Apply UTAUT Model for Understanding the Teacher Perceptions Using Frog VLE

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Abstract

Frog Virtual Learning Environment (VLE) is used to enhanced teaching and learning in Malaysia government public schools since 2012. VLE has become the main mechanism in supporting on-line education in primary and secondary schools in Malaysia. Thus, Frog VLE was introduced by Malaysia’s Ministry of Education (MoE) as a tool to support student’s learning which evolved from the 1Bestari Net Project. With 1Bestari Net, every school was equipped with high speed 4G Internet connectivity and classroom management tool. Frog VLE has been used as a teaching and learning cloud-based internet platform in government schools which means that can be accessed anywhere and anytime. This paper describes teacher perceptions in term of applying the Unified Theory of Acceptance and Use of Technology (UTAUT) model.

Keywords: Virtual Learning Environment, Frog VLE, Unified Theory of Acceptance and Use of Technology

1. Introduction

E-learning systems, or VLEs, are rapidly becoming an integral part of the teaching and learning process [22] VLEs is an integrated course delivery systems that provide an environment for the management for delivery and assessment for the students studying via Web. Furthermore it enables improvements in communication efficiency, both between student and teacher, as well as among students [13]. A VLE is a web-based communication platform that allows students, without limitation of time and space, to access different learning tools, such as program information, course content, teacher assistance, discussion board, document sharing systems and learning resources [13].

Frog Virtual Learning Environment (VLE) is used to enhanced teaching and learning in Malaysia government public schools since 2012. VLE has become the main mechanism in supporting on-line education in primary and secondary schools in Malaysia [12]. Thus, FROG VLE was introduced by Malaysia’s Ministry of Education (MoE) [15] as a tool to
support student’s learning which evolved from the 1Bestari Net Project. The paper focuses on teacher perceptions by applying the Unified Theory of Acceptance and Use of Technology (UTAUT) [29] model. It is important to learn its perceived usefulness from the teacher perspective. By better understanding these perceptions, the results of this study may help the schools make better decision planning and assist teachers in using this technology more effectively. Moreover, it can help Frog VLE software designers improve the learning tools to obtain high level satisfaction in learning environment.

2. Related Works

Although Frog VLE efforts have considered being significant corporate investment, many studies indicate high drop-out rates or failures. The Audit-General’s 2013 report [18] has shown that the implementation of virtual learning using Frog Virtual Learning Environment [6] among schools in Malaysia is less than 5%. Furthermore, according to The Sun Daily [28] reported that teachers are crying foul over the physical and mental pressure they are subjected to under the 1Bestari Net Project, a cloud-based learning platform. Furthermore, it indicates that these causes the usage of Frog VLE among teacher is quite low. Table 1.2 showed that the percentage implementation Frog VLE the period in between 12–18 October 2015 by students, teachers and parents in Kuala Lumpur [5].

<table>
<thead>
<tr>
<th>Participants</th>
<th>Total Numbers of.</th>
<th>Numbers of Logged in Frog VLE</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>300</td>
<td>271</td>
<td>90%</td>
</tr>
<tr>
<td>Teachers</td>
<td>17955</td>
<td>4161</td>
<td>23%</td>
</tr>
<tr>
<td>Student</td>
<td>227652</td>
<td>13939</td>
<td>6%</td>
</tr>
</tbody>
</table>

The Table 1 showed that there is only 23% usage among the teachers only. This indicates the usage is quite low. From the table above, there are some researchers urged that some of the teachers are not comfortable implementing it [6] as there are problem and constraint faced by them [19]. Kaur and Hussien [9] have shown that in spite of completing the Frog VLE training among teachers, a number of teachers have failed to use it in their daily teaching and learning process. Hussin, Jaafar and Downe [7] also founded that there are also some teachers did not realize the benefits of technology towards teaching and learning process. In Norazilawati [19] finding results, limited access to the internet, insufficient of teaching time and teacher’s heavy workload are the main barriers in Frog VLE usage. According to the Sun Daily [28] report, many teachers are losing sleep and have to take sleeping pills due to overwhelming reports and clerical works they have to handle in school. Thus, the teachers had a limit time constraints in preparing the materials and evaluating the materials to post on Frog VLE. Ertmer et al. [4] founded that teachers are mainly concerned about the contextual or organizational factors that are influenced their technology integration or what is called as first order or obstacles that are extrinsic to teacher. Sailin [24] reported that teacher highlighted the lack of technology facilities as the main reason why they do not integrate technology, or why they could not easily integrate technology in their teaching and learning. Several researchers also found that the successful of teacher’s technology integration is influenced by the availability of ICT.
resources and support [14, 17, 21]. Teachers also associated the lack of technology facilities with the constraint of time [24]. Sailin [24] did a research on Perdana Secondary School where she found that the teachers were having difficult conducting lesson using ICT within short fixed time periods due to occasional ICT problem. Besides that, time constraint issues also associated with limited access to internet, in sufficient of teaching time and teacher’s heavy workload [19]. Raaij and Schepers [23] also expect that in deciding to join the program, their motivation to obtain the degree will have outweighed their general attitude towards new technologies. In Frog VLE case, teacher is deciding to join the virtual learning teaching, motivating to help their school obtain ‘the highest achievement usage of Frog VLE will have overweighed their (teachers) general attitude towards new technology. Surveys conducted by the Ministry of Education in 2010 found that the use of ICT tool in school is limited. Approximately 80% of teachers use less than one hour per week. Furthermore, Audit-General’s 2013 recommended that the ministry of education (MoE) [15] should issue guidelines in Frog VLE to all schools so that it can be optimised by teachers, students and parents [26]. Although both teachers and students are the primary users of VLE system, teacher plays the most important role in shipping the sources or failure of the systems [16]. Mamat et al [12] recommended that the importance to identify the factors that influence teachers adopted of VLE system to help policymakers on improving the implementation of VLE in Malaysia primary school.

