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# Teachers' Perceptions of E-Learning in Malaysian Secondary Schools

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**Abstract:** Malaysian teachers are constantly bombarded with many new technologies that are believed to be able to help them perform their job better. Since 2013, they have been given access to an online learning space known as the FROG VLE. However, initial evidence has shown poor adoption of the e-learning. As schools are becoming increasingly disconnected from the sociteies of which they are a part, teachers withdrawing into their old familiar landscapes of teaching and learning can no longer be accepted. Being the implementers in the classrooms, their perceptions' towards any innovation are important if the innovation is to be taken up seriously and to be implemented. Measures to improve present condition in order to sustain and increase e-learning uptake, can only be carried out if we know the situations and conditions teachers are in. A qualitative approach was used to identify the views and experiences of 60 secondary school teachers towards the implementation and continued use of VLEs in three secondary schools in Malaysia. Data was collected using an open-ended questionnaire. The results among others, share benefits experienced by the teachers, identified main barriers they faced and suggestions to better improve the implementation.

**Keywords:** E-learning, blended learning, perceptions, secondary school education, teachers

## 1. Introduction

By 2019, 50 percent of all high school courses are predicted to be delivered in an online format (Horn and Staker, 2011). Education will be revolutionised by making it more accessible and indivisualised (Christensen, Horn & Johnson, 2011). To keep pace with the growth of e-learning education in Malaysia, there is a pressing need to conduct relevant research in this area.

This paper presents the results of a recent study we conducted on the FROG VLE in three secondary schools from two states in Malaysia. FROG VLE is the government's initiative to leverage ICT usage in all its primary and secondary schools in the country. Previous initiative, to increase ICT usage in schools known as the Smart Schools' project despite having consumed massive expenditure, found that 80% of the teachers used ICT less than one hour per week, and this was also mostly limited to word-processing (UNESCO, 2013). Other researchers have also argued that computer usage in schools are limited and in some cases almost non-existent (Koustourakis & Panayiotakopoulos, 2008). To benefit from the latest innovation introduced in schools, early intervention programmes are needed to prevent similar poor results. Therefore, teachers' early perceptions of the FROG VLE are crucial for ongoing assessment plus intervention programmes to be carried out as problems emerged are identified and solved. In order to facilitate effective e-learning, the benefits as well as the barriers to implementation must be understood. Thus, three research questions guided this study:

1. What are the benefits of e-learning for teaching as perceived by teachers?
2. What are the barriers of e-learning implementation as perceived by teachers?
3. What suggestions do they have to improve the e-learning teaching and learning environment in schools?

The results of this study are expected to help better understand issues related to teaching and learning among the teachers when implementing e-learning in their classrooms and to provide implications for designing and delivering e-learning education and professional development courses. We believe the benefits are best articulated by those with first-hand experience using the e-learning in their classrooms. Those who have not implemented are likewise in a unique position to provide insights into the barriers that are preventing them from utilising the system. Suggestions for improving the e-learning teaching and learning were also sought in order to better understand teachers' situations. The

implications are far reaching in our understanding of the e-learning's role in supplementing and at times complimenting the face-to-face teaching and learning. The present study is part of a larger study in which factors that predict teachers' satisfaction in the e-learning environment are also studied.

## 2. Literature Review

### 2.1 Learning Management System (LMS) in Malaysia

LMS is a software package that administers education and manages human resources. It supports e-learning activities such as presenting information, managing course materials, and running assessments (Yueh & Hsu, 2008). It offers teachers a number of benefits, like having the course management tools, group chat and discussion, assignment submission, course assessments, manage educational resources and also track student's participation. Besides increasing interest among the teachers and learners, it also enhances teaching effectiveness and cost-saving (Yueh & Hsu, 2008). It provides support and enhances traditional ways of learning (Georgouli, Skalkidis & Guerreiro, 2008). Various terminologies are also used to describe the LMS, for instance Course management System (CMC), Learning Content Management System (LCMS), Computer-based Learning and Online Learning. At present there are several LMS applications in the market like Moodle, Blackboard, Etutor, eFront amongst many others.

