



Intermediary Effect of Intention of ICT adoption on the Relationship of Attitudes toward Adoption and Adoption of VLE among the Malay Language Teachers**

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ABSTRACT

This research aims to explore whether the intention of ICT adoption in teaching Malay language act as a mediator in the relationship between attitudes toward ICT adoption and the adoption of the Virtual Learning Environment (VLE) among the secondary school Malay Language teachers. TAM is the basis theory in this quantitative study which used questionnaire to collect the data. The population of the study comprised of 410 secondary school teachers in Selangor by applying various probability sampling procedures. The research instrument was adapted from some previous questionnaire and pilot study showed alpha Cronbach at .81. Software of Smart-PLS was used to analyse the results of the study. The mediator analysis showed a positive and significant direct relationship ($\beta = .067, p < .05$) of the attitude variable to the adoption of VLE. The findings obtained in the analysis of indirect relationships and direct relationships clearly indicated the intention of ICT adoption to act as partial mediator if the impression of indirect contact with the effects of direct relationships was significant. In summary, the significant relationship between attitudes toward adoption and the intention of ICT adoption and adoption of VLE suggested that the intention to act as a mediator.

Type of Paper: Empirical

Keywords: Attitude; ICT adoption; Malay Language; Secondary school; Virtual Learning Environment

1. Introduction

In Malaysia, Malay Language is the official language, National Language and compulsory subject that must be passed by all students in schools. In Malay Language teaching classroom, ICT element is included in the Standard Curriculum of Primary and Secondary Schools (Malaysian Ministry of Education, 2003). The Ministry of Education has invested considerable capital in efforts to enhance the use of ICT in teaching and learning throughout

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the country. One of the current ICT program implementing in all national schools is Virtual Learning Environment (VLE).

VLE as a teaching aid is found able to bring fun to students in learning (Saiful Afzan, Lazim Abdullah, Azwadi Alif & Hafiz Yusoff, 2014). However, the Audit Report 2013 indicated that the use of the VLE based on students' login was between .17% to .63% while teachers was between .57% to 4.69%, were relatively low when compared to the expenses incurred for license and maintenance of VLE that exceeding 500 million Malaysian Ringgit (Ministry of Finance Malaysia, 2014).

According to Rienties et al. (2016), the main cause of non-using the technology in schools is due to the refusal of teachers to accept the use of the technology in teaching. This attributed to the teachers' attitude in the use of technology (Yanti, Setiawan, Nurhabibah, & Yannuar, 2018). The issue of teacher acceptance regarding the use of technology is related to the teacher's response to the usability and ease of use of the technology. Therefore, it is important to investigate the adoption of the VLE among the Malay Language teachers as the level of adoption is an important indicator of the success of the VLE.

Attitude toward the use of VLE and teachers' adoption the use of technology will influence their intention of ICT adoption. Hence, the researchers suggest that intention variable to be measured as a mediator to identify the relationship between the relationship of attitudes toward adoption and the adoption of virtual learning environment among secondary school Malay Language Teachers in Malaysia.

On the other hand, the local studies regarding the VLE in the context of teaching are still very limited, and have nothing to do with teachers generally or Malay language teachers particularly. Previous studies on computer use tend to focus on Mathematics, Science and English subjects (Nur Ilyani et al., 2012). Moreover, studies on the VLE at the secondary school level are still at the lacking stage (Rosemaliza, Azwani & Nur Sakinah, 2016). This scenario become the main reasons for the researchers to study the adoption of the VLE among the secondary school Malay language teachers.

Therefore, the research question in this study "Is the intention factor for ICT adoption in teaching Malay language act as a mediator in the relationship between attitudes toward ICT adoption with the adoption of the VLE Frog among the secondary school Malay Language teachers in Selangor?" The hypothesis is "The intention to adopt a role as an intermediary in the relationship between attitudes toward adoption with the adoption of the Virtual Learning Environment among Malay Language teachers in Selangor".

The organization of this paper consists of literature review, research methodology result and discussion, and end with conclusion.

2. Literature Review

Attitude towards the use of technology was defined by Davis (1989) as a positive or negative feeling of the individual who use a technology system. This is due to the TAM's theory that indicated that positive attitude affects individual behavior towards the use of technology (Averweg, 2008; Alzaidiyeen, 2017).

The success of using and integrating technology in teaching requires teachers to be positive (Syahid Farid, 2016). The study of Tezci (2010) found that teachers' attitude towards computers had positive and significant relationship with computer usage ($r = .332, p < .01$) and Internet usage ($r = .232, p < .01$). However, the study done by Mohamed Yeou (2016) found that attitude had no positive and significant relationship with the frequency of use of Moodle ($\beta = -.18, p > .05$).

Wong (2016) stated that the variable of use desires is defined as behavioral intention to use the technology in teaching. The studies that showed that positive and significant relationships between desire variable and actual use was found by Baleghi-Zadeh, Ayub, Mahmud and Daud (2017) ($\beta = .55, p < .00$), May, Ramayah and Abang Azlan (2015) ($\beta = .69, p < .00$). The study of Sumak and Sorgo (2016) indicated that users had no significant relationship before using technology ($\beta = .20, p > .05$), but significant for the users after using technology ($\beta = .32, p < .001$). The relationship of the use of ICT with the intention to use was based on the idea that each individual has a intention to do behavior even if the individual has a negative attitude (Bajaja & Nidumolu, 1998).

Davis (1989) defines actual use as a valuation in the form of measurements of the frequency and duration of technology used by the users. If a technology improves workability and is easy to use, users will often and comfortable using the technology. Siti Tutik, Endang Siti Astuti and Devi Farah (2012) conducted a study on the actual use of technology by applying the TAM theory. The findings reported that the intention had a significant relationship with the actual use ($\beta = .437, p < .05$), attitude had no significant relationship with intention ($\beta = .158, p > .05$), whereas the study done by May et al (2015) found the intention has a significant and positive relationship to the use of technology ($\beta = .694, p < .01$).

3. Research Methodology

This study applied a quantitative approach which used questionnaire to collect the data.

3.1 Theoretical Framework

TAM is the basis in the study of the adoption of the VLE Frog in teaching Malay Language.

The Technology Acceptance Model (TAM) was pioneered by Davis (1989). Teachers with positive attitudes towards e-learning have high acceptance as opposed to teachers who have negative attitude (Al-alak & Alnawas, 2011), whereas the use of technology is influenced by the desire to use technology (Behavioral Intention).

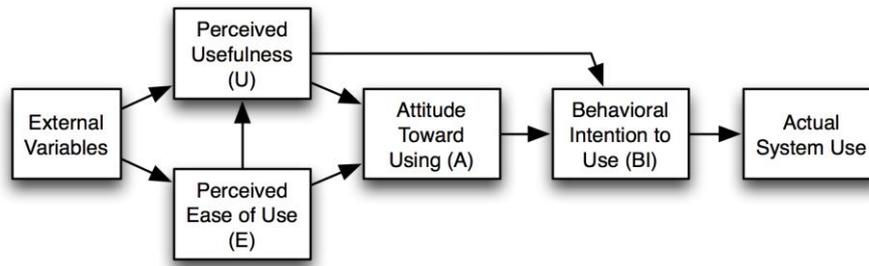


Figure 1: Technology Acceptance Model (TAM)

(Source : Davis, Bagozzi, & Warshaw, 1989)

3.2 Sample and Sampling Methods

The population of the study comprised of National Secondary School teachers in Selangor. The Krejcie and Morgan table and the *G-Power 3.1* software were used to determine the number of teachers' respondents. In addition, proportional technique was selected to determine the number of teachers involved in each district of Selangor, and then 82 secondary schools were identified in which respondents were randomly selected from those who formed a total of 410 National Secondary School Malay Language teachers.

3.3 Instrument of the Study

This research instrument consisted of four parts which was adapted from some previous questionnaire. Part A is demography of the respondents, part B is attitudes towards adoption (7 items) which was adapted from Teo and Zhou (2016), part C is intention for adoption (7 items) that was adapted from Fathema, Shannon and Ross (2015), while part D is technology adoption (10 items) which was taken from Davis, et.al (1989). The instrument was verified by field experts and pilot study showed alpha Cronbach at .81. Software of Smart-PLS was used to analyze the results of the study.

4. Results

Table 1: Analysis of Intention of ICT Adoption as a Mediator between the Relationship of Attitudes toward Adoption and the Adoption of VLE

Relationship	β	SD	t	p	Confidence Interval Bias Corrected	
					LL	UL
Path <u>a</u> Attitude → intention of ICT adoption	.224	.050	4.517	.000*	.108	.315
Path <u>b</u> Intention of ICT adoption → adoption	.350	.029	12.055	.000*	.297	.400
Direct Path <u>c</u> Attitude → adoption	.067	.027	2.484	.015*	.005	.107
<u>Indirect Effect (axb)</u> Attitude → intention of ICT adoption → adoption	.079	.018	4.326	.000*	.046	.116

