers mentioned by Dinc (2019) include a lack of computer lab space, inadequate technology, and problems with internet connectivity. Besides, it is discovered that inadequate in-service training and unsuitable software constituted significant obstacles to the successful integration of technology in higher education. Sheninger (2014) highlighted the impact of principals on the adoption of technology in classrooms, highlighting the importance of the support and vision provided by school administrators. The article written by Dinc (2019) summarized first-order barriers into two main points: a deficiency of administrative assistance and restricted access to resources.

Second-order barriers concentrate on internal elements such as reluctance to change, teacher confidence, and beliefs about technology's usefulness (Dinc, 2019). A key factor in the success of technology integration is the attitudes and beliefs of teachers. Teachers' use of technology in instruction is greatly influenced by their belief in the benefits of technology in achieving educational goals, as stated by Dinc (2019). However, because of their conventional teaching methods, lack of enthusiasm, or both, some educators are resistant to integrating technology into the classroom. Resistance to incorporating technology into the classroom is also influenced by low self-efficacy and a lack of confidence in one's ability to use technology, which may hinder many educators.

Varsities and lecturers alike need to address both external and internal issues to get past these barriers for the successful adoption of technologies such as e-portfolio programs. It is imperative that educators receive professional development to provide them with the skills and knowledge needed to successfully integrate technology. Dinc (2019) contended that although professional development may not have a direct impact on teachers' technology use, it may have an impact on how they view the advantages of technology. Practical application possibilities and hands-on experience with technology can reinforce teachers' beliefs and confidence, which can be achieved by expanding their knowledge and skill set. Access to technological resources, sufficient financing, administrative support, and a clear vision from school administrators are all necessary for effective technology integration (Dinc, 2019). It is imperative to tackle these barriers so that educators can concentrate on instructing and learning without being distracted by administrative concerns.

Technology integration in education can be greatly impacted by first-order constraints such as professional development, administrative support, and resource access. Second-order hurdles add to the process's complexity, such as teacher beliefs and confidence. A complete strategy including administrative support, professional development, and an emphasis on boosting teacher confidence is needed to overcome these obstacles. To create learning experiences that are both effective and engaging, it is imperative to overcome these barriers as technology becomes a vital element of education. It is fundamental to address these barriers and concerns when determining the framework for implementing technologies such as e-portfolios in tertiary education.

Obstacles of Digitalization of Malaysia's Tertiary Education Institutions

As the education sector in Malaysia transitions to digitization, quality is essential (Nurin et al., 2022). In addition, several initiatives are highlighted under the 12th Malaysia Plan, most notably the digitalization plan, faculty staff training, and quality improvement in Malaysian tertiary education (Nurin et al., 2022). The sustainability and caliber of Malaysia's higher education system are impacted by several internal and external obstacles that the Ministry of Higher Education (MOHE) must contend with. Using the Political, Economic, Social, and Technological (PEST) analysis framework, the study done by Nurin et al. (2022) investigates these issues. The evaluation by Nurin et al. (2022) addresses concerns about availability of technology infrastructure, governance, strategies to maintain quality, and declining financing.

The reduction in government financing is one of the main issues faced in Malaysia's tertiary education institutions. Teaching, research operations, and institutional tactics are all impacted by this decline. Higher education institutions are expected to diversify their revenue streams and lessen their reliance on public cash when government financing declines, according to Abdullah (2017), albeit universities in Malaysia are under pressure to improve their performances to compete for government funding due to the shift towards higher commercialization and worldwide competition. The decrease in financing impacts

public universities' capacity to cover their operational and development expenses, necessitating the search for new revenue streams (Nurin et al., 2022).

