

ASSESSING DISABLE STUDENT PERCEPTIONS USING PADLET APPLICATION IN LEARNING: CASE OF SELAYANG COMMUNITY COLLEGE

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Abstract

This paper determined disable student perceptions when using web application in learning. Students will have an opportunity to showcase their learning in Padlet and share it to social media. Padlet is a free web application which gives students the easiest way to create and collaborate in the world. This research will demonstrate whether by using Padlet is easy or difficult for disable student to operate the application and adapt it with their learning process. The Technology Acceptance Model (TAM) use to gather user reactions to examines users' perceptions of Usage, Usefulness, and Ease of Use. This research applied the TAM to all special needs students with hearing impaired and learning disability in Selayang Community College. TAM will measure their reactions to Padlet. Findings indicate that most of the students shows their interest to use Padlet and believe by using Padlet would improve their job performance. They also agreed the application is clear and easy to understand. However, Padlet also requires lots of their mental effort. Padlet can be the tools to showcase disable students portfolio and communicate their abilities better to the world.

Keywords: Disable Students, Padlet, Web Application, Perceptions

Introduction

Selayang Community College is a pioneer college in the field of special education. The college play role as a hub for students with disabilities to be trained with skills and run its first pilot program in year 2006. The program offered Certificate in Culinary and has full support from Ministry of Education and in collaboration with Malaysia Council of Rehabilitation and Malaysia Federation of the Deaf. The program received overwhelming demand from students, parents and community.

As the result, in 2014 there is another eight community colleges throughout the country have been offering certificate programs in various fields such as photography, creative stitching, information technology, food processing, pastry, culinary and basic landscape to student with learning disabilities. These developments provide opportunities for students with disabilities to be equally access to vocational skills training and life-long learning program (De Witt et. All, 2015) as well as to compete with non-disabled to be competitive in the industry.

Studies shown that technology can enable students to overcome barriers to learning and communication with others. Students with special need shows less communication than their non-disable peers (Yildiza, N. G., 2015). Mishra et all. (2010) define ICT as a diverse set of technological tools and resources used to communicate and to create, disseminate, store and manage information. It has been grown steadily and technology is gaining ubiquity in the learning area (Zaldivar, et all. (2012). ICT also is Malaysia agenda in Entry Point Project 4 (EPP4) which enables all Malaysian to experience digital lifestyles and the socio-benefits of an interconnected life (ETP, 2014). In this digital-age era, students want an active learning experience and ideally, one that is social, participatory and supported by rich media (Nath, S. D., Saha, A. K., & Hossain, M. A., 2015).

The new digital ICT is a combination of hardware, software, multimedia and delivery systems. In education itself encompasses a great range of rapidly evolving technologies such as desktop, notebook, and handheld computers, digital cameras, local area networking, Bluetooth, the Internet, cloud computing, the World Wide Web, streaming, and DVDs; and applications such as word processors, spreadsheets, tutorials, simulations, email, digital libraries, computer-mediated, conferencing, videoconferencing, virtual environment, simulator, emulator (Mishra et all, 2010). Social media is seen to complement people with disabilities, especially to those with hearing and speech problems.

ICT prove to be very effective in delivering learning to the disabled. Mishra et all, 2010; Middleton A and Beckingham S, (2014) outline ICT helps disabled students reading, writing, hearing and seeing process. When using it in learning, student is expected to improve knowledge and skills, promoting personal growth, develop knowledge societies (Aggarwal, 2014) playing important role in communication and enhance learning motivation (Martínez, R. S., 2011). It also promoting collaborative and social learning environment (Mishra et all, 2010). ICT makes people with disabilities capable by providing the ability to access knowledge with the help of suitable digital media. Examine the correct media for each types of disability is important because it may effect on ICT usage capacity and usage level Doh, S., dan Stough, R. R. (2010).

In order to identify the media, Mishra et all (2010) and Mathur, M. (2011) has identified types of disability in four different types of disabilities. It is vision impairment, hearing impairment, physical impairments and cognitive impairments. There is two types

of disability in Selayang Community College. Hearing and Cognitive Impairments. Based on Mishra et al (2010), hearing impairments vary greatly from mild hearing loss to deep deafness and they are generally dependent on visual cues for communication. Most students in Selayang Community College belongs to the cognitive impairments category. Cognitive impairments also known as developmental disability which include learning disability, dyslexia, language disabilities and seizure disorders.

People with this disabilities can learn but they need to be taught in variety of ways that allows their abilities to compensate for their weaknesses. Mishra et al (2010) suggest hands on activities including computer game and simulated learning environment using ICT. ICT has been known to offers a range specialized software and hardware solutions for communicating, accesing and inputting data or information to or from web applications. Padlet had most of the characteristic. It is a web-based tool which can be used for interaction among deaf students (Dewitt, et al., 2014). It is also a virtual tool which support and validating learning through mutually beneficial, jointly enterprising and communally constructive communities of practice. It also in the other hand fostering a sense of belonging, being and becoming (Middleton A and Beckingham S. 2014).

