MEASURING STUDENTS’ PERCEPTION OF WRITING WEB LOGS IN ESL CLASSROOM EMPLOYING THE TECHNOLOGY ACCEPTANCE MODEL

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ABSTRACT

Web log is an exceptionally valuable tool for the teaching of second language writing, particularly in written communication skills (Johnson, 2004; Wu, 2003). More and more foreign educators have applied this easy-to-use technology to classroom instruction and language learning (Campbell, 2003a; Johnson, 2004). However, what has remained predominantly unknown is Malaysian students’ reaction to writing web logs in English as a Second Language (ESL) classroom. Therefore, the study aims to investigate the perception of writing web logs among the Universiti Teknologi MARA (UiTM) HM115 diploma students who were taking BEL311 English course in their third semester based on the three Technology Acceptance Model (TAM) variables. Specifically, the study sought to identify whether the two TAM determinants—Perceived Ease of Use (PEOU) and Perceived Usefulness (PU)—affect the students’ behavioural intention (BI) to use web logs for specific writing task. This study employed the Davis’ TAM (1989) and its questionnaire-based measurement instrument and three hypotheses were formulated based on the objectives of the study. The pilot test’s result has confirmed the reliability of the modified TAM-based questionnaire. The findings showed that students accept writing web logs as classroom activity since they perceived online journals to be more useful rather than easy to use. Additionally, the findings revealed that TAM can be used to diagnose and interpret the attitude of new technology users and most importantly, PEOU, PU, and BI were positively and highly correlated at a significant level. This result proved that the three proposed hypotheses in the study have failed to be rejected.

Keywords: web log, Technology Acceptance Model (TAM), Perceived Ease of Use (PEOU), Perceived Usefulness (PU)

1. INTRODUCTION

In recent years, the use of electronic journals in education has been on the rise, especially in the United States (Johnson, 2004). More and more foreign educators have applied this user-friendly technology to classroom instruction and language learning (Campbell, 2003a; Johnson, 2004). According to Kennedy (2003), publishing student writing has gained widespread adoption in middle and high school English classes. Although not originally intended for use in education, web logs have an important impact on education (Schroeder, 2003) and possess immense potential as an extremely valuable tool for the teaching of second language writing, especially in written communication skills (Johnson, 2004; Wu, 2003). According to Lever-Duffy, McDonald, & Mizell (2005), web logs have been successfully used to give students an opportunity to publicly post daily journal entries.

1.1 Problem Statement

The Development of Education National Report Malaysia (n.d., p. 50) states that “educator attitude is another constraint to effective curriculum implementation.” It seems that most educators are not keen in
exploiting new methods of teaching. In a traditional classroom setting, educators do feel confident and contented. However, when they are requested to teach in a computer setting, there is much fear that technical knowledge will become more primary than rhetorical knowledge. One common expression that may arise is that they will not know how to help students with computer glitches, and may experience anxiety about “losing face” in front of students (Palmquist, Kiefer, Hartvigsen, & Goodlew, 1998). The application of new ICT tools in ELT is actually decided by the educators based on its appropriateness in the teaching and learning context. One of the decisive factors for an educator before adopting ICT as part of the ELT materials is evaluating its acceptance among the users – the students. Since web logs are new technology and users are doubtful regarding their successful adaptation, the attitudes and intentions of writing web logs are shaped before initiating efforts directed to use are formed.

Furthermore, according to the findings of Mat Daud, Mat Daud, & Abu Kassim (2005), students’ writing performance is related to anxiety that has been identified as a result of their lack of writing skills. This may be due to students who are generally passive learners where they consider that their roles are to absorb knowledge as it is presented to them in the traditional classroom. However, this issue can be overcome through the use of web logs. Activities through the World Wide Web (www) can change the students’ roles from passive observers to interactive participants in a larger exchange that extends well beyond the walls of the writing classroom (Helford & Lei, 2001; Report of the Web Based Commission, 2000; Tryon, 2006). Presently what have remained largely unknown are students’ reactions to web logs in an ESL classroom. Lee, Kozar, & Larsen (2003) claimed that TAM conceptualised “usefulness” and “ease of use” as two important perceptions that must be examined to study whether students possess intentions to adopt a new technology.