The analysis conducted by Nurin et al. (2022) also revealed weak governance as a problem faced by universities, which is frequently an indicator of ineffective administration in educational establishments. As noted by Inayatullah and Milojevic (2016), ineffective governance can result in a lack of accountability, which can impair decision-making and cause institutions to operate less effectively than they should. Faculty involvement in university governance is declining because of university administrators' growing attention to managerial responsibilities. Also, obstacles faced when implementing digitalization of Malaysia's tertiary education system includes insufficient quality control systems, which covers data, tools, and the educational environment (Nurin et al., 2022). The sustainability of higher education quality related to introducing new digital means of education is impacted by poorly implemented strategies, hence institutions need to create strong strategic plans to deal with this issue. Other technical problems were made more difficult, since many students in rural areas in Malaysia lack digital tools and dependable internet connectivity (Nurin et al., 2022). Online learning and e-learning projects are internally hindered by inadequate infrastructure and inadequate technological integration, as many students in Malaysia faced challenges due to inadequate internet access and poor connectivity (Al- Kumaim et al., 2021). Cyberattack dangers resulting from a growth in online activity and the storage of sensitive data in university systems are examples of the external side of technology-based concerns (Rajaendram & Menon, 2021). Sani (2020) emphasized the need for strong cybersecurity procedures by pointing out a 50% rise in cyber risks in the year 2020.

Several strategic suggestions are put out to deal with these issues. First, the quality of education can be raised by hiring qualified instructors and offering sufficient professional development (Nurin et al., 2022). University programs can be better aligned with market demands through strategic partnerships with industry participants, guaranteeing graduates the knowledge and skills that employers value. Financial stress can be reduced, and educational technology innovation can be fostered by enhancing infrastructure and offering financial aid to students and private higher education institutions (Arumugam, 2021). To defend against such risks, MOHE should work with pertinent partners to enhance infrastructure, enhance private higher education, and guarantee adherence to cyber security best practices (Nurin et al., 2022). A culture of change and adaptation in the educational sector can be fostered by implementing a strong technology integration model.

In summary, Malaysia's higher education system faces various internal and external issues with funding, governance, technology infrastructure, and quality assurance. A complete strategy is needed to address these issues, one that involves enhancing governance, offering funding, developing strategic alliances, and making sure technology infrastructure is reliable and secure. Through the implementation of strategic proposals, Malaysia's higher education system may foster innovation, enhance the quality of education, and attain sustainability.

METHODOLOGY

To make inferences about how societies and individuals operate, data are gathered through open-ended interview questions, which are used in this research regarding obstacles of using e-portfolios for student assessment. This phenomenological approach focuses on exploring and understanding the lived experiences of individuals regarding a particular phenomenon (Creswell & Creswell, 2018).

Research Design

Phenomenological research is a qualitative design of inquiry coming from philosophy and psychology in which the researcher describes the lived experiences of individuals about a phenomenon as described by participants. This description culminates in the essence of the experiences of several individuals who have all experienced the phenomenon (Creswell & Creswell, 2018). The phenomenological approach applied focuses on the obstacles and challenges faced when implementing e-portfolios for student assessment, from the perspective of educators in Malaysia.

The goal of phenomenological research is to gain a deeper understanding of how people perceive, interpret, and make sense of their experiences (Creswell & Creswell, 2018), in this case, the experiences of people involved in using e-portfolios for student assessment. The information collected will serve as a fundamental prerequisite to future educational systems in Malaysia that utilize e-portfolios for student assessment.

Phenomenological data collection offers a thorough understanding of how e-portfolios are incorporated into regular teaching practices and emphasizes the experiences of people within their application. In order to ensure that e-portfolios can be successfully adopted and perpetuated in the Malaysian education system, it is imperative that effective methods and regulations be developed to accommodate the unique demands and concerns of educators, based on what they had experienced.

Moreover, phenomenological research adds to the corpus of knowledge on innovative educational practices by providing insights that can guide future initiatives to improve student assessment via digital channels. It emphasizes how crucial it is to take experiences of people into account when implementing new technology, opening the door for more user-centred and contextually relevant educational solutions.

Sampling

Convenience sampling is applied in this study to access the perspectives of educators who use e- portfolios to assess their students. Because there is no discernible pattern in the methods used to collect the respondents for this study, the researcher has chosen respondents who are convenient for him. The researcher's contacts were used to pick the respondents. The researcher's financial constraints are no longer a problem because this technique is cheaper than other sampling techniques.