E-learning is becoming an important long-term strategy for many educational institutions. Given the rapid growth and its importance, quality e-learning environment is highly required. The one person who would be at the forefront of the online delivery is the teacher. As such, training and support for teachers are important components of an e-learning education. This is in relation to the different roles that teachers would be playing in an e-learning environment. The transition from face-to-face to an online setting requires relevant and effectively planned professional development courses. Are teachers ready to meet the challenges brought by the increase in demand for e-learning? A study carried out by Kim and Bonk (2006) found that most of their respondents believed that monetary, pedagogical and technical competency are some of the more important factors that affect the success of any e-learning initiatives. Instructors' abilities, skills and commitment to teach online are critical to the success of any e-learning. Their willingness to adopt is also an important consideration. Instructors' pedagogical conceptions and values often do not include using ICT as part of their teaching and learning process. Continual management of the e-course also makes the instructors' work time-consuming. Teachers perceptions of extensive time required are the key obstacle to e-learning. More time is felt needed to plan, create and maintain a course and to motivate and spark interest among students to work online are just some of the many challenges to successful implementation. Their level of personal innovativeness also to a large extent will determine if they will take the extra steps to experiment and implement any new innovation.

In Malaysia, recent development has seen the launched of the Malaysian Education Blueprint which is a detailed plan of action that maps out the education landscape for the next 13 years (2013-2025). Realising the gap towards producing a more technologically literate workforce, one that is relevant to the 21$^{st}$ century knowledge and skills, it has identified 11 shifts that will need to occur to deliver the change in education outcomes envisioned by all Malaysians. The National Education Blueprint emphasizes effort to leverage ICT in order to improve the quality of learning across the country. Twenty five initiatives have been identified under the first wave of the Malaysian Education Blueprint (2013-2015). One of them includes providing 1BestariNet and software for schools. 1BestariNet is a project led by the Ministry of Education (MOE) to provide access to a cloud-based virtual learning platform known as the FROG VLE (adopted from United Kingdom) and high-speed connectivity by June 2014 to all the 10,000 fully-aided government schools.

1BestariNet is to replace Schoolnet which was launched in 2004. Schoolnet fell short of expectations, especially in terms of speed (only 1Mbps), capacity and lack of specifications and integration. This ambitious technology-in-education project will cost Malaysian taxpayers RM1.5 billion (nearly US$500 million) and its implementation is expected to run over 13 years. 1BestariNet IDs has been made available to all students, parents and teachers in all the schools nationwide, where they now have single-sign-on access to the Frog Virtual Learning Environment (VLE), Google Apps for Education and the FrogStore. Through the Frog VLE, teachers are able to digitize their teaching content and explore new ways of bringing the best resources and teaching methods to be shared across

the 10,000 schools. Learning anytime, anywhere is now possible with free Internet access available to all 10 million teachers, students and parents in the schools in Malaysia.

### 2.2 New Pedagogy and Technology for E-Learning Educators

Stepping into any classrooms today is almost the same as stepping into any classrooms 20 years ago. Although technology is used in every aspect of our students' lives, the same does not happen in the classrooms. Instead, in schools computing is an organised event, scheduled according to the convenience of timetabling. The gap between what students can do with technology and allowed to do with it in school is expanding with each passing day. Teacher Professional Development Courses, trainings, workshops and in-house sharing have been less than successful in helping teachers to be motivated to integrate technology for teaching and learning. School leadership is often not able to provide strong leadership and strong support due to their own lack of technological knowledge and experience. Even new teachers, whom the school communities looked up for guidance on technology use, hardly infuse technology into their own classrooms. Current teacher preparatory programmes are not effective enough in equipping these new teachers with the much needed skills and knowledge that are required to transform today's classrooms. They are just not taught to handle effective infusion of technology in all subject areas. Lacking in widespread support and professional development, existing teachers are not able to make the necessary changes to their classroom practices. Even the enthusiastic ones with high level of expertise may give up due to the barriers they faced. However, the fact remains that learning to teach and learn in new ways with technology is no small task. Imagination, intellectual stamina, creativity and a huge courage is needed (Jacobsen, Clifford & Friesen, 2002).

According to Guskey (1986), many educational initiatives fail because of two factors; management fail to understand what motivates teachers to engage in professional development and the processes by which change in teachers typically occur. Trainings and professional development courses will only work if teachers can be shown evidence of improvement in their students' learning outcomes, even more so in our exam-oriented community. This is the prerequisite if we want to see significant changes in the attitudes and beliefs amongst our teachers. Experienced teachers are seldom committed to new instructional approaches until they have seen it worked in their classrooms with their students (Guskey, 2002). Training and implementation that are combined with improved students' learning will have more chances at incurring changes in attitudes and beliefs among teachers.

Change brings with it a certain amount of anxiety and threat. Why teachers are reluctant to change is because they are not sure if they can make the new practices work (Lortie, 1975). As change means risking failure, teachers do not easily alter or discard the practices that they have long developed and refined (Bolster, 1983). Technology intimidates even experienced teachers, as it makes them feel stupid, inept and at the mercy of situations where they do not understand and have no control. Change will not be implemented uniformly across schools as teaching and learning are influenced by a number of situational and contextual factors. Close collaