The Journal of Social Sciences Research
ISSN(e): 2411-9458, ISSN(p): 2413-6670
Vol. 6, Issue. 4, pp: 436-445, 2020
URL: https://arpgweb.com/journal/journal/7
DOI: https://doi.org/10.32861/jssr.64.436.445

Academic Research Publishing Group

Original Research Open Access

An Evaluation of Children Video Puzzle Interaction using Tablet: An Actual Usage Experience from Malaysia

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Abstract

This paper introduces the hybrid UTAUT model to explore pre-school children's actual interaction experience with video puzzle using tablets. For the past 10 years, there is much debate on the factors affecting children's actual interaction experience with interactive edutainment using tablet and there is a general agreement that children need access to tablet for learning activities and cognitive development. However, little research was carried out to evaluate the actual interaction motivation that determines the learning experience of pre-school children in their interaction with video puzzle using tablet. In Malaysia, the use of tablet in pre-school has been increasing rapidly, therefore, research to understand actual children video puzzle interaction using tablet to meaningfully support children's learning activities is much demanded. The main constructs of UTAUT had been maintained by integrating two new constructs, namely, Playability and Self-Efficacy into a hybrid model. The moderating variables in UTAUT model were removed as the respondents are homogeneous in their demography characteristics. The findings indicated that Social Influence have a negative relationship on actual interaction experience with video puzzle using tablet among pre-school children in Malaysia. This can be attributed to pre-school children having a smaller and limited social cycle and the facts that pre-school children will mainly refer to their parents and teachers for advices on the adoption of new innovation.

Keywords: Children video puzzle interaction; Hybrid UTAUT; Playability; Pre-school; Social influence; Tablet.

1. Introduction

The usage of tablets and interactive edutainment in the preschool setting is a widely discussed topic over the last few years (Neumann and Neumann, 2014; Strawhacker and Bers, 2017). Although tablets and interactive edutainment had been increasingly employed as a learning tool to improve preschool children's learning experience in pre-school setting in Malaysia, more research is needed to investigate the factors and effects of engaging such pedagogical tools in learning activities.

Touch is the primary part of human multimodal sensory systems and the most natural form of interaction for young children, which provides an intuitive interaction experience for children development (Smith and Gasser, 2005). The adoption of tablets buddle with interactive edutainment in preschool set-ting is on the rise globally and in Malaysia (Fridberg *et al.*, 2017; Malaysian Communications and Multimedia Commission's, 2018; Marklund and Dunkels, 2016; Palmér, 2015). The findings highlighted that combination of tablets and interactive edutainment can support children's learning activities and better improve their understanding. The trending key features of such interactive technology include portability/mobility, Internet connectivity, multi-touch screen, and edutainment apps to encourage creative and fun ways of learning and children tablet interaction (Bajovic, 2018). In this study, video puzzle had been employed as interactive edutainment content for pre-school children to interact with using tablet. An interactive and interesting content such as video puzzle is a crucial existent for continuous children-tablet interaction to take place.

Video puzzle and tablets are together an influential force of engaging pre-school children in their learning activities, however, research suggested that children frequently have different expectations and objectives of using tablet to establish interaction with edutainment. Not surprising, preschool children might be interested in the aesthetic or entertainment features of a tablet and its engaging content i.e. video puzzle in this paper. Past literature has shown that edutainment and interactive content have a strong impact on the pattern pre-school children take on tablets in their learning activities (Palmér, 2015). In addition, both Marklund and Dunkels (2016) and Bajovic (2018) have provided constructive suggestions of how tablets can be integrated with edutainment and play to enhance children's learning and interaction experiences, while Fridberg *et al.* (2017)have shown how tablet with good aesthetic value can intensify children's motivation and commitment in their learning activities.

In view of the increasingly importance of tablet role in pre-school children's learning process, the challenge is to engage a great interactive content i.e. video puzzle to ensure an excellent learning experiences for pre-school

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children (Zevenbergen, 2007). This is an essential consideration because the use of tab-let alone does not safeguard into good interaction and learning experiences for children (An *et al.*, 2011).

Researchers started to explore ways of incorporating tablets and edutainment to support learning, concentrate on easy to use, create positive impact on children's commitment, improve children's determination, enthusiasm, and attentiveness to learn, and improve learning efficiency (Clark and Luckin, 2013). Some other works have investigated children's use of tablet in home environment and indicated that tablet is important in building children's communication and creativity, and also to strengthen children's skill sets (McPake *et al.*, 2013).

Yet, little work has examined the factors that actually motivate pre-school children to use tablets in their learning activities and how video puzzle as edutainment might reshape current children's tablet interaction and learning experiences. As the usage of tablets in pre-school setting is increasing, especially in Malaysia, urgent demands on research to understand children's actual interaction with video puzzle using tablet to meaningfully support children's learning activities is much expected years (Neumann and Neumann, 2014; Strawhacker and Bers, 2017).

In this paper, the hybrid UTAUT model was employed to understand the predictors that contribute to the good actual usage experience that motivate pre-school children to interact with video puzzle using tablets in their learning activities.

2. Literature Review

Human Computer Interaction (HCI) literature has witnessed accelerated progress over the past few years. HCI aimed to reduce the interaction difficulty between human and computer by understanding the user's purpose and the factors that motivate a user to interact with a computer. One of the most popular interaction mechanisms is multi-touch interaction, which considers the most intuitive way for human to interact with computer through natural modalities (Bajovic, 2018; Joshi and Patil, 2014).

Multi-touch interaction technique is a surface innovation that permits input by way of pressure on multiple objects on the surface of a device. Although most frequently used with touch screen devices such as smartphones and tablets, multi-touch screen has been used for other innovation i.e. touch pads and mice, whiteboard, tables, and walls.

2.1. Video Puzzle

Video Puzzle comprise of 2 element, video and puzzle. First, the term "video" meaning an electronic medium for the purpose of copying, playback, recording, and display a series of moving picture or visual media. Video is a multimedia streaming that incorporate sequence of picture or images and form a moving stream. The video will transmit a digital signal to the screen and the machine will processes and reading the order of the images in which the video recorder captures should be shown. Usually, video will contain audio components that match with the pictures that shown on the screen.

Figure-1. Video Puzzle

The second element of a video puzzle is the puzzle. Puzzle is a game, a problem, or a toy for the purpose of entertainment, at the same time, puzzle can also raise up a serious logical problem on solving it, and the solution of puzzle may be a significant contribution to the educational research (Spivey, 2010).

Figure-2. Video Puzzle in Play

2.2. Multi-Touch Tablet

The breakthrough in surface technology has unlocked the potential of tablet to support learning activities in preschool setting (Ensor, 2012; Miletic, 2012). Tablet had been coined as a "game changer" in children multi-touch interaction field due to its adoption in the preschool educational setting (Cochrane *et al.*, 2013). The multi-touch nature of the tablet enables interactive edutainment such as video puzzle to reside on it and together they able to deliver an engaging, stunning and amazing learning experience to pre-school children. In this study, ASUS T100TA with 10.1" multi-touch screen had been used as tablet to host video puzzle edutainment to carry out the data collection and testing works.

Tablet with its multi-touch feature is pleasing and able to facilitate children in developing their cognitive ability, social skill, learning ability and under-standing. The availability and use of tablets in pre-school setting have expand-ed gradually lately. Tablets (e.g. the Apple iPad) are speedily appearing as an eminent digital tool of academic delivery in preschools, undertaken by teachers and children in pursuing their learning activities. Today's pre-school children had accessed digital tools such as tablets and interactive edutainment content at very young age and increasingly reached almost every part of their daily routine (Couse and Chen, 2010). This necessitates further evidence and reflection upon what circumstances account for current practices in pre-school education settings (Bajovic, 2018; Kjällander and Frankenberg, 2018; Wohlwend, 2015).

Getting quality education has never been more critical than in this education 4.0 era. As a rational result of this luxury digital habitat, pre-school children receive much more opportunities to interact with tablets and highly interactive edutainment such as video puzzle in their daily learning routine. Therefore, it is important to further understand the issues that encompass the actual usage experience of tablet by pre-school children based on their interaction with video puzzle.

2.3. Unified Theory of Acceptance and Use of Technology (UTAUT)

For the past 30 years, coincide with the advancement of information technology usage in human daily routine, plenty of studies and technology acceptance framework have been researched to scrutinize user' intention and acceptance of new innovations (Oye *et al.*, 2012; Thomas *et al.*, 2013).