Padlet seems to be the right choice for students with disabilities because of the need of making tools used by disable to create, check and validate educational content stated in past research by Mishra et al, (2010). Purg, P., and Zakrajšek, S. (2009) state the importance of carefully designed web-based teaching and learning methods can motivate students to reach higher course defined competence, with less perceived effort or stress and if used correctly, ICT can help people learn faster and with less perceived effort.

Doh, S., and Stough, R. R. (2010) outline the lack of studies to estimate the importance of personal ICT perception. Therefore, this study will focus on determined students perception when using Padlet in their learning. The students have mild intellectual disabilities and come from Culinary Program where a lot of learning time spent in the kitchen. We have used Technology Acceptance Model (TAM) to investigate perceived usefulness and perceived ease of use when they operate the application and adapt it in their learning. Padlet will serve as a platform for recording all the skills and knowledge they learn. The application will acts as an e-Portfolio to replace the existing paper folio. Selayang disable students do not show interest to prepare paper folio and are often seen reprinted the work of classmates. Rahim, M. B.

(2015) proves e-portfolio has provide an efficient method for students' competence evaluation, descriptions of students' development process, storage of artifacts, assessments and online learning. The outcome of this research will provide additional input to policymakers and trainers from other program offering for special needs to implement it in their teaching and learning process.

Theoretical Background and Hypothesis: Technological Acceptance Model (TAM)

This study employs the Technology Acceptance Model (TAM) for its predictive ability in studies involving students. It has been commonly used by researchers in technology adoption studies (Zaremohzzabieh, et, all (2015); Doh, S., and Stough, R. R. (2010). Technology Acceptance Model (TAM) developed by Davis in 1981 (Zaremohzzabieh, et, all 2015) to explain and predict an individual's acceptance behaviour toward a new

technology, independent of the user population and the technology being introduced (Lippert, S. K., & Govindarajulu, C., 2015). The TAM states that the success of a system can be determined by user acceptance of the system, measured by three factors: perceived usefulness (PU), perceived ease of use (PEOU), and attitudes towards usage (ATU) of the system (Tarhini, A., Hassouna, M., Abbasi, M. S., & Orozco, J., 2015). The purpose of study is to use TAM variables that is independent variables are perceived usefulness (PU) and perceived ease of use (PEOU); the dependent variables are usage of Padlet in their learning.

Perceived Usefulness (PU) and Padlet Usage in Learning (PUL)

Based on TAM, we assume that perceived usefulness (PU) is the degree to which students believe that using Padlet would enhance their learning. Based on Doh, S., and Stough, R. R. (2010), PU in ICT is important for individuals to access and use information devices in the information society. It is necessary to consider the perceived usefulness of ICT when one analyzes the impacts of the degree of disability on ICT usage capacity and usage level. However, the results of PU depends on the degree of disability among disabled people. Therefore, we tested the following hypothesis:

H1a: There is a positive relationship between perceived usefulness (PU) and Padlet Usage in Learning (PUL).

Perceived Ease of Use (PEOU) and Padlet Usage in Learning (PUL)

Perceived ease of use (PEOU) is the second determinant of technology acceptance within TAM (Davis, 1989). PEOU refers to "the degree to which a person believes that using a particular system would be free of effort" (Tarhini et. All, 2015). In this study, we assume that PU is the degree to which students believe that using Padlet is easier than other application. The following hypothesis was verified:

H2a: There is a positive relationship between perceived of ease of use (PU) and padlet usage in learning (PUL).

Materials and Methods

Samples were selected from Culinary Department in Selayang Community College. The samples are from three classes of Certificate in Basic Culinary Program for Special Needs which include 36 students (9 female, 27 male). At an early stage, all respondent taught in special class to learn to use the web application Padlet in computer lab. After the session, all students then record all activities of learning in the kitchen and put it into Padlet as e-Portfolio. Lecturers act as a catalyst and facilitator to the students. Development of each students has been observed by lecturers. (Zaldivar, et all. (2012) pointed an important factor that contributes toward the effectiveness of a learning experience is the ability of instructors to monitor the overall learning process and potentially act based on the observed events. After a months, this study is made using TAM. Each students are given a questionnaire.

Resulting in a response rate of about 100%. The sample has an average age of 1.75 (SD=.44) aged between under 19 to 25 years. In terms of their types of abilities, 8.3% has deaf or hard of hearing, 91.7% has learning disabilities. The instrument used in this study was questionnaires, which measure two constructs PU (10) and PEOU (10) through five point Likert scales, ranging from 1 representing "strongly disagree" to 5 representing "strongly agree. In this study, the items of PU assessed that using Padlet would improve

their learning; the items of PEOU assessed students belief that using Padlet would be free of effort. In order to analyze the data, the study used descriptive and inferential statistics. For describing the two constructs, means and standard deviations were employed.

Results

The descriptive statistics for the two constructs are presented in Table 1 and Table 2. The results shows there is a positive relationship between perceived usefulness (PU) and Padlet Usage in Learning (PUL). The highest results shows Padlet improves their job performance ($M=4.7$, $SD=.63$), accomplish tasks more quickly and makes it easier to do their job ($M=4.5$, $SD=.50$). Overall respondent found it useful to use in their job ($M=4.4$, $SD=.64$), increases their productivity ($M=4.4$, $SD=.64$) and improve the quality of work ($M=4.2$, $SD=.84$). Although on average, respondents agree Padlet perceived usefulness in their learning, results shows lowest average ($M=4.0$, $SD=.82$) Padlet gives them greater control over their work, allows them to accomplish more work than would otherwise be possible ($M=4.0$, $SD=.87$) and enhances their effectiveness on the job ($M=4.0$, $SD=.96$).

Table 1 - Descriptive statistics for Perceived Usefulness (PU)

	q1	q2	q3	q4	q5	q6	q7	q8	q9	q10
Mean	4.250 0	4.000 0	4.500 0	4.166 7	4.416 7	4.666 7	4.083 3	4.083 3	4.500 0	4.416 7
N	36	36	36	36	36	36	36	36	36	36
Std. Deviation	.8409 2	.8280 8	.5070 9	.6969 3	.6491 8	.6324 6	.8742 3	.9673 2	.5070 9	.6491 8

The results shows most of the respondents didn't agree interacting with the padlet is often frustrating ($M=2.2$, $SD=1.0$). They found it easy to get Padlet to do what they want it to do ($M=4.0$, $SD=.92$) and didn't agree Padlet is difficult to use ($M=1.3$, $SD=.75$). Respondent also agrees learning to operate the padlet is easy ($M=4.5$, $SD=.65$) but not deny it is also rigid and inflexible to interact ($M=4.3$, $SD=.63$). Respondent also agreed operating Padlet requires a lot of their mental effort ($M=4.4$, $SD=.64$). Overall, all respondent found the padlet is easy to use and their interaction with the padlet is clear and understandable.

Table 2 - Descriptive statistics for Perceived Ease of Use (PEOU)

	q11	q12	q13	q14	q15	q16	q17	q18	q19	q20
Mean	1.333 3	4.500 0	2.250 0	4.000 0	4.333 3	4.416 7	4.416 7	4.666 7	4.750 0	4.666 7
N	36	36	36	36	36	36	36	36	36	36
Std. Deviation	.7559 3	.6546 5	1.024 70	.9258 2	.6324 6	.5000 0	.6491 8	.4780 9	.4391 6	.4780 9

Discussion and Implications

In this study, the Padlet application was evaluated from the perspective of perceived usefulness (PU) and perceived ease of use (PEOU). According to Zaremohzzabieh et al (2015), there is also several studies evaluated TAM from those two perspectives.

Motivation for using Padlet in learning depends on the beliefs in the perceived usefulness (PU) and perceived ease of use (PEOU).

Hypothesis H1a and H2a for this study search for a positive relationship between PU and PEOU to intention to use Padlet in Learning (PUL). The results implies that the students believe by using Padlet would improve their job performance. This approve Mishra et all (2010) statements that ICT for disable learner is a sort of extension of their physical body part and provides an opportunity to communicate, gain access to education services and become gainfully employed. The improvement on knowledge, skills and participating in learning when using Padlet are already expected by Aggarwal (2014) and Zaldivar, et all., (2012). Doh, S., and Stough, R. R. (2010) in their study show that the disability itself has no effect on ICT usage level if the perceived usefulness of ICT is controlled in the model.

There is a positive relationship between perceived of ease of use (PEOU) and padlet usage in learning (PUL). However, most of the students agreed Padlet requires lots of their mental effort because for them Padlet is rigid and inflexible to interact. Mishra et all (2010) mention disabled people may not be able to use ICT applications and devices with ease and a person with learning/cognitive disability may have problem in understanding system operations. Here comes the effort from teachers. Zaldivar, et all. (2012) suggest detailed observation of the student activities in their course workspace offers a reliable framework to predict their academic achievement. Martínez, R. S., (2011) suggest to overcome the lack of support on the part of the teacher to handle, use and adapt the technology. From observation, most of the respondent complaint about lack of internet resources. Martínez, R. S., (2011) also state that the lack of resources like computers and internet resulting in the inability of students to follow the same activities as their fellow students and past studies shows limitation in the availability and access to ICT resources in learning and its strongly affect the use of ICT as a communicative tool.

Conclusion, Limitations and Future Research

The main aim of this study was to determined students perception when using Padlet in their learning from the perspective of perceived usefulness (PU) and perceived ease of use (PEOU). The results shows positive relationship between PU and students believes Padlet are useful for their learning. However, for PEOU, study shows positive relationships but lack in few area which requires lots of their mental effort because for them Padlet is rigid and inflexible to interact. It is important to bear in mind some of the weaknesses for the current study before interpreting its findings. The sampling is only focusing on students in Selayang Community College which they have lack of training in ICT. Future research may use sampling from students with disabilities from Special Needs Program ICT or larger sampling from all population of Special Needs Program in Community College, Malaysia. Second, this study studied only one type of user, Selayang Community College and only one web-based application Padlet. Future research may include different technologies like mobile learning.

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