1.2 Objectives

The objectives of this research are as follows:
1. To identify whether there is a positive and significant relationship between PEOU and PU of writing web logs in ESL classroom;
2. To identify whether there is a positive and significant relationship between PU and BI to write web logs in ESL classroom; and
3. To identify whether there is a positive and significant relationship between PEOU and BI to write web logs in ESL classroom.

1.3 Research Questions

The three research questions addressed in the study are as follows:
RQ1. Is there a positive and significant relationship between PEOU and PU of writing web logs in ESL classroom?
RQ2. Is there a positive and significant relationship between PU and BI to write web logs in ESL classroom?
RQ3. Is there a positive and significant relationship between PEOU and BI to write web logs in ESL classroom?

2. LITERATURE REVIEW

2.1 Computer-mediated Communication Application

Computer-mediated Communication (CMC) encompasses all computer technologies that facilitate or enable communication between two or more people using social software (Information Technology Services, 2006). Levy (1997) stated that under the umbrella CMC, modern computer tools include application programs and communication tools. Under its broad heading, the mechanism for interaction includes email, bulletin boards, discussion lists, Instant Messaging (IM), Internet Relay Chat (IRC), and

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computer conferencing systems. In line with the development of the novel communication technologies, the situations are rapidly evolving to the latest form of up-and-coming technology – web log, which currently becomes a popular form of CMC (Huffaker, 2005; University of Minnesota, 2006). Web logs have gained fame since they enable writers to become publishers of their own work at the same time.

2.2 Web Log - the newest form of CMC Application

In general, web logs are CMC tools that serve as a means to transmit messages. Specifically, they serve many purposes from online newsletters to personal journals and to “rating and raving” (TechEncyclopedia, n.d.). Thus, the first thing of blogging is the blogger must have something to express (Schultz, 2005). As stated by Jensen (2003), people can post everything from daily minutiae to manifestos to sophisticated political and cultural commentary. However, according to Jensen (2003), the explosion of blogging tools is owing to “… people like to peek into others’ lives. Reading a blog has a bit of the voyeuristic thrill of flipping through someone’s journal, no matter how mundane the content” (para. 5). According to Huffaker (2005), these characteristics of web logs have created an excellent CMC platform for individual expressions. Web log is commonly known as blog – a contraction of the coined word Web log or Weblog (Internet Marketing Reference, n.d.; Risdahl, 2006) and it is both a noun and a verb (Bartlett-Bragg, 2003). The term Weblog was first coined in December 1997 by John Barger (www.robotwiSDom.com/) referring to a web page containing a list or log with links to other web pages that the Blogger found interesting (Martindale, & Wiley, 2005; McBride & Cason, 2006; Risdahl, 2006).

2.3 Conceptual Framework: Technology Acceptance Model

TAM has been widely used in the IS research to gather user reactions to information systems (Landry, Griffeth, & Hartman, 2006). Further supporting the popularity of TAM, Lee et al. (2003) had found 698 journal citations of TAM by 2003 where its robustness in application had been extended to different technology with different control factors and different subjects. According to Sarriera, Qayyum, & Nieves (n.d.), there are 424 citations of TAM in the original articles based on Institute of Scientific Information’s Social Science Citation Index, which proves that TAM is a well-established, powerful, and parsimonious model for predicting user acceptance. Many researchers such as Adams, Nelson, & Todd (1992), Hendrickson, Massey, & Cronan (1993), and Szajna (1994) replicated Davis’s original study (Davis, 1989). Adam et al. (1992) found the measurement for PU and PEOU in diverse settings and different information systems to be both valid and reliable. Hendrickson et al. (1993) found Davis’s instrument to be reliable and valid through test-retest analysis. Szajna (1994) revealed that Davis’s instrument possessed high predictive validity for intention to use, self-reported usage, and attitude toward use. To conclude, TAM had been investigated extensively and it was found to be powerful, consistent, reliable, and valid (Lee et al., 2003).