Trustworthiness

In this qualitative study, trustworthiness was addressed. To establish trust, the researcher utilized probing questions throughout the open-ended interview questions with the research respondents to get the respondents to open-up more and to allow the researcher to obtain saturation from the respondent's responses. Reflective commentary in the form of many viewpoints will be applied to the data collected from respondents (Shenton, 2004). In order to address transferability, the researcher gave thorough, detailed explanations of all study components, such as goals, population sample, and research techniques (Shenton, 2004). Significant amounts of the data were extracted from the analysis in order to comply with the analysis in terms of conformability. This was done in order for the data to be independent and to corroborate the emerging trends. Parts of meaning were also collected to be analysed using a data-oriented approach during the coding process (Shenton, 2004).

RESULTS

Table 1

Explanation of Themes

Themes	Explanation of themes
Inadequate digital skills amongst students	Lack of digital skills among students in making their e-portfolios, resulting in poorly presented e-portfolios that fail to accurately reflect their learning and achievements.
Lack of proper training and guidelines	Lack of proper guidelines and instructions by educational institutions in e-portfolio assessment.
Lack of motivation amongst students	Students view e-portfolios as a mere chore, resulting in low quality and sub-par submissions.

Inadequate Digital Skills Amongst Students

All respondents agree that ‘Inadequate digital skills amongst students’ poses a challenge to e- portfolio implementation. The lack of digital skills among students in Malaysia presents significant obstacles to implementing e-portfolios effectively. Without adequate digital skills, many students produce low-quality e-portfolios. This compromises the effectiveness of e-portfolios as a comprehensive assessment tool.

Educator Respondent 1 mentioned:

“Even though digital gadgets are widely used by students nowadays, many still struggle to make blogs and vlogs on their own. Plenty of students struggle to put together their e-portfolios”

Educator Respondent 2 mentioned:

“Many students do not follow instructions in getting their documents properly scanned, do not name their files with the given format and do not save their e-portfolio content in the correct format, often resulting in having corrupt files submitted.”

Lack of Proper Training and Guidelines

All respondents agree that the ‘Lack of Proper Training and Guidelines’ poses a challenge to e- portfolio implementation. The absence of training and guidelines related to e-portfolios to both educators and students cause potential biases in grading as current assessments are based on simple rubrics provided by educational institutions. With the emergence of AI tools widely used by students, such guidelines on the extent of how much or what sort of AI-generated content should or should not be allowed in relation to e-portfolios are absent.

Educator Respondent 2 mentioned:

“I never received any training or support from any institution on ways to effectively and correctly implement and assess e-portfolios. Such training to understand the existing framework of an institution and its practices in e-portfolio implementation, are largely nonexistent.”

Educator Respondent 3 mentioned:

“Just as universities conduct academic citation workshops for new students, similar workshops should be organized to train students on the recommended, correct and effective usage of e- portfolios, which includes the ethical usage of AI in digital submissions. However, such workshops necessary to guide both lecturers and students are never organized.”

Lack of Motivation Amongst Students

All respondents agree that there is a 'Lack of motivation amongst students' in making and enhancing their e-portfolios. Students tend to view e-portfolios as a mere chore, completing it out of obligation rather than seeing it as an opportunity for personal and professional development. The lack of passion and enthusiasm results in students not fully utilizing the creative potential of e-portfolios.

Educator Respondent 1 mentioned:

“Most of my students struggle to find motivation when putting together their e-portfolios, which frequently leads to average or subpar submissions. Many students exhibit a lack of passion by submitting their e-portfolios after the deadline. While there are plenty of creative ways students can enhance their e-portfolios, many aren't motivated to do so. The lack of motivation among students remains a significant issue, and it is challenging for educators to instill such motivation.”

Educator Respondent 3 mentioned:

“Students lack motivation to use e-portfolios as part of their personal branding journey. They make their e-portfolios, leave it, and brush it aside. Despite it being a ready tool for the students to market themselves, they aren't motivated to do so.”

Interviews

Educator Respondents 1, 2 and 3 are educators in Malaysian tertiary educational institutions who have experiences assessing students using e-portfolios.