Note: * $p < .05$

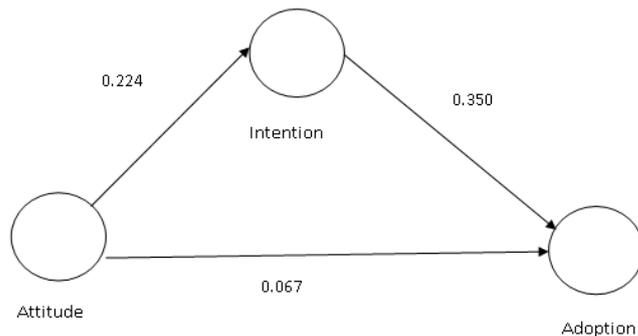


Figure 1: Model of Intention of ICT Adoption as Mediator between the Relationships of Attitudes towards Adoption and the Adoption of VLE

After the bootstrapping analysis was carried out, the indirect effect of the relationship between the attitudes towards adoption and the intention for the adoption and adoption indicated the coefficient value at $\beta = .079$, $p < .05$, was significant. In addition, the lower value and the value of the effect of indirect relationship of 95% corrected bias did not show a value of 0 ($LL = .056$, $UL = .116$). This finding explained the intention for adoption acted as a mediator in the study.

The next mediator analysis procedure was to see the direct relationship of the attitude variable to the adoption of VLE also recorded a positive and significant relationship ($\beta = .067$, $p < .05$). The findings obtained in the analysis of indirect relationships and direct

relationships clearly indicated the intention for adoption to act as partial mediator if the impression of indirect contact with the effects of direct relationships was significant.

In summary, the relationship between attitudes toward adoption and the significant intention for adoption and adoption suggested that the intention to act as a mediator. Therefore, the hypothesis is accepted.

5. Discussion

This study proved that the intention of ICT adoption to act as a partial mediator in the relationship between attitude towards adoption and the adoption of VLE. Positive and significant relationships between the two effects of indirect effects and the direct effect suggested the higher positive attitude of the teachers will lead to an increase in the adoption of the VLE. At the same time, teachers' positive attitudes toward adoption will also increase their willingness to adopt the VLE. This finding also implied that the attitude serves as a partial mediator. It is clear that the adoption of the VLE among Malay Language teachers in Selangor is partly explained by the teachers' intention of ICT adoption.

The findings of this study is parallel to the previous study when the variable of behavioral intentions act as a mediator between attitudes toward adoption and the behavior in the Designed Behavioral Theory (TPB) (Ajzen, 1987). Similarly, the views of some other researchers that the intention to act as an mediator between attitude toward adoption and behavior (Kim & Hunter 1993, (E-tax) usage. However, this study was similar to the Moya et al. al's (2016) study when it comes to the intention for adoption to act as a partial mediator between attitudes toward adoption and the adoption of the VLE.

In terms of mediator type, this study was found different from previous studies. Moya, Nabafu, Maiga and Mayoka studies (2016) indicated the intention to be partial mediator between attitude and technology of the VLE. The schools also need to ensure the teacher's positive intention and attitude towards adoption exists among the Malay Language teachers to enable the adoption of the VLE implemented smoothly.

The main contribution of this study is to the Malaysian Ministry of Education (MOE) as the policy maker. MOE may devise strategies to increase the adoption of the VLE through variables that affect the use Ansong, Boateng & Boateng 2017). This study is also expected to help to increase the applicability of this model in teacher's teaching and learning process. This is due to the use of the VLE gives a variety of benefits to the teaching of Malay Language as well as beneficial to the students, thus it should be utilized by the Malay Language teachers in particular.

6. Conclusion

In conclusion, the study identified the intermediary effect of intention for ICT adoption on the relationship of attitudes and the adoption of VLE among the secondary school Malay language teachers in Malaysia generally. This fill in the gap of the previous studies that focused only on lecturers in universities, pre-service teacher in school, university and school students in terms of use of ICT. Therefore, the model in this study may fulfil the needs of government, schools, and teachers to enhance the effect of ICT adoption in teaching Malay Language. Increment in Malay Language achievement will effect overall performance of students because Malay Language is medium of instruction in all national schools in Malaysia.

This model is expected to be applied not only to the population, but to all National Secondary School Malay Language teachers in Malaysia as well as to add value to the research related to the adoption of the VLE. This study is also expected to help to increase the applicability of the VLE in teacher's teaching and can be used by the students. This is because the use of the VLE gives a lot of benefits to the teaching of Malay Language as well as beneficial to the students, therefore it should be widely used by the Malay Language teachers in particular.

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