



A Qualitative Study on Malaysian University Students' Digital Literacy

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Abstract

A new digital technology-based curriculum could enhance teaching and learning processes so as to render them not only more relevant but also more stimulating. Digital literacy as one type of digital technology is influencing vast areas of the contemporary world one of which is education. The present qualitative study sought to illuminate Malaysian university students' views on digital literacy as revealed from students' responses to an open-ended questionnaire. The results of the thematic analysis of qualitative data indicated that the majority of students admitted that they lacked sufficient digital competence. However, there were some challenges that hindered the students from possessing high digital competency which should be addressed in the long run. It has been recommended that the required infrastructures be prepared and students be encouraged to participate in pertinent courses and seminars to enhance their digital literacy and digital competence.

Keywords: *Digital Literacy; Malaysian University Students; Qualitative Study*

Introduction

In the past few decades, technology has spanned the globe and connected people in a whole new way. Digital technology has transformed the learning and the conditions for learning the use of which was initiated with digital literacy, which transcended the old concept for traditional literacies such as reading, writing and speaking. Digital learning promotes creativity and gives students a sense of success, stimulating additional learning by thinking beyond traditional techniques (Haleem, et al., 2022). Digital technology has acquired a prominent role in the learning process, both in the educational system and at home (Meyers et al., 2013) and has penetrated all aspects of contemporary life. It is beyond the ability to handle computers such as traditional literacy and numeracy, rather it comprises a set of basic skills which encompass the use and production of digital media, information processing and retrieval, participation in

social networks for creation and sharing of knowledge, and a wide range of professional computing skills. It also works as a catalyst because it enables the acquisition of digital technologies in important life skills (Riel, 2012).

Digital technologies in the globalization era presents individuals in the emerging information society with situations that require them to employ a growing assortment of cognitive skills in order to perform and solve problems in digital environments. Integrating digital literacy into education has several advantages. The digitalization of many media, increased capacity of computers and internet connection via high-speed broadband have enabled learners to learn faster (Erstad et al., 2007). Educationally, digital transformation has diverse benefits. It can, for example, integrate digital technologies into teaching, learning, and organizational practices as a resource to produce additional and differentiated value for students and other stakeholders (Mondragon-Estrada, 2023).

Concepts of digital literacy reinforce the sheer diversity and complexity of conceptions of digital literacy in relation to a web of literacies of the digital including computer literacy, information literacy, media literacy, visual literacy, etc. (Martin, 2006). According to Buckingham (2007) web literacy, game literacy and writing digital media are in the context of developing an ideal of digital literacy in terms of what young people need to know about digital media. This sheer variety means that digital literacy can be seen as a framework for integrating various other literacies and skill-sets without the need to encompass all or to serve as one literacy to rule (Martin, 2006).

The emergence of digital technology led to different types of literacy. According to Zhang (2023), they incorporate media literacy, computer literacy, information and internet literacy, and digital literacy which is the last but not least type of literacy as also confirmed by Carolus et al. (2023). Those having the most pertinent role in teaching these literacy skills are undoubtedly the instructors. Hence, they need to acquire digital literacy skills while they were in universities or colleges. The changes in society will affect the teachers' behaviors correspondingly and the new digital technologies offer alternative medium for learning. They also boost the creativity and critical thinking of both language learners and teachers (Zhang, 2023). Digital literacy is a kind of a comprehensive framework for expressing the technological, social and cognitive skills required in a digital environment (Eshet, 2002). This concept indicates various abilities for using and sharing ICT and digital information into the two areas – tool literacy and symbol literacy. Computer literacy, network literacy, and technology literacy are included in the former; information literacy, visual literacy, and media literacy are classified into the latter.

The application of digital technology in education has many advantages. A new digital technology-based curriculum could enhance teaching and learning process so as to make them more relevant and interesting. However, there are still some constraints and problems in Malaysia in terms of nurturing digital literacy and competency to the students. Lee (2000) states that the problems were related to the management and maintenance of digital hardware and software. Thus, it is critical to examine the specific problems related to digital literacy and competency of the students. Shariman et al. (2012) also reported that the digital literacy competence of Malaysian students relied on different factors, including English language proficiency, and the design of multimodal forms in digital contents.

The swing of the pendulum has been from the industrial age toward the knowledge age in which the production, acquisition and flow of knowledge play an increasing and important role in generating and sustaining economic growth. In Malaysia, knowledge economy has been spurred by digital revolution. Hence, the enthusiasm and motivation for digital usage among youths in Malaysia has taken a positive step toward the creation of knowledgeable society where digital knowledge and technology drives the economy.