Educator Respondent 1 is a lecturer at a college in Malaysia. He evaluates the e-portfolios of his students at the end of every semester. He perceives that e-portfolios provide a thorough picture of a student's development and creativity. Still, there are obstacles to overcome, such as making sure every student has the same level of familiarity with the e-portfolio systems. Even though digital gadgets are widely used by students nowadays, many still struggle to make blogs and vlogs on their own. He encountered obstacles such as pushback from students who are not used to using digital platforms. Plenty of students struggle to put together their e-portfolios as they frequently put it off until the very last minute and only finish it out of obligation. This leads to submissions that are frequently of poor quality, with hastily chosen photos and hurriedly composed paragraphs. Some students have trouble utilizing the e-portfolio systems and require a lot of help to construct blogs on websites such as Wix and Behance. As a result, tutors have an added obligation to guide students step-by-step. Digital infrastructure dependability and availability are essential. The usage of e-portfolios can be hampered by irregular internet connectivity and a lack of suitable equipment, which can lead to discrepancies among students, especially towards underprivileged ones. However, because students have a full semester to finish their e-portfolios, this gap is supposedly substantially mitigated. He pointed out that the educational institution he works at does not offer any workshops on the best ways to incorporate e-

portfolios into instruction. He believes that it would be helpful to have further training (to both students and educators alike) on instructional techniques for e-portfolio assessment. Students' reactions to e-portfolios differ; few are excited about them and welcome the creativity and freedom they provide, while many others fail to see the benefits of it for their personal branding and career opportunities. Many students have voiced their dissatisfaction with the extra time needed to handle their e-portfolios.

According to Educator Respondent 1, most students struggle to find motivation when putting together their e-portfolios, which frequently leads to average or subpar submissions. Many students exhibit a lack of passion by submitting their e-portfolios after the deadline. He observes that while there are plenty of creative ways students can enhance their e-portfolios, many aren't motivated to do so. The lack of motivation among students remains a significant issue, and it is challenging for educators to instill such motivation. Many students are nihilistic without even knowing what that means. He permits students to utilize AI (Artificial Intelligence) technologies as long as they are properly attributed. It is alarming, though, since many students just copy and paste paragraphs from ChatGPT and other AI applications without any additional editing. They might not even provide AI tools the proper command prompts and inputs. During assessment, he employs straightforward and simple rubrics that are provided by the educational institution. Bias may be a problem, especially if the assessor has preferences for specific formats or styles. To ensure fairness, it's essential to have consistent, unambiguous rubrics (which are currently lacking) and to be conscious of any potential biases. He is also aware that students who participate more in class may receive higher grades on their e-portfolios, disregarding the final outcome. Moreover, he thinks that e-portfolios should complement rather than replace traditional exams. Each method has its strengths, and a blended approach can provide a more balanced assessment of student learning. E-portfolios can include a range of artifacts and reflections that demonstrate a student's learning journey, making it easier to verify the authenticity of their work and skills. However, images uploaded to e-portfolios by students may be AI-generated. Some used AI to replace images of student activities with faces of themselves, which he finds unethical. He allows the use of AI-generated images if it expresses a concept, thought or humour, but such guidelines on how AI should be ethically used are still nonexistent. Ensuring authenticity can be challenging, especially with the potential for plagiarism or misuse of AI tools. But what defines 'plagiarism via AI' or 'misuse of AI' are not available yet, as e-portfolio assessment rubrics used by educational institutions have yet to include such content. Many Malaysian students love to copy their classmate's assignments without much thought processes. Also, cybersecurity and privacy are not perceived by him as major concerns. The risk is mitigated as the educational institution he works at uses third-party applications for e-portfolios. However, the students need to secure their accounts with strong passwords and possible two-factor authentication systems. It is alarming that many students are constantly engaged with electronic devices but lack knowledge on how to handle multiple accounts on multiple platforms. Some may lose all their photos once their phones become defunct, with no proper backup. Such knowledge should be taught to students in Malaysia. He envisions e-portfolios becoming a standard part of the assessment process, providing a more holistic and personalized view of student learning. As the world

becomes increasingly digitalized, education should follow suit. However, the key obstacle to implementing e-portfolios in education is the lack of motivation amongst students in making their e-portfolios.