Behavioural Intention (BI) is determined by Perceived Ease of Use (PEOU) and Perceived Usefulness (PU) (BI = PEOU + PU) (Venkatesh, 1999). Attitude may not be an important determinant of intention and usage in a workplace setting when taking into account the usefulness factor. For this reason and to keep the model as simple as possible, the variable “attitude toward using” was not employed. Behaviour (B) is a direct function of BI (Taylor & Todd, 1995) and BI was said to have a direct effect on user acceptance (Wagner & Flannery, 2004). Horton, Buck, Waterson, & Clegg (2001) also stated that TAM may not be useful for explaining actual system usage. Since BI is the strongest predictor of actual system use, “actual system use” was excluded in the framework. Based on the conceptual framework used in the study, three hypotheses are formulated as follows:

H1. There is a positive and significant relationship between PEOU and PU of writing web logs in ESL classroom.

H2. There is a positive and significant relationship between PU and BI to write web logs in ESL classroom.
H3. There is a positive and significant relationship between PEOU and BI to write web logs in ESL classroom.

![Conceptual framework of the study based on the TAM](image)

**Figure 1**: Conceptual framework of the study based on the TAM

### 3. METHODOLOGY

The population of the study consisted of 918 UiTM third semester diploma students taking the BEL311 course offered by the Academy of Language Studies (APB). They were assumed to represent a mixed group of ESL learners with different levels of proficiency – upper-intermediate, intermediate and lower-intermediate. Social, cultural, and economic backgrounds of the samples were not taken into account even though they come from different settings. The study employed the cluster sampling method – a common application used with intact classrooms as clusters, where all members from the selected clusters or groups were involved in the study (Ary et al., 2002; Parmjit, Chan, & Gurnam, 2006).

A pilot test will be conducted with another group of students before performing the actual study. To ensure the availability of the minimum number of respondents (n=30) for a sample, a group (n=37) was randomly to participate in the pilot test. The reliability of the modified TAM questionnaire was verified using Cronbach’s alpha (α). Since the indexes of internal consistency of PEOU (α=0.907), PU (α=0.956), and BI (α=0.919) are more than 0.9 that are considered very good, all items from each construct are retained without making any amendment. The methodology used was limited to correlational research method whereby it sought to examine the relationships among the TAM variables. Thus, a moderate size (n= 50 to 100) of target sample as recommended by Ary et al. (2002) was used. All diploma students (n=58) who had registered for the HM115 programme were selected as the target sample.

**Table 1**: Cronbach’s Alpha of PEOU, PU, and BI Items

<table>
<thead>
<tr>
<th>Variable</th>
<th>Number of items</th>
<th>Cronbach’s alpha (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perceived Ease Of Use (PEOU)</td>
<td>5</td>
<td>0.907</td>
</tr>
<tr>
<td>Perceived Usefulness (PU)</td>
<td>5</td>
<td>0.956</td>
</tr>
<tr>
<td>Behavioural Intention (BI)</td>
<td>5</td>
<td>0.919</td>
</tr>
</tbody>
</table>

In the first lesson during the one-week study, respondents were informed of the objectives and procedures of the study. In the last lesson when the respondents had finished the writing task, the questionnaire was administered. The respondents were given the same 15-item questionnaire to rate the actual usefulness, ease of use, behavioural intention of writing web logs. They were asked to recall and think about the blogging activities they had performed. The respondents were asked to respond to each
item in terms of their own degree of agreement or disagreement. They needed to circle one of the seven numbers arranged from strongly agree to strongly disagree according to the 7-point Likert scale. A score was assigned to each response and the scores belonging to a particular variable were summed up, so that respondents with the most favourable perceptions would have the highest score while the lowest score would belong to the respondents with the least favourable perceptions. Lastly, they were given a form to register their names, web log titles, web log addresses, and dates of their published work to ensure that they had completed the tasks.