In addition, the government of Malaysian is committed to its vision of turning the country into a high-quality education destination for students from all over the globe. It has allocated huge expenditures in improving the quality of education in the country with various projects undertaken, among other things,

by building a computer laboratory in every school nationwide so that every student has the opportunity to recognize and enjoy the technological advancement. Hence, the application of digital technology in teaching and learning is strongly encouraged in Malaysian schools and higher education institutions. The present study sought to answer the following question:

What are the factors that influence Malaysian students' digital literacy?

Methodology

Participants

This study encompassed Bachelor's degree students from one of the Malaysian public universities. They were randomly selected from different majors and, on the whole, over 60 students answered five open-ended questions. The items of this written questionnaire were constructed with an intention to elicit students' answers regarding their digital literacy.

Instrument

The five open-ended items in the questionnaire were used to obtain the themes which emerged from participants' responses. All respondents were required to provide their views on digital literacy by responding to all of the open-ended questions constructed.

Procedure

The purposes of the study were explicated to the participants and they were assured that they were not under any forms of coercion nor duress to take part in the foregoing study. The participants were assured that stringent confidentiality would be observed regarding the information and the data collected would be only used for research purposes. They were asked to answer the questions as carefully as possible and not to leave any items unanswered. The five open-ended questions that have been built in this section are tabulated in the following Table 1 and the analytic method used is illustrated in Table 2.

Table 1. Open-ended questions on academic literacy

Item No	Item
1	What is the meaning/definition of digital literacy according to your knowledge?
2	Have you ever attended a course/seminar on digital literacy?
3	How would you rate your digital literacy the ability to use digital technologies?
4	What are the problems or constraints your faced to master digital literacy in your faculty/university?
5	What are your recommendations to the faculty/university to enhance digital literacy?

Table 2. Statistics used to answer the research questions

Objective	Analysis Method
To determine the factors that influence the mastery of digital literacy among the BA Malaysian students	Thematic Analysis via Frequency Rank

Results

First Open-Ended Item: The Respondents' Definition of Digital Literacy

Thematic analysis revealed three themes could be found for the first open-ended item. The findings of the open-ended items were categorized using the thematic analysis proposed by Braun and Clarke (2006). Table 3 illuminates the data for open-ended items about the definition digital literacy knowledge that have been answered by the respondents. The qualitative data from the first open-item can be categorized into three themes namely understanding about digital, knowledge about digital and digital use. The aforementioned themes have their own frequencies and percentages. The first theme was identified as the majority of the students (42.9%) defined digital literacy as the specific knowledge about digital technology. However, 19 students (30.2%) stated the definition of digital literacy as a person's understanding about digital technology. Finally, only 17 students (27.0%) asserted digital literacy as the competency to use digital devices. It can be inferred that most of the students understood digital literacy as a specific knowledge about digital technology.

Table 3. Open-ended item about meaning/definition of digital literacy

Item 1	Category	Frequency (f)	Percentage (%)
Give the meaning / definition of digital literacy according to your knowledge	Knowledge about digital technology	27	42.9
	Understanding about digital technology	19	30.2
	Proficient in using digital technology	17	27.0
Total		63	100

Second Item: The Respondents' Frequency of Attending Seminars or Courses

Table 4 shows the result of the open-ended regarding the number of students who have attended seminars or courses on digital literacy. The key result showed that the majority of the students (79.4%) never attended a course and seminar on digital literacy. Meanwhile, about one-fifths (20.6%) have attended a course on digital literacy. Therefore, most of the selected students have never attended a course or seminar on digital literacy.

Table 4. Open-ended item about the respondents' attended course and seminar on digital literacy

Item 2	Category	Frequency (f)	Percentage (%)
Attended a seminar or course on digital literacy	No	50	79.4
	Yes	13	20.6
Total		63	100

Third Item: The Level of the Respondents' Digital Literacy

Table 5 displays the level of digital literacy possessed by the respondents. The results of the thematic analysis show that there are three categories of digital competencies i.e., very good, good and poor. A majority of the respondents (65.1%) admitted that they have poor digital literacy. While almost one-third (27.0%) said they have good digital knowledge to use digital technologies. Only about one-

tenths (7.9%) claimed that they have very good digital literacy. It can be concluded that most of the selected students of the Faculty of Technical and Vocational Education possessed a low level of digital literacy.

Table 5. Open-ended item about the respondents' digital literacy to use digital technologies

Item 3	Category	Frequency (<i>f</i>)	Percentage (%)
Rate digital literacy the ability to use digital technologies	Poor	41	65.1
	Good	17	27.0
	Very good	5	7.9
Total		63	100

Fourth Item: Problems or Constraints Faced by the Respondents in Mastery of Digital Literacy in at Their Faculty/University

Table 6 clarified the frequency of problems or constraints faced by the students to master digital literacy in their faculty or university. After analyzing the fourth open-ended item, 33 students (52.4%) stated that lack of the exposure of digital technology is the main problem or constraint that they faced to master digital literacy. Followed by 20 students (31.7%) said that the poor internet connection, i.e., show internet line is one of the problems that they faced in mastering digital literacy in their faculty.