Samuel and Addo (2014), found that actual usage of ICT for learning routine was greatly impacted by Effort Expectancy, Performance Expectancy, and Social Influence. It is therefore crucial to make interactive technology more user-friendly, easy to use and with essential support. More users will formulate confidence in her or his ability to use technology or more commonly known as Self-Efficacy. This confidence level will be translated into increased intention to use and subsequently use ICT in general and particularly video puzzle and tablet for learning activities (Samuel and Addo, 2014). Finally, UTAUT and other associated technology acceptance models were jointed to form a key underlying theoretical mechanism that predicts actual usage of new innovation. Be-sides, many previous studies that used UTAUT as a tool to evaluate student's acceptance and use of technology in educational setting had drawn different conclusions. Although previous studies use students as participants, they unable to response accurately whether the original UTAUT model and UTAUT 2 model are applicable in pre-school educational settings (Mutlu and Der, 2017). Therefore, room for further research on children's actual usage to interact with video puzzle using tablet is visible in order to gain further understanding of the installation of such interactive technology in the Malaysian pre-school setting.

This paper focused on pre-school children interaction experience with video puzzle using tablets in their learning activities. The hybrid UTAUT model employed in this study include two others construct from other models, namely, Playability (PLA) and Self-Efficacy to extend the suitability of Hybrid UTAUT to predict actual usage of tablet in their learning activities. One of the types of self-efficacy is innovation usage self-efficacy. It is "an individual's belief in his or her ability to use a computer effectively" (Simmering *et al.*, 2009). Apart from that, the

Behaviour Intention of the construct was eliminated. Furthermore, this paper is designed to evaluate the actual usage experience of pre-school children interaction with video puzzle using tablet voluntarily and by engaging a homogeneous group of pre-school children. Consequently, the researcher decided to eliminate voluntariness of usage, age, and experience as moderators for the proposed hybrid UTAUT model. Moreover, this paper was not interested to investigate the gender differentiation as it was not a significant predictor, especially among pre-school children.

3. Methodology

A hybrid Unified Theory of Acceptance and Use of Technology (UTAUT) model is employed for this paper. The overall objective is to evaluate the fac-tors that motivate pre-school children to interact with video puzzle using tab-lets in their learning activities.

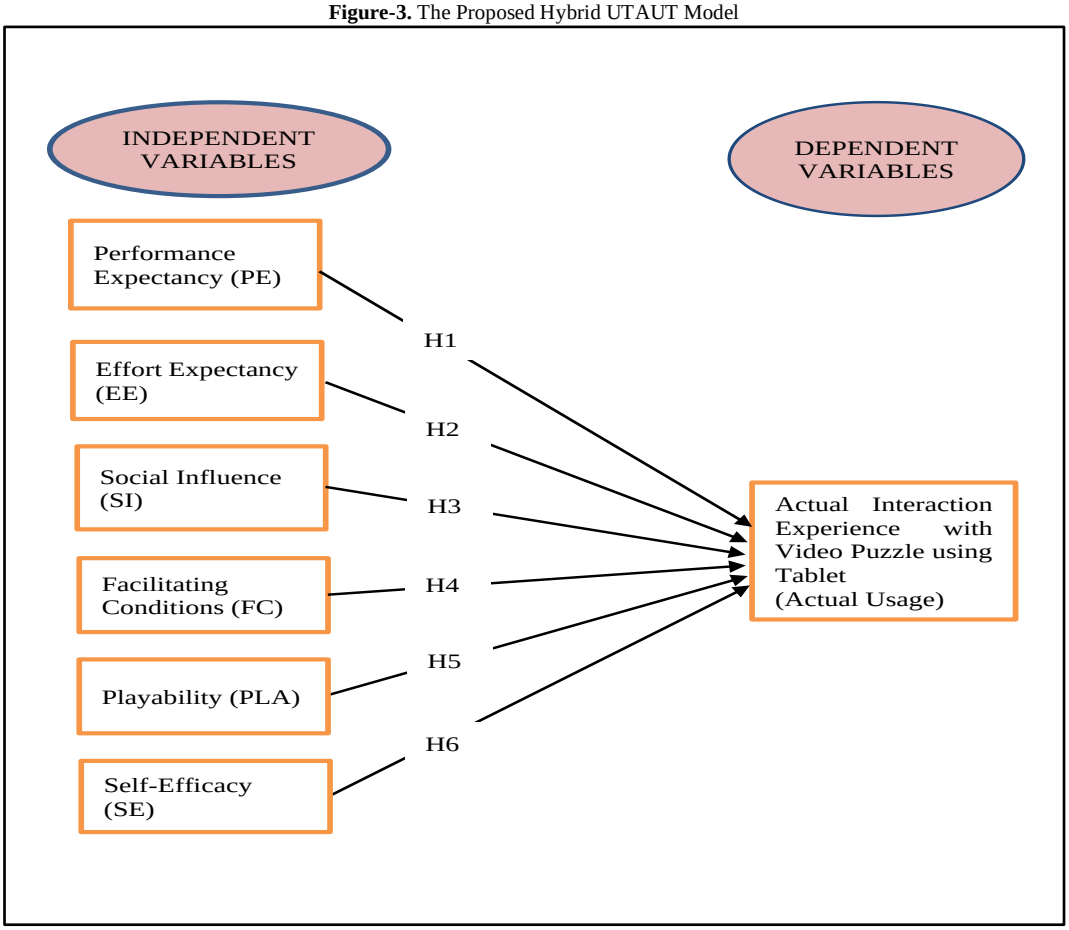
Table-1. Definition of Constructs based on Proposed Hybrid UTAUT Model