3. The UTAUT Model

Unified Theory of Acceptance and Use of Technology (UTAUT) is an advanced model developed to analyze and comprehend the factor influencing the acceptance of computer technology utilization [29]. UTAUT is the expansion of Theory Acceptance Model (TAM) developed by Wallance in 1991. A number of theoretical models have been study and used to assess per service technology acceptance. Vankatesh et al. [29] has formulated a unified model of technology acceptance, consisting 4 core constructs from eight models of technology acceptance. Venkatesh et al. [29] suggested four direct determinants for user acceptance and usage behaviour: Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), and Facilitating Conditions (FC).

Previous researchers [1, 2, 3, 8, 10, 11, 20, 25] had pointed out that the teaching presence and immediacy among teachers are the most important factor and fact in order to emphasis the implementation by their students. In this research, participates (teachers) in an educational program (Frog VLE) with element of virtual learning will be aware that the use of computers is unavoidable. Thus, the participant’s (teacher’s) level at comfort must explicitly the taken into account to find out how these personal traits influence the acceptance and use of the technology system

The core constructs are further defined in table 2. In the table also included the questions which were used during interview or questionnaire to estimate the degree of each construct.
Table 2: Definitions of core constructs of UTAUT and operationalization of constructs

<table>
<thead>
<tr>
<th>Core constructs</th>
<th>Definition (in term of Frog VLE)</th>
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<tbody>
<tr>
<td>Performance expectancy</td>
<td>The degree to a teacher believes that using the Frog VLE will help him or her to attain gains in job performances.</td>
</tr>
<tr>
<td>Effort Expectancy</td>
<td>The degree of ease associated with the use of the Frog VLE system.</td>
</tr>
<tr>
<td>Social Influence</td>
<td>The degree to a teacher perceives that important others believe that he or she should use the Frog VLE system.</td>
</tr>
<tr>
<td>Facilitating Conditions</td>
<td>The degree to which teacher believes that school and technical infrastructure support the use of Frog VLE system.</td>
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</table>

4. Methodology

Quantitative research and qualitative research will be conducted in this research. Primer resources will be through questionnaire and interview. The research subject is about 30 teachers from a primary school, SJK(C) Sentul, Kuala Lumpur. A brief description of the FROG VLE system is given before answering the questionnaire, so that they get appropriate and sufficient information regarding VLE features and benefit [12]. Questionnaire was used as data gathering instrument in this research.

5. Results

A reliability analysis was conducted for scales using Cronbach’s Alpha. As summarized in Table 3, several of the scales that represent the UTAUT constructs appear to have a good degree of reliability since each computed statistic is above .70. Unfortunately, it appears that the Effort Expectancy, Behavioral Intention are questionable because their respective test statistic falls well below .70.
Table 3: Reliability Analysis (n=30)

<table>
<thead>
<tr>
<th>UTAUT Constructs</th>
<th>Cronbach’s Alpha</th>
<th>Number of Items</th>
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</thead>
<tbody>
<tr>
<td>Performance expectancy</td>
<td>.855</td>
<td>4</td>
</tr>
<tr>
<td>Effort Expectancy</td>
<td>.677</td>
<td>4</td>
</tr>
<tr>
<td>Social Influence</td>
<td>.878</td>
<td>5</td>
</tr>
<tr>
<td>Facilitating Conditions</td>
<td>.892</td>
<td>4</td>
</tr>
<tr>
<td>Behavioral Intention</td>
<td>.250</td>
<td>5</td>
</tr>
</tbody>
</table>

6. Conclusion

The findings of this study can be benefit to MoE [15] since they invested huge expenditure in this project to identify and weight the potential values (feedback from teacher) of the Frog VLE in Kuala Lumpur. Besides, the information (barrier influence on teachers use Frog VLE) obtained from research can be a useful input for future researcher in MoE for improve the quality of Frog VLE. Furthermore, the finding can be help to create awareness regarding the factors that determine their willingness to use Frog VLE.

References


