Case Study

TEACHERS' READINESS TO UTILIZE FROG VLE: A CASE STUDY OF A MALAYSIAN SECONDARY SCHOOL

Abstract

A descriptive study was conducted to observe the readiness of Frog Virtual Learning Environment (VLE) utilization as a teaching method among teachers in a secondary school located in the district of Northern Seberang Perai. One hundred (100) teachers were involved in the study. A set of questionnaires comprising ~~of~~ respondents' demographics and their background knowledge of ICT was used as the instrument of the study. Analysis of result~~The results~~ from the correlation analysis indicated that there was a significant correlation between the teachers' basic knowledge of ICT and the Frog VLE course attended. However, the correlation analysis failed to indicate any significant correlation between the teachers' attitudes and skills in accessing Frog VLE after attending the training.Numerous recommendations were~~have been~~ proposed to overcome this challenge.

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Keywords: virtual learning environment, internet technology use, ICT in teaching and learning, teachers attitude.

Background

The Frog Virtual Learning Environment (VLE) is a teaching method based on Malaysia's expanding internet technology evolved from the 1BestariNet Project. It uses the foundation services of the high speed wireless broadband, Yes 4G.

Frogasia Training (2012) stated that the 1Bestari Project provided installation of wireless 4G and Frog VLE to all registered customers. Jabatan Pelajaran Negeri (JPN), Bahagian Teknologi Pendidikan Negeri (BTPN), Pejabat Pelajaran Daerah (PPD) and Pusat Kegiatan Guru (PKG) were responsible for monitoring the implementation process of respective districts.

KPM (2012) stated that Frogasia actively organized courses and training related to Frog VLE involving selected teachers from various identified schools as preparation for the implementation of the 1BestariNet Project. These initiatives were meant to help teachers, acquiring comprehensible understanding of the Frog VLE teaching method and assisting them in its implementation in schools.

In spite of the initiatives taken, some doubts have surfaced. There was the question of whether the Frog VLE courses and training provided were sufficient in assisting the teachers to implement the program at school level. It would be a futile exercise if the teachers -attend the training merely to fulfill the attendance obligation, without acquiring any skills that are relevant and beneficial to them.

In spite of completing the Frog VLE training, a number of teachers have failed to use it in their daily teaching and learning process. Deficiency in grasping or comprehending the knowledge and skills while on training and ineffective monitoring by relevant parties following the completion of training have contributed to this failure. According to Disney (2008), the main objective of any training initiative in an organization is to equip an individual with apt skills for his / her career. In addition, training also helps in positioning the individual to a certain level of work culture required in the organization. As such, training programs that comprise the skill elements of Frog VLE must be effectively implemented among teachers continuously, with the aim of generating educators who are skillful with the Frog VLE teaching medium.

Prior to the implementation of the Frog VLE Project, previous initiatives from the Ministry of Education were made visible by various ICT projects that have been implemented in schools, for instance the Computer Club Project, Jaring Project, Computers in Education project, Pioneer Project of Bestari Schools, Computerization in Schools project, Computer Laboratories, Educational TV, supplies of ICT competence to PPSMI, Introduction of ICT subject and the SchoolNet Project. Several local ICT companies and global ICT organizations were involved in a joint venture to supply relevant infrastructure, software and training. This is because the teachers training is the leading factor in determining the success of any ICT Project (KPM, 2007c).

The Frog VLE Project was introduced in schools under the Ministry of Education in 2011. However, due to its pioneering status, only 351 schools, categorized as Champion Schools were involved. The rest of the schools were classified as Non-Champion Schools (KPM, 2012). The teachers of the Champion Schools had the advantage of acquiring training, delivered direct by Frogasia, in their respective schools. On the other hand, limited training by Frogasia was offered ~~Frogasia limited its training~~ to Non-Champion Schools. Only the school administrators, ICT coordinators and 2 teachers were involved. In addition, the Non-Champion Schools only obtained internal

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Comment [JC3]: There exits a huge amount of research that explains why teachers do not implement Professional Development experiences. Are teachers required to go to the training? Do these teachers really want to learn the FROG VLE medium?