Educator Respondent 2 is a Malaysian designer and educator. He assesses the e-portfolios of his students 2 to 3 times per academic year. E-portfolios are a requirement at every submission of an assignment in the institution he teaches at. In his experiences, the usage of e-portfolio is not the main form of assessment. Physical assignments remain as the main form of assessment and e-portfolios are only used as a supplementary form of assessment if any reassessment is needed. Compared to traditional methods of student assessment, he perceives that e-portfolios are more efficient when examining the students' works, as they are saved digitally and can be easily accessed anytime and anywhere. However, the lack of digital skills amongst students poses a challenge towards the successful implementation of e-portfolios. Many students do not follow instructions in getting their documents properly scanned, do not name their files with the given format and do not save their e-portfolio content in the correct format, often resulting in having corrupt files submitted. It is alarming that many students lack adequate digital skills in an ever-progressing technologically driven world. Furthermore, he has never received any training or support from any institution on ways to effectively and correctly implement and assess e-portfolios. Such training to understand the existing framework of an institution and its practices in e-portfolio implementation, are largely nonexistent, which poses a challenge towards making e-portfolio programs successful. Regarding newer and easily accessible technology used by students such as AI, he is aware that AI is widely used by students in making their e-portfolios as it makes their work more time-efficient. For his students' e-portfolio submissions, AI-generated texts are allowed to a certain extent, but images or actual works needs to be supported and justified if AI is being used. However, what defines the 'certain extent' or 'justified' varies from lecturer to lecturer, which may cause biasness in assessment. There could be also bias if the digital representation of the e-portfolio is not the same as the original work.

Educator Respondent 2 disagrees with the opinion that e-portfolios should largely replace traditional paper-based assessment methods and highlights that subjects should still be assessed via the traditional exam-based assessment. Moreover, he states that currently there is no system implemented to verify the legitimacy of student credentials if the work is fully digitally submitted. Works not digitally signed may be difficult for assessors to ensure the authenticity of the work submitted. If e-portfolios are used to assess the performances of students, a stronger verification system should be introduced to ensure the file and works are from the said student. E-portfolios are efficient, convenient and timesaving, but there are drawbacks when it comes to verification of authenticity. Moving forward, the potential of implementing e-portfolios nationwide in Malaysia can be high if a system to ensure factors of authenticity, privacy and security is resolved. For him, cybersecurity, reliable verification systems and privacy are major concerns when it comes to implementing e-portfolios. Alongside with that, he mentions that as per now, Malaysian varsities are not solely relying on e-portfolios as a required assessment, henceforth students see e-portfolios as a mere chore, and plenty of them are not enthusiastic in doing so.

Educator Respondent 3 is a lecturer and designer at a Malaysian private college who assesses e- portfolios once every semester (every 3 to 4 months), believes e-portfolios are a great tool as they digitalize assignment submissions and reduce paperwork, and thus is more environmentally friendly due to reduced printing needs. This convenience benefits both students and teachers as it allows assignment submission and assessment to take place anytime and anywhere. However, many students fail to follow instructions properly, often uploading files in incorrect formats that are corrupt and unreadable. She teaches personal branding and marketing, and henceforth sees e-portfolios as valuable tools for preparing students for client acquisition and job searches post-graduation. E-portfolios can be private, for submitting assignments to lecturers, or public, for showcasing work to the public, akin to social media. Despite this potential, most students lack motivation to use e-portfolios as part of their personal branding journey.

They make their e-portfolios, leave it, and brush it aside. Despite it being a ready tool for the students to market themselves, they aren't motivated to do so. While only minor technical glitches occur within the university's internal e-portfolio system, the reliability of digital infrastructure remains crucial. Successful implementation of e-portfolios requires reliable digital infrastructure for both teachers and students. Technical issues with the institution's e-portfolio system can occur but only very occasionally, but students can submit their assignments via email, Dropbox, or Google Drive if such glitches arise.

Just as universities conduct academic citation workshops for new students, similar workshops should be organized to train students on the recommended, correct and effective usage of e-portfolios, which includes the ethical usage of AI in digital submissions. However, such workshops necessary to guide both lecturers and students are never organized. Many students treat e-portfolios as a chore, doing them just for the sake of it, and show a lack of motivation, failing to utilize them for marketing themselves. Their work is generally acceptable, though students sometimes falsely claim technical issues with the e- portfolio system to submit assignments late. Educator Respondent 3 allows the use of AI-generated texts and images to a certain extent, especially if they do not entirely replace the students' original creations. However, the extent of AI usage in relation to e-portfolios is a subject for discussion, as no clear guidelines currently exist. The university provides simple assessment rubrics, but some lecturers may prefer certain formats over others, leading to potential bias in evaluation. Educator Respondent 3 believes traditional exams should remain, as e-portfolios cannot fully ensure the authenticity of students' digital submissions, especially with AI's accessibility. E-portfolios, with their inclusion of photos and videos of students' learning journeys, offer a more comprehensive view than mere certificates or exam grades. E-portfolios also add legitimacy to certificates and transcripts by providing additional proof through images and videos. However, the authenticity of images submitted by students is a growing concern as some may be AI- generated instead of authentic student work. While it is currently easy to identify AI-generated images, this may become more challenging in the future as AI-generated images become increasingly realistic. The definition of 'privacy' in digital submissions should also be discussed, considering the parallels with social media

privacy. Educator Respondent 3 suggests that the education ministry and universities should provide workshops on using and assessing e-portfolios and establish clear guidelines on digital submissions. Alongside with that, as the world becomes increasingly digitalized, proper digital file storage should be emphasized for students and lecturers in Malaysia.

DISCUSSION

The interviews with Educator Respondents 1, 2, and 3 reveal several critical insights into the implementation of e-portfolios in Malaysian tertiary education. Each respondent recognizes the advantages of e-portfolios, including their ability to give a thorough picture of students' learning, make assessment simpler, and lessen their environmental effect through the use of less paper. But they also draw attention to important obstacles towards its implementation, such as students' lack of digital literacy and motivational problems that affect the production of successful e-portfolios.

A prominent issue across the collected responses is the disparity in students' familiarity and competence with digital tools. Despite widespread use of digital devices, many students struggle with creating and managing their e-portfolios, leading to last-minute, subpar submissions. This is compounded by a lack of institutional support in the form of workshops or training on e-portfolio usage and best practices. Such training or clear guidelines are crucial to bridge the digital skills gap and ensure that both students and educators can realise the full potentials of e-portfolios and hence, effectively use e-portfolios.

Another significant obstacle is the motivational component. Many students fail to see the potential of e-portfolios for job advancement and personal branding, as they perceive them as just another obligation. More work is necessary to motivate students to participate actively in enhancing their e- portfolios. This could involve integrating e-portfolios more closely with learning outcomes and industry expectations.

Nevertheless, there is a lack of training, guidelines and instructions by educational institutions in e-portfolio assessment, and newly emerged technology such as easily accessible AI tools are not properly addressed by institutions in relation to e-portfolios. Ethical and practical implications of using AI tools in e-portfolios emerge as a critical challenge. All respondents allow the use of AI-generated content to some extent, but there is a lack of clear guidelines on its ethical use of it in regard to e-portfolio by educational institutions. This ambiguity can lead to inconsistencies and potential biases in assessment. Additionally, ensuring the authenticity of e-portfolio submissions remains challenging, especially with the increasing sophistication of AI-generated content. This content should be discussed upon in varsities and the outcomes are to be included in the e-portfolio assessment rubrics, that are supposedly to be updated.

The findings gathered via the respondents align and correspond to the findings of Nurin et al. (2022) that the sustainability of higher education quality related to introducing new digital means of education is impacted by poorly implemented strategies, hence institutions need to create strong strategic plans to deal with this issue, and addressing such issues

mentioned in this study corresponds to MOHE's initiatives of digitalization, faculty staff training, and quality improvement in Malaysian tertiary education. The proposition by Dinc (2019) on educators receiving professional development to equip them with the skills and knowledge needed to successfully integrate technology, resonates with this study.

CONCLUSION AND IMPLICATIONS

There are various obstacles and challenges to using e-portfolios in Malaysian tertiary educational institutions as a comprehensive student assessment tool. Although e-portfolios can improve the assessment process by offering a comprehensive perspective of student learning, a number of challenges must be overcome to guarantee their successful use. First and foremost, it is imperative that educational institutions offer ample guidance and assistance to educators as well as students. Workshops on developing digital skills, using e-portfolios effectively, and ethical issues with digital tools must be given top priority. This can ensure that all students are similarly prepared to use e-portfolios and help close the digital skills gap. Secondly, it is necessary to solve the digital gap by ensuring that universities possess infrastructure that is dependable and that all students, especially those from disadvantaged backgrounds, have access to gadgets and the internet (Nurin et al., 2022) necessary to e-portfolio implementation.