Construct	Definition
Performance Expectancy (PE)	"The degree to which an individual believes that using the system will help him or her to attain gains in job performance." (Venkatesh *et al.*, 2012).
Effort Expectancy (EE)	"The degree of ease associated with the use of the system." (Venkatesh *et al.*, 2012).
Social Influence (SI)	"The degree to which an individual perceives that the importance of others belief that he or she should use the new system." (Venkatesh *et al.*, 2012).
Facilitating Conditions (FC)	"The degree to which an individual believes that an organisational and technical infrastructure exists to support the use of the system." (Venkatesh *et al.*, 2012).
Playability (PLA)	Feelings of joy or pleasure associated by a child when interacting with video puzzle (Liew *et al.*, 2016).
Self-Efficacy (SE)	The degree to which a person's confidence in her or his ability to use technology (Simmering *et al.*, 2009).

3.1. The Proposed Model

The Hybrid UTAUT model is developed to understand the interrelationships among the variables proposed for this research. The variables are categorised as follows.

Figure-3. The Proposed Hybrid UTAUT Model



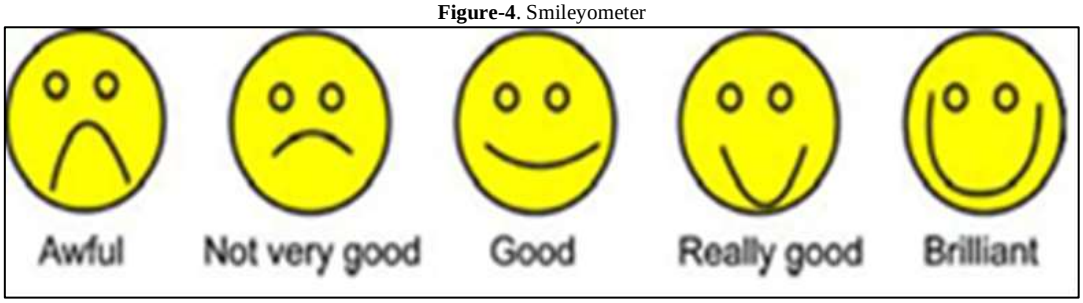
3.2. Data Collection Method

In this paper, questionnaires survey was utilised to conduct an interpretive study with the assistance of Smileyometer. The questionnaire was administered in a way that is easy for completion and employed a five-point Likert scale (from 1- Strongly Disagree to 5-Strongly Agree).

In order to make sure that the pre-school children understand the questions, the researcher explained and elaborated each question in a very children slang. Follow on, the researcher put up the smiley rating board in front of the children and get the children to choose the emoji that best describe their emotional feeling at the time. The researcher will then be recorded down all the data accordance with the children response and transferred the data into excel format as described in the questionnaire.

Each child was given 10 - 15 minutes to interact with the video puzzle using tablet, after which a session was administered to gather feedback from the children. The children were then been assisted to rate their usage feeling using the smileyometer rating shown in Figure 4. Once all the necessary feedback was obtained, the data were then classified and scaled into five-point Likert scale. The Smileyometer has been long practical use in research studies to measure satisfaction and fun (Read, 2008) as it is easy to complete and requires no writing from the children (Metaxas *et al.*, 2005).