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training, be it at the level of the Pusat Kegiatan Guru (PKG), Pejabat Pelajaran Daerah (PPD) or Bahagian Teknologi Pendidikan Negeri (BTPN). Upon completion of the training, the participants were expected to deliver the elements in their internal training to other teachers in respective schools. The secondary data of this study were obtained from the Unit ICT JPN Pulau Pinang, previous studies conducted in this area and also, internet and library research. 215 schools from the total of 391 in Penang participated in the Frog VLE Project. Figure 1 indicates the total number of schools participated in the project.

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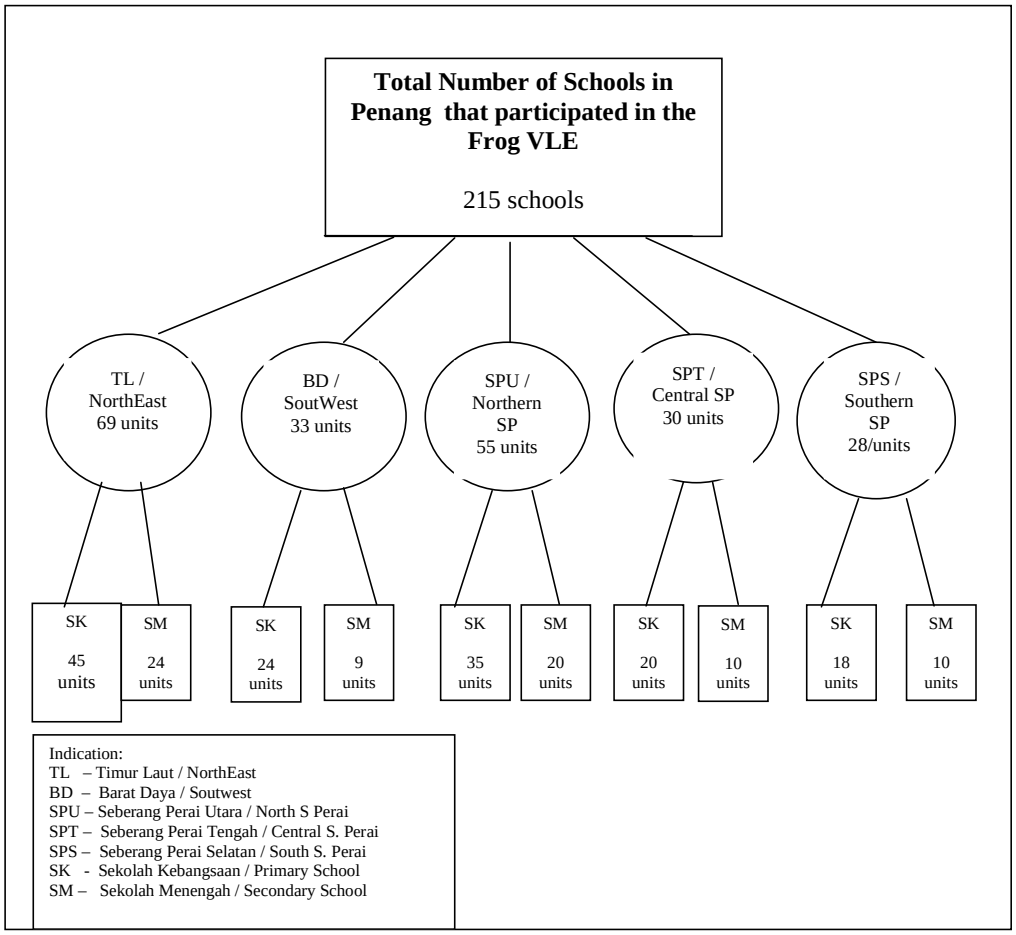

Figure 1: Number of Schools that participated in the Frog VLE Projects Per District

Based on the findings from previous studies on ICT projects, there were some similiarities that could be compared to Frog VLE Projects. The researcher found that the training provided to the teachers was limited to only 2 to 3 hours. The time limitation contributed to the teachers' inadequacies in grasping the skills to access the Frog VLE effectively. Therefore, the objective of the study was to observe the correlation of teachers' attitudes, basic knowledge of ICT and skills in accessing Frog VLE with the training attended.

In general, the objective of this study was to determine~~identify~~ the correlation of teachers' attitudes, basic knowledge of ICT and skills in accessing the Frog VLE using the skills derived from the training attended. A study was conducted at a secondary school classified as a Champion School using Frog VLE, which was located in the district of Northern Seberang Perai. The objective of the study was to determine~~identify~~ the following:

- teachers' attitudes towards the utilization of Frog VLE;
- teachers' basic knowledge of ICT;
- teachers' skills in accessing the Frog VLE.