4. RESULTS AND DISCUSSIONS

4.1 Hypothesis Testing

The correlation coefficients between PEOU, PU, and BI in questionnaires are depicted in Table 2.

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Correlation coefficient (r)</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is a positive and significant relationship between PEOU and PU of writing web logs in ESL classroom.</td>
<td>.829**</td>
</tr>
<tr>
<td>There is a positive and significant relationship between PU and BI to write web logs in ESL classroom.</td>
<td>.834**</td>
</tr>
<tr>
<td>There is a positive and significant relationship between PEOU and BI to write web logs in ESL classroom.</td>
<td>.825**</td>
</tr>
</tbody>
</table>

Note: *p<.05, **p<.01 (1-tailed)

H1. There is a positive and significant relationship between PEOU and PU of writing web logs in ESL classroom.
H2. There is a positive and significant relationship between PU and BI to write web logs in ESL classroom.
H3. There is a positive and significant relationship between PEOU and BI to write web logs in ESL classroom.

In the questionnaire, the relationship between PEOU and PU was explored using Pearson product moment correlation. There was a high positive correlation (r=0.829, p<.01) between PEOU and PU at the significant level of one per cent. This result suggests a strong association between the two variables – PEOU and PU of writing web logs in ESL classroom. As shown in Table 4.6, PU are positively correlated with BI (r=0.834, p<.01) at the significant level of one per cent. The high association between PU and BI suggests that the respondents discovered the usefulness of writing web logs, which directly influenced their intention to use. There is a strong positive correlation between PEOU and BI (r=0.825, p<.01) at the significant level of one per cent. The result shows that the respondents believed that writing web logs was easy and this directly influenced their intention to use and the genuine relationship between PEOU and BI was strengthened.

4.2 Discussion of Findings

Figure 2 displays the results obtained from Table 2 regarding the correlation between PEOU, PU, and BI in the questionnaires. Apparently, there is a high positive relationship between PEOU and PU in the questionnaire. According to Holmes, Dahan, & Ashari (2005), the relationship between PEOU and PU in the post-questionnaire is considered high. This is further supported by Creswell (2005) that correlation in this range would be considered very good and a good prediction can result from one variable to the other.
As pointed out by Lee et al. (2003), PEOU is a significant antecedent of PU where PU is predicted by PEOU.

![Diagram]

**Figure 2:** Results of hypothesis testing

In addition, from the TAM theoretical perspective, PEOU influences PU but it does not hold for converse relationship (PU influence PEOU) (Dillon & Morris, 1996). For example, Blogger.com was claimed to be extremely easy to use (Krause, n.d.) and free (Kajder & Bull, 2003; Richardson, 2004) because setting up a web log takes only less than five minutes (Kajder & Bull, 2003). According to Oravec (2002), it has been described as "Push-Button Publishing for the People" and he declares “Blogger offers you instant communication power by letting you to post your thoughts to the web whenever the urge strikes” (p. 2). Thus, it is best known as one of the most reliable and useful blogging tools with students (Stanley, 2005) and many educators and students are in favour of having their web logs hosted there (Oravec, 2002). Since a positive and significant relationship exists between PEOU and PU, the first hypothesis has failed to be rejected – There is a positive and significant relationship between PEOU and PU of writing web logs in ESL classroom.

Figure 2 depicts the high positive relationship between PU and BI based on Table 2. PU is treated both as a dependant and independent variable because it is predicted by PEOU and it predicts BI at the same time. If compared to the relationship between PEOU and BI, the association between PU and BI is stronger. This shows that PU was the stronger predictor of behavioural intention among users to use a newly implemented technology, which is supported by Eagly and Chaiken (1993); Fazio and Zanna (1978); Regan and Fazio (1977) as cited in Taylor and Todd (1995).