Figure-4. Smileyometer



Smiley Face Likert (SFL) has long been used as a yardstick of children's experiences in using interactive technology. In dealing with usage experience evaluation for children, Smiley Face Likert scale has been observed as common practice, often with aesthetic appearance and fun element over the traditional questionnaires (Read, 2008).

4. Results

The main aim for hypothesis assessment is to find out which independent variables that outfit an expressive support toward the justification of the dependent variables. The hypothesis testing is conducted using SPSS correlation analysis to understand the amount of strength and tendency of relationship between two variables measures on at least an interval scale.

4.1. Response Rate

In total, 216 pre-school children were voluntary participated in the study. The children respondents were from 11 pre-school located in Malacca, Malaysia. A total of 173 feedback were completed with the pre-school children in their natural pre-school setting with the present of their teachers. Besides that, the response rate of this study is 80.09% which satisfies the required minimum response rate of 30% (Spaho, 2016). Therefore, this study is acceptable as the response rate exceeded 30%. 173 sets of data were analysed using SPSS to generate a meaningful conclusion for the phenomenon of interest.

4.2. Reliability Analysis

Table-2. Reliability Test Result

Variables	No of Items	Cronbach's Alpha	Level of Reliability
Performance Expectancy (PE)	4	0.835	Very Good
Effort Expectancy (EE)	4	0.865	Very Good
Social Influence (SI)	3	0.831	Very Good
Facilitating Condition (FC)	4	0.680	Fair
Playability (PLA)	4	0.763	Good
Self-Efficacy (SE)	4	0.831	Very Good

The reliability test results are shown in Table 2. According to Mclaren *et al.* (2017), the Cronbach's Alpha must be at least minimum of 0.60 to be considered as reliable. Since the Cronbach's Alpha for all the variables are greater than 0.65, all the variables included in the proposed Hybrid UTAUT model are considered reliable for the study. Additionally, the highest score of reliability among the independent variables is Effort Expectancy (EE) with an alpha value of 0.865, while Facilitating Condition has an alpha value at 0.680 which is the lowest reliability among all independent variables.

4.3. Multiple Linear Regression

Table-3. Coefficient Test Result

Model	Beta	P-Value	Collinearity Statistics		Significant or Insignificant
			Tolerance	VIF	
1 (Constant)	-	0.000	-	-	-
Performance Expectancy (PE)	0.042	0.026	0.717	1.396	Significant
Effort Expectancy (EE)	0.269	0.001	0.287	3.485	Significant
Social Influence (SI)	0.042	0.053	0.468	2.136	Not Significant
Facilitation Condition (FC)	0.409	0.000	0.308	3.252	Significant
Playability (PLA)	-0.112	0.049	0.376	2.662	Significant
Self-Efficacy (SE)	-0.067	0.031	0.511	1.958	Significant

Table 3 illustrated a summary of the Multiple Linear Regression results. The results indicated that 5 out of 6 independent variables used in this study significantly affect the dependent variable with a p-value of less than 0.05. Based on Table 3, it is also observed that the Facilitating Condition (0.00) has the highest impact on the dependent variable, followed by Effort Expectancy (0.001), Performance Expectancy (0.026), Self-Efficacy (0.031), Playability (0.49) and lastly, Social Influence (0.053) which has the lowest influence on the dependent variable.

Based on the Multiple Linear Regression results, a summary of the hypotheses results for this study are depicted in Table 4.

Table-4. Summary of Hypothesis

Hypothesis	p-value	Accepted or Rejected	Reason
HI: There is a significant relationship between Performance Expectancy (PE) and Actual Interaction Experience with Video Puzzle using Tablet	0.026	Accepted	p-value < 0.05
H2: There is a significant relationship between Effort Expectancy (EE) and Actual Interaction Experience with Video Puzzle using Tablet	0.001	Accepted	p-value < 0.05
H3: There is a significant relationship between Social Influence (SI) and Actual Interaction Experience with Video Puzzle using Tablet	0.053	Rejected	p-value > 0.05
H4: There is a significant relationship between Facilitation Condition (FC) and Actual Interaction Experience with Video Puzzle using Tablet	0.000	Accepted	p-value < 0.05
H5: There is a significant relationship between Playability (PLA) and Actual Interaction Experience with Video Puzzle using Tablet	0.049	Accepted	p-value < 0.05
H6: There is a significant relationship between Self Efficacy (SE) and Actual Interaction Experience with Video Puzzle using Tablet	0.031	Accepted	p-value < 0.05

The summary of the hypothesis for the study is shown in Table 4. Five out of the six hypotheses included for the study is accepted with the variables' p-value of less than 0.05.