Thirdly, it is essential to inspire students to interact with and enhance their e-portfolios. Students might be encouraged to take e-portfolios more seriously by emphasizing their advantages for career development and personal branding, as well as by integrating them more closely with learning outcomes and job industry expectations. Clearly defined rewards and the presentation of successful cases may help increase student motivation towards successful e-portfolio implementation. Lastly, it is critical to set precise yet elaborated rules and guidelines for application of e-portfolios. Establishing guidelines for the proper usage of AI-generated content in e-portfolios and making sure that evaluation criteria are impartial and consistent are two things that institutions should conduct. Furthermore, to guarantee the validity of student work and offer a fair assessment, traditional tests must continue to be a component of the assessment procedure.

In conclusion, even if e-portfolios have a lot to offer both Malaysian tertiary students and educators in terms of providing comprehensive student assessment, their effective use depends on resolving obstacles and challenges with university digital infrastructure, student motivation, digital skills, and ethical issues. Through these actions, educational institutions can utilize e-portfolios to offer a more comprehensive and customized perspective on student learning in a world that is becoming increasingly digitalized.

ACKNOWLEDGEMENT

I sincerely thank City University Malaysia and Dr. Qhamariah Samu for their guidance throughout this research.

REFERENCES

- Abdullah, D. (2017). Public Universities and Budget Cuts in Malaysia. *International Higher Education*. <https://doi.org/https://doi.org/10.6017/ihe.2017.91.10129>
- Al-Kumaim, N. H., Alhazmi, A. K., Mohammed, F., Gazem, N. A., Shabbir, M. S., & Fazea, Y. (2021). Exploring the Impact of the COVID-19 Pandemic on University Students' Learning Life: An Integrated Conceptual Motivational Model for Sustainable and Healthy Online Learning. *Sustainability (Switzerland)*, 13(5), 1–21. <https://doi.org/10.3390/su13052546>
- Alismail, H. A., & McGuire, P. (2015). 21st Century Standards and Curriculum: Current Research and Practice. *Journal of Education and Practice*, 6(6), 150–154. *Australasian Journal of Educational Technology*, 25(5).
- Arumugam, T. (2021, November 1). Improving the Quality of Education. *New Straits Times*. Retrieved July 21, 2024, from <https://www.nst.com.my/news/nation/2021/11/741635/improving-quality-education>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: qualitative, quantitative, and mixed methods approaches*. Fifth edition. Los Angeles, SAGE.
- Dinc, E. (2019). Prospective teachers' perceptions of barriers to technology integration in education. *Contemporary Educational Technology*, 10(4), 381–398. <https://doi.org/10.30935/cet.634187>
- Inayatullah, S., & Milojevic, I. (2016). Leadership and Governance in Higher Education 2025: Can Malaysian Universities Meet the Challenge? *Foresight*, 18(4), 434–440. <https://doi.org/10.1108/FS-03-2016-0011>.
- Madden, K., Collins, E., & Lander, P. (2019). Nursing Students' Perspectives on ePortfolios: Themes and Preferences Compared with Paper-Based Experiences. *International Journal of ePortfolio*, 9(2), 87–96.
- Nurin, F. M. F., Puteri, N. S. N. S., Aina, F. M. N., Nurul, Z. M. P., & Fadilah, P. (2022). Towards a High Standards of Excellence in Malaysia's Higher Education Institutions: Obstacles and Enablers. *Journal of Administrative Science*, 19(2). https://doi.org/https://jas.uitm.edu.my/images/2022_DEC/9.pdf
- Rajaendram, R., & Menon, S. (2021). Threat to Online Learning. *The Star*. <https://www.thestar.com.my/news/nation/2021/12/05/threat-to-online-learning>.
- Sani, R. (2020). Curbing Cyber Threats in Online Learning. *News Straits Times*. Retrieved July 21, 2024, from <https://www.nst.com.my/education/2020/05/592083/curbing-cyber-threats-online-learning>
- Sheninger, E. (2014). *Digital leadership: Changing paradigms for changing times*. Thousand Oaks, CA: Corwin & Ontario Principal's Council.
- Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, 22(2), 63–75. <https://doi.org/10.3233/efi-2004-22201>