Based on the results, usefulness was more strongly linked to behavioural intention rather than ease of use. The result corresponds with the claims of Lee et al. (2003) that PU was a stronger determinant of BI compared to PEOU because users willingly use the technology that has a critically useful functionality. Web logs provide individuals with their own virtual online web spaces which enable Bloggers to post their personal views or commentaries on any topic. Others may respond to these ideas by using the links and comments, either in comments to the posting or in other web logs with a link back to the original posting (Lever-Duffy et al., 2005). Besides, links can be added in their own commentaries to connect to other web resources or backtrack to other web logs. Bloggers can also post commentaries about other web logs on their own web logs (Lever-Duffy et al., 2005). Based on the positive and significant relationship existing
between PU and BI, the second hypothesis has failed to be rejected – *There is a positive and significant relationship between PU and BI to write web logs in ESL classroom.*

Based on Figure 2, PEOU was positively and significantly correlated with BI. This shows that PEOU is the secondary determinant of intention to use a technology, which corresponds to the study of Davis (1989) and Davis & Bostrom (1993) since the relationship between PEOU and BI is largely mediated by PU. Taylor and Todd (1995) also added that inexperienced users may have stronger perceived ease of use towards attitude while perceived usefulness towards attitude will be stronger for experienced users. The rationale is: inexperienced users may focus primarily on PEOU while experienced users have most probably overcome concerns about PEOU and may focus on PU. These claims are parallel with the findings of this study where the users had a weaker PEOU and BI relationship compared to PU and BI relationship after completing the writing task.

Moreover, the lack of ease of use for users may be due to the computer access difficulties, hardware disabilities, program failure, “server down”, and low Internet connection. Lee et al. (2003) also added that PEOU is an unstable measure in predicting BI. Adams et al. (1992) also claimed that generally PEOU was less important in determining the technology use or behaviour but PEOU might influence the initial decision to adopt a system. According to Wolski & Jackson (1999) and Hackbarth, Grover, & Yi. (2003), PEOU played a critical role in predicting and determining a user’s technology acceptance behaviour. However, the result obtained by Agarwal & Prasad (1999) indicated that PU and PEOU had a roughly equivalent influence on BI. Hence, based on the positive and significant relationship found between PEOU and BI, the third hypothesis has failed to be rejected – *There is a positive and significant relationship between PEOU and BI to write web logs in ESL classroom.*

5. CONCLUSIONS

From the analysis of results, the questionnaires had validated the three proposed hypotheses in the study: there are positive and significant relationships between PEOU, PU, and BI to write web logs in ESL classroom. The modified PEOU, PU and BI items were found to have strong psychometric properties in the study. Based on the subjects’ responses in the study, web logs were perceived to be more useful rather than easy to use in an ESL classroom. Therefore, the study strongly proposes the practice of using web logs in ESL classroom. Besides, the study notably found that the UiTM HM115 third semester diploma students who were taking BEL311 English course perceived the usefulness of writing web logs, which directly and significantly influence their intention to write web logs. It showed that students’ perceived ease of use was fully mediated by their perceived usefulness, which had considerable indirect effects on their intention to write web logs. Furthermore, sustained by previous empirical studies, the TAM questionnaire based instrument has proven to be a reliable tool not only for Information System (IS) but also in educational contexts that discriminated the perceived ease of use and perceived usefulness as two key factors to behaviour acceptance.

The acceptance of writing web logs in ESL classroom as examined in the study can be served as an imperative foundation to promote a variety of CMC applications in English Language Teaching (ELT). Therefore, this study showed a preliminary finding on how far UiTM HM115 diploma students were in favour of using the online method instead of paper and pen to do the writing task. With well-organised instructional design effort, web logs can be implemented in the classrooms to substitute the traditional “chalk-and-talk” activities since writing web log was found indeed useful and easy-to-use. This study also has highlighted that it is essential to verify students’ acceptance of the new technology with the learning objectives and process when bringing a new technology into the ESL classroom. By utilising the TAM, more extensive studies can be conducted to predict or evaluate the use of web logs as a medium for different language skills input and output. Finally, educators were reminded that the objective of ICT implementation is to teach writing, not blogging.
REFERENCES