5. Discussion

5.1. Performance Expectancy and Actual Interaction Experience with Video Puzzle Using Tablet

Performance Expectancy (PE) was supported in this research with its p-value which is less than 0.05. Besides that, PE has a positive relationship and it significantly influences actual usage to interact with video puzzle using tablet among pre-school children respondents in Malaysia. Furthermore, efforts to interact with video puzzle using tablet and improve respondents' experience with tablet are important to maintain high score for actual usage to interact with video puzzle among pre-school children. The outcome for this study is consistent with findings from past studies conducted by Mclaren *et al.* (2017); Riconscente (2013). The finding from this study indicates that most of Malaysian pre-school children may choose to interact with video puzzle using tablet for the betterment and beneficial of their learning activities (You, 2019). Com-bination of video puzzle and tablets are entertaining and fun to experience for pre-school children. Therefore, it is easier for children to interact with video puzzle using tablet for

their learning activities. Besides, the fact shown that children still wanted to interact with video puzzle using tablet even though they experienced difficulties to interact with such highly interactive and com-plex edutainment.

5.2. Effort Expectancy and Actual Interaction Experience with Video Puzzle Using Tablet

The hypothesis for Effort Expectancy (EE) was accepted in this study with its p-value to be less than 0.05. Hence, it is statistically proven that EE significantly influences the actual usage experience to interact with video puzzle using tablet. The result is in line with previous empirical studies (Hung *et al.*, 2014; Ingram *et al.*, 2012; Mclaren *et al.*, 2017), which concluded that Effort Expectancy positively influences respondents' actual usage experience and continuance of such pleasant interaction with video puzzle using tablet. The results from this study demonstrated that greater effort expectancy score by the respondents contributes to a higher number of Malaysian pre-school children to have good interaction experience with video puzzle using tablet for their learning activities. According to the results, most of the respondents are not curious to interact with video puzzle using tablet in their learning process due to the interactiveness and attractiveness of the video puzzle and ease of interaction features offered by the tablet (Hung *et al.*, 2014). Moreover, due to high interactive gadget exposure in their daily life, the significant level of effort expectancy to influence the actual usage to interact with video puzzle using tablet among Malaysian pre-school setting continuously maintained at a high level as shown in this study, with p-value of 0.001. The result from this study suggested that Human Computer Interaction designer should pay more focus on the ease of interaction for the development of interactive edutainment and the chosen of devices in use.

5.3. Social Influence and Actual Interaction Experience With Video Puzzle Using Tablet

The hypothesis for Social Influence (SI) was not supported in this study since its p-value is greater than 0.05. It was statistically proven that SI negatively influences actual usage to interact with video puzzle using tablet in this study. The result is consistent with past studies (Ahearne *et al.*, 2015; Anthony *et al.*, 2016), which concluded that Social Influence had a negative relationship with usage behaviour to use new technological innovations. Moreover, children users are more likely to accept new innovation only if the innovations bring greater performance in interaction and attractiveness of such technologies. The findings concluded that face-to-face interactions among children to seek help, to learn to use interactive gadgets have decreased. This is mainly because they are still pre-school children aged between 3 and 6 years old. Hence, if they face any problems dealing with new technology or video puzzle and tablets in this study, children prefer to seek assistance from their parents and teachers rather than their friends.

However, due to the fact that pre-school children have a smaller and limited social cycle, this may be one of the main reasons that hinders SI to obtain higher significance score on actual usage to interact with video puzzle using tablet in their learning activities.

5.4. Facilitating Condition and Actual Interaction Experience with Video Puzzle Using Tablet

The hypothesis for Facilitating Condition (FC) was accepted in this study since its p-value is less than 0.05. It is statistically demonstrated that the actual usage to interact with video puzzle using tablet is strongly influenced by Facilitating Condition at p-value of 0.00. The results are consistent with past studies (Blackwell *et al.*, 2013; Hung *et al.*, 2014; Mclaren *et al.*, 2017), which indicated that Facilitating Condition positively influences the respondent's usage behavior towards the use of new technology. The result highlighted that pre-school children's actual usage to interact with video puzzle using tablet in their learning activities is mainly due to their previous positive experiences. Furthermore, due to the exponential growth of interactive edutainment and devices usage in daily activities, children have already experienced multi-touch gadgets owned by their parents or relatives i.e. smart phones, tablets and touch screen computer, which made it much easier for pre-school children to understand and to interact with video puzzle using tablet. Besides, the strong p-value (0.000) of FC further revealed that the existence of rich interactive edutainment and technology environment were crucially important for pre-school children to have successful and enjoyable interaction experiences with latest innovation. Moreover, the strong support provided by preschool, teacher and parent toward the use of interactive technology in preschool setting is the main motivation for pre-school children to have excellent interaction experience with video puzzle using tablet.