The following were the hypothesis of the study:

Ho 1 : There is no significant correlation between teachers' attitudes and training attended;

Ho 2 : There is no significant correlation between teachers' basic knowledge of ICT and training attended;

Ho 3 : There is no significant correlation between teachers' skills in accessing Frog VLE and the training attended.

The Theories used to support this study were the *Theory Of Reasoned Action by* Fishbein and Ajzen (1975); *Theory Acceptance Model* by Fred Davis (1986) and Theory of Reflective Model by Wallace (1991).

Theory of Reasoned Action

A part of the focus of the study was on teachers' attitude. The Theory of Reasoned Action – TRA Model established by Fishbein and Ajzen (1975) was used to study

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teachers' attitudes. According to the TRA, the behavioral result is the best method to predict intention and intention to act on a certain behavior and it is influenced by attitude and subjective norms. The TRA suggests that individuals' beliefs influence their~~his / her~~ attitude that subsequently shapes their~~one's~~ intention to create a certain behavior.

According to TRA, Ajzen uses two main factors in determining intention of behavior, namely attitude towards behavior and subjective norms. One's attitude towards behavior is referred to the individual's evaluation as to whether~~his / her evaluation if~~ certain action of behavior is good or bad. Subjective norms indicate the social influence affecting an individual to act on certain behavior. This concept is illustrated in Figure 2.

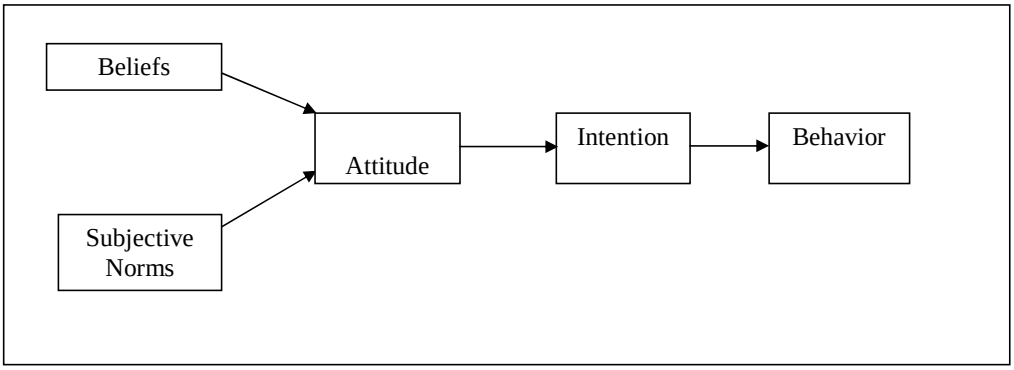

Figure 2: Theory of Reasoned Action (1975)

Source: Fishbein and~~dan~~ Ajzen (1975)

Fishbein and Ajzen (1975) also clarified beliefs. Beliefs are matters related to behavior, be it positive or negative and attitude towards behavior or inclination to behave may be demonstrated in the form of like or dislike.

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Subjective norms refer to~~are referred to~~ one's degree of motivation to adhere to others' view on certain behavior to be acted on. It refers to an individual's perception of an important person's opinion on the action of a certain behavior. In addition, subjective norms ~~–~~also refer to an individual's perception towards others' recommendations ~~whether~~ to act or otherwise.

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An individual who believes that an action or certain behavior brings positive results subsequently demonstrates a good attitude towards such action of behavior. Thus, attitude is a function from beliefs; while subjective norms are function of normative beliefs. In this case, an individual who is influenced by the social environment to act on certain behavior will proceed to do so. Based on this resolution, a teacher is involved in decision making (Norazlinda, 2010).

Technology Acceptance Model (TAM)

TAM is a model developed to analyze and comprehend the factors influencing the acceptance of computer technology utilization. Fred Davis introduced the model in 1986. TAM is the expansion of the Theory of Reasoned Action (TRA) developed by Fishbien and Ajzen in 1980.

TAM aims to explain user acceptance towards information systems. It is a basic theory used to determine factors influencing acceptance of a certain technology in an organization. It also explains the correlation of cause-effect (related to the benefits of the information system and the competence of its user's) between confidence and behavior, objectives and actual utilization among users or information system.