In addition, only 10 students (15.9%) think that their faculty or university has poor enough facilities such as inadequate computer labs for students to enhance their digital literacy. Therefore, based on the open-items, the main problem faced by the final-year students of the Faculty Technical and Vocational to master digital literacy is the lack to exposure of digital technology.

Table 6. Open-ended item about problems or constraints to by the to master digital literacy

Item 4	Rank	Theme	Frequency (<i>f</i>)	Percentage (%)
Problems or constraints that faced to master digital literacy in faculty/university	1	Lack of exposure	33	52.4
	2	Poor internet connection	20	31.7
	3	Do not have enough facilities	10	15.9
Total			63	100

Fifth Item: The Respondents' Recommendations to the Faculty or University to Enhance Digital Literacy

Table 7 depicts the frequencies and percentages of the students' recommendations to their faculty or university on how to improve digital literacy for students. A total of 41 (65.1%) students of the Faculty of Technical Vocational suggested that the university must increase the number of workshops or seminars and campaigns related digital technology to enhance the digital literacy of their students. Additionally, 22

students (34.9%) also proposed for faculty to acquire advanced digital technologies and to equip the computer labs with adequate digital devices for the students to enhance their digital competencies.

Table 7. Recommendations to faculty and university to enhance digital literacy

Item 3	Rank	Theme	Frequency (f)	Percentage (%)
Recommendation to the faculty / university to enhance digital literacy	1	Offer a workshops or seminars / campaigns	41	65.1
	2	Provide enough digital equipment	22	34.9
Total			63	100

Discussion

Based on open-ended questions for the first item, the majority of students claimed that they know the meanings of digital literacy. They referred to the meaning of digital literacy from the point of understanding and skills in the use of digital technology. The thematic analysis of the second question revealed that most students never attended a seminar or course on digital literacy in university, rather only a few students had attended seminar or a course on digital literacy. Students may not have the opportunity to attend workshops or seminar related to digital competencies though according to Kim (2006), attending the seminar or workshop is a wonderful opportunity of knowing a new knowledge or skills.

Next, for the third item, based on the results of the thematic analysis, it came to light that the majority of the respondents admitted that they have poor digital literacy. This is in line with the reports of Erwin and Mohammed (2022) who maintained that students lacked the digital literacy skills needed to be competent and productive members of a digital society. Only one-third of the respondents in our study stated that they have good digital knowledge to use digital technologies. About one-tenths of the students claimed that they have very good digital literacy. It can be concluded that the majority of the selected students of the Faculty of Technical and Vocational possessed a low level of digital literacy. As Akour and Alenezi (2022) emphasized that the present technological landscape with its accelerated and continuous evolution demands people, especially professionals to be equipped with digital and technological skills.

The fourth open-ended item illustrated that most of the students maintained that they are devoid of the exposure to digital technology. Hence, it is a main problem or constraint that they faced master digital literacy. The rest asserted that the poor internet connection such as show internet line is one of the problems that they face to master digital literacy in their faculty. By the same token, Eloskari (2022) confirmed that Poor internet connection and lack of digital device accessibility are still impeding learning. In addition, students also think that their faculty or university have poor enough facilities such as inadequate computer labs for students to enhance their digital literacy. Therefore, based on the open-items, the main problem faced by the final-year students is to master digital literacy is the lack to exposure to digital technology. Finally, for the last item, students provide recommendations to their faculty or university on how to improve digital literacy for students.

Conclusion

Digital technology has penetrated all aspects of contemporary life one aspect of which is digital literacy. The present study revealed that the selected Malaysian university students know the definition of

digital literacy as a person's understanding about digital literacy and some of them equaled digital literacy as the competency to use digital devices. They provided positive feedback on digital literacy knowledge. It was clarified that most of the students never attended a course nor seminar on digital literacy. Most of them had poor digital literacy and attributed their problems in mastering digital literacy to lack of exposure to digital literacy. Students suggested that universities enhance the number of workshops, seminars and campaigns on digital literacy and digital skills. Additionally, some of the students also proposed for faculty to acquire advanced digital technologies and to equip the computer labs with adequate digital devices for the students to enhance their digital competencies. According to Gihan (2005), digital technology has opened up many avenues of learning information accessible, transmittable from anywhere and to all groups of people because most parts digital technology has become an integral part of human life. However, there are still many students who never attend seminars or courses on digital literacy. It is of paramount importance that students and instructors become endowed with digital literacy skills to obtain the best upshots.

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