5.5. Playability and Actual Interaction Experience with Video Puzzle Using Tablet

The hypothesis for Playability (PLA) was supported in this study since its p-value is less than 0.05. It is statistically observed that PLA positively but weakly influences actual usage to interact with video puzzle using tablet among pre-school children, with a p-value of 0.049. The results in this study are aligned with past studies by (Blackwell *et al.*, 2013), which indicated that PLA is one of the resistance factors towards the use of new interactive technology and edutainment. Learning through play is one of the most important concepts in preschool education especially in engaging children in their learning process (Liew *et al.*, 2016). Playability exists when the innovation results in a cultural change in respondents existing social norm, family and societal. The result of this hypothesis concluded that children enjoy the way they handle and interact with video puzzle using the tablet, but the sense of enjoyment was contrasted by other gaming and interaction experiences in their rich interactive technology daily routine. Nevertheless, the direct and intuitive interaction nature offered by tablet, and playful yet challenging nature rendered by video puzzle were the major motivations for PLA to maintain relevant in this study (Urrutia *et al.*, 2019).

5.6. Self-Efficacy and Actual Interaction Experience With Video Puzzle Using Tablet

The hypothesis for Self-Efficacy was accepted in this study since its p-value is less than 0.005. It is statistically proven that the respondent's acceptance to-wards actual usage to interact with video puzzle using tablet is positively affected by their confidence level and ability to use the device. The results are aligned with past studies (Hung *et al.*, 2014; Mclaren *et al.*, 2017; Riconscente, 2013), which revealed that Self-Efficacy is an important factor in having an effect on usage behaviour to use interactive technology. Moreover, the results indicated that children are very confident in their ability to interact with video puzzle using tablet for their learning activities. The good experience of handling and interacting with video puzzle using tablet gave children a strong sense of confidence to interact with highly interactive and complex video puzzle using tablets and they were able to respond accurately and consistently (Wong *et al.*, 2020). The high confidence level of SE in this study was in line with high score in FC pointing that strong support from preschool, teacher and parent were particularly important for pre-school children to have good interaction experience with latest interactive technology.

6. Conclusion

This study mainly focused on identifying the main predictors that influence pre-school children's actual usage to interact with video puzzle using tablet in their learning activities. The findings indicated that Performance Expectancy, Effort Expectancy, Playability, Self-Efficacy, and Facilitating Condition adopted in this study have positive significant association with actual usage to interact with video puzzle using tablet among pre-school children in Malaysia. Social Influence was identified to have a negative relationship with actual usage to interact with video puzzle using tablet for learning activities among pre-school children in Malaysia. Among all the factors, Facilitating Condition and Effort Expectancy have the greatest impact on the children's decision to inter-act with video puzzle using tablet. Based on the results of this study, educators, preschool, and parents may have better understanding of children's expectation and motivations to have good interaction experience for the adoption of new interactive technology in general, and video puzzle and tablet in particular in a pre-school setting.

The most important finding of this study is that Facilitating Condition and Effort Expectancy played a significant role in convincing the Malaysian pre-school children to voluntarily interact with video puzzle using tablet in their learning activities. Therefore, the relevant parties need to offer significant concern on this matter and implement proper intervention strategies to minimise issues or difficulties raised from the use of such interactive technology in pre-school setting. Besides that, a user friendly, effective, and efficient interactive edutainment would help to build up children's trustworthiness and confidence toward usage of video puzzle and tablet, and to attract pre-school children to adopt new technologies in general. Additionally, intuitive multi-touch interaction can increase pre-school children involvement by reducing learning anxiety and providing explicit guidance. Other than that, by knowing that playability is important in children actual usage to interact with video puzzle using tablet, such interactive edutainment should not only aim to assist children for their learning activities but also need to be enjoyable, entertaining, and engaging at the same time.

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