The TAM Model is an adaptation of the TRA, an action theory with the assumption that one's reaction and perception on any subject determine the individual's~~his / her~~ attitude and behavior. Figure 3 illustrates the Technology Acceptance Model (TAM).

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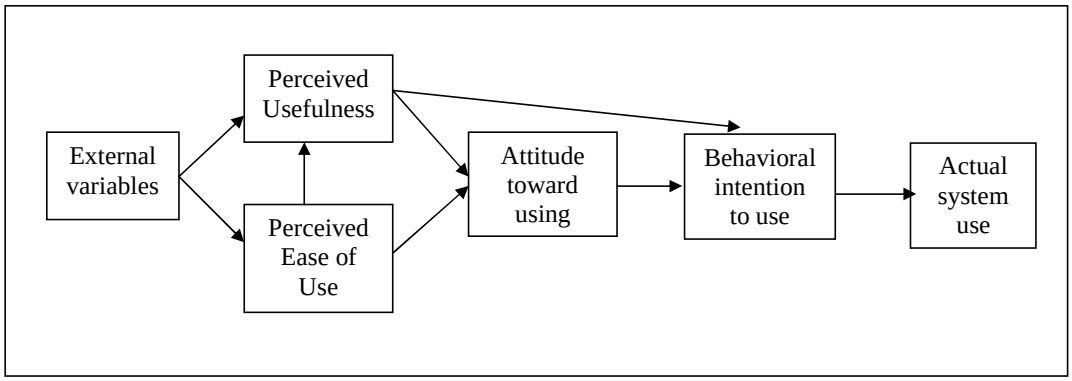
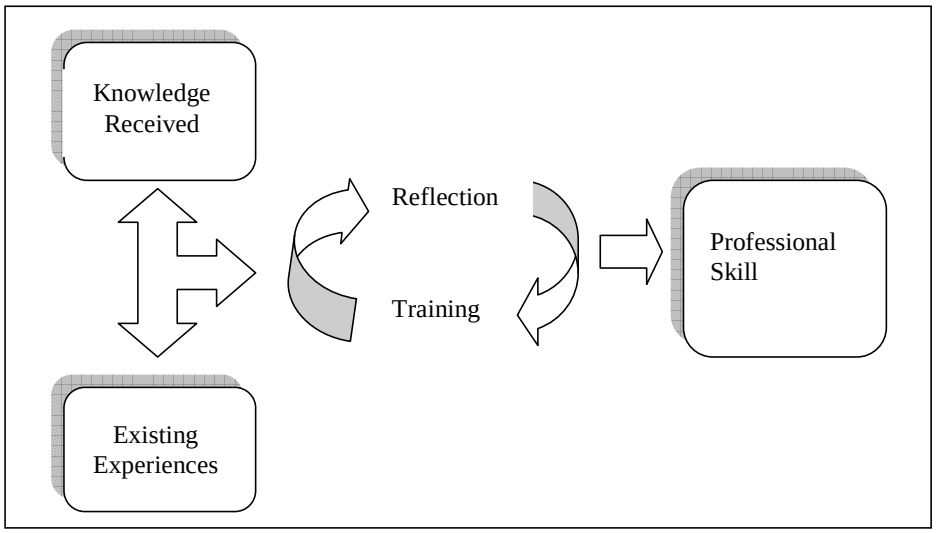


Figure 3 : *Technology Acceptance Model*

Theory of Reflective Model - Wallace (1991)

Teachers' training was one of the focuses of the study. Therefore, the Theory of Reflective Model by Wallace (1991) was applied to this study to analyze the aspect of teachers' training. An interaction between received knowledge and experiential knowledge occurs in this model. The model is not only limited to constructing past experiential reflection, it also integrates newly acquired experiences. It helps us to continuously learn and practice what we acquire till we reach a certain level of dynamic development - professional competence. Figure 4 illustrates the Theory of Reflective Model by Wallace (1991).



Method

This study was a descriptive one using the quantitative approach and data collection of respondents in order to review the correlation between teachers' attitudes, basic knowledge of ICT and skills in accessing the Frog VLE after going through training. The study was conducted at a secondary school classified as a Champion School Frog VLE located in the district of Northern Seberang Perai. The quantitative data was collected through a set of questionnaires. The collected data were analyzed statistically to obtain

the information on samples in order to measure the studied variables. The Frog VLE training was delivered to 20 schools in the district of Northern Seberang Perai. However, the researcher only chose one school for this study. The justification for~~of~~ selecting the teachers was due to the fact that all secondary school teachers in that district have had training exposure on the Frog VLE. Thus, the researcher decided to employ the Convenience Sampling method. This method allowed utilization of only one school with all teachers involved in the study. 104 copies of the questionnaires were distributed; however, only 100 copies were returned.

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Reliability of Questionnaire

The researcher conducted a statistical test, Cronbach Alpha Test, to measure the reliability of the questionnaire. The index value was between 0 to1. The value of 0 denotes a low reliability level; while, the value of 1 denotes a high reliability level (Gay *et. al*. 2003). Table 1 illustrates the value of the Cronbach Alpha for each section of the questionnaire.

Table 1
Cronbach Alpha Values of Each Section of Questionnaire

Variables	**Number of Items**	**Alpha**
Teachers' Attitudes	13	0.89
Teachers' Basic Knowledge of ICT	9	0.81
Teachers' Skills In Accessing Frog VLE	11	0.96
Frog VLE Training	10	0.96

Source: Kajian Lapangan (2013)

Table 1 shows that the Alpha coefficient values were between 0.81 to 0.96. Therefore, the data from the study were valid and have high reliability. They were appropriate to be used as variables for the study.

Formulations / Articulation From The Study

Hypothesis	**Result Accepted / Rejected**

Ho 1 : There is no significant correlation between teachers' attitude and training attended;	Not Significant (Accepted)
Ho 2 : There is no significant correlation between teachers' basic knowledge of ICT and training attended.	Significant (Rejected)
Ho 3 : There is no significant correlation between teachers' skills in accessing Frog VLE and training attended.	Not Significant (Accepted)

Correlation between Teachers' Attitudes With Frog VLE Training

The Null Hypothesis (Ho1) is accepted due to the findings indicating no significant correlation between teachers' attitudes and training attended. Evidently, attending the Frog VLE training did not influence or had insufficient impact on the teachers' attitudes. The study also showed that the internal courses and training program related to Frog VLE did not present any positive effect on the teachers' attitudes, indicating that they like the program. In addition, it was evident with the frequent feedback received from the school administration that the teachers' work load was more focused on the importance of preparing the students to sit for major examinations.

According to Huberman (1973) teachers' attitudes are closely related to certain changes in the field of education, especially those related to the Internet. In agreement with that finding, Unruh and Alexander (1974) state that any significant changes in education must influence the linkage between teachers and their teaching. They also explain that any changes may take place as per expectation if teachers do not evade participation. .

Acccording to Lumpe, Haney and Czerniak (2000), teachers' attitudes may describe their level of reception towards certain changes. Teachers with positive attitude are relatively more inclined to take on new challenges from the aspect of acquiring in-depth knowledge and new skills relevant to the new change of competencies as compared to others.

Correlation Between Teachers' Basic Knowledge Of ICT And Frog VLE Training

Null Hypothesis (Ho2) is rejected due to the findings of the study showing significant correlation between the teachers' basic knowledge of ICT and Frog VLE training attended. Evidently, attending Frog VLE training has improved teachers' basic knowledge on ICT. It showed that the training using Frog VLE has an influence on basic knowledge of ICT among teachers.

Comment [JC6]: The statistics for this paper are missing. I need to see p values, means, standard deviations, and correlation values. I also need to see degrees of freedom.

Also, there needs to be a more extensive literature review.

Last, please explain why a correlation would be the best statistic. Seems like regression analysis would better fit the purpose of the study.

You need to provide demographics of the individuals who took the surveys.

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Based on Wiles and Bondi (1998), teachers' knowledge has correlation with their commitment in implementing any changes in schools. Therefore, teachers should master various aspects of knowledge that may include the ability to incorporate knowledge into the teaching process in classrooms.

Correlation Between Teachers' Skills In Accessing Frog VLE And Training Attended

The Null Hypothesis (Ho3) is accepted due to the findings of the study showing no significant correlation between teachers' skills in accessing Frog VLE and the training attended. Evidently, the training attended did not influence or has insufficient impact on the teachers' skills in accessing Frog VLE. It can be observed from the results of the study that indicated only 22 teachers (22.0%) testified that they received training manuals to guide them on how to access Frog VLE. In the absence of training manuals, the teachers' ability in accessing and exploring Frog VLE depended on respective initiatives at their own limited convenient time. As an alternative, they had to wait for a facilitator to teach them on-line or refer to other colleagues who have mastered the program through a knowledge-sharing session. Such limitations led to a sluggish and inefficient process of mastering the skills.

Wiles and Bondi (1998) also state that teachers should master the aspect of skills and be able to articulate them it into the teaching processes in classrooms. Consequently, teachers' commitment in teaching students will be implemented effectively.

Discussion and Conclusion

Based on the study, it was apparent that the attendance of Frog VLE training did not influence nor sufficiently impact on the teachers' skills in accessing the program. The Theory of Reflective Model by Wallace (1991) explains this in the following way; ~~An~~ individuals improve~~s~~ their~~his / her~~ skills when they~~he / she~~ acquires adequate knowledge from training. The individuals will then be at ease when performing their~~his / her~~ work as the skill set has been assimilated.

This theory is further supported by the Technology Acceptance Model (TAM) which asserts~~validates~~ that attitude and behavior are affected positively when the individual is provided with competencies to act on certain subject matters. The researcher related it to the study this way; the teachers' skills in accessing Frog VLE were more efficient when they were provided with sufficient training. In addition, continuous monitoring by relevant parties was crucial to ensure that teachers feel at ease utilizing the program at any time.

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The results of the study provided a representation on the correlations of teachers' attitudes, basic ICT knowledge and skills of accessing Frog VLE with the training attended. The school selected for the study was the one classified as a Champion School – Frog VLE. Frogasia directly monitored the training provided to all teachers in that school. However, the findings of the study indicated that the teachers from the monitored school were still lacking in readiness and possessed inadequate skills in accessing Frog VLE.

Only a small number of teachers have a positive perception on their capabilities in implementing teaching methods aided by Frog VLE. Teachers' attitudes did not indicate significant correlation with the Frog VLE training attended. The setback was possibly due to the duration of training or supply of internal training that was insufficient to produce significant positive impact on teachers' attitudes. There were other possible factors contributing to the setback, for instance teachers' focus on preparing students for major examinations. In addition, probably the teachers have the opinion that it was a waste of time to utilize the Frog VLE while teaching in view of slow or inefficient internet access and time consuming efforts to produce teaching material online. Work load was another probable factor contributing to the teachers' negative attitudes or perception towards the Frog VLE program.

Relevant government agencies, the Ministry of Education and the Education Department, should not view the brief internal training as sufficient to have~~set~~ high expectations of~~on~~ teachers to succeed in the program. The two government agencies should implement more effective training strategies to ensure teachers' confidence and positive attitudes.

Teachers' basic knowledge of ICT indicated significant correlation with the Frog VLE training attended. Such findings may be due to their weak or mediocre level of basic knowledge of ICT. The training facilitator placed emphasis on methods to access the internet for teaching materials during the training. The teachers acquired basic knowledge of ICT that was important in executing their work online. In addition, the facilitator also provided training~~tutoring~~ on steps to create learning websites as teaching aids that may be uploaded to the Frog VLE. Thus, the teachers were excited about their capabilities in creating learning websites and at the same time, their basic knowledge of ICT was improved.

The teachers' skills in accessing Frog VLE did not indicate significant correlation with the Frog VLE training attended. It may be due to failure in~~of~~ supplying the teachers with training manuals to guide them in accessing the Frog VLE. The teachers only obtained tutoring from the training facilitator. They have no clear directions on the next course of actions upon completion of the training. Therefore, they were unable to implement the

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program effectively. Moreover, the teachers were not used to the contemporary navigation functions and the design of the Frog VLE program display. In order to foster teachers' interest and knowledge in accessing the Frog VLE, the school can play a vital role by supplying the training manuals as a guide to all teachers. The supply of training manuals may provide the opportunities for the teachers to have a more comprehensive knowledge on the program. Higher confidence and comprehensive knowledge with the existing opportunities will foster their interest as they will have a clearer understanding of the Frog VLE. This will result in a greater commitment among teachers to utilize the Frog VLE as part of the teaching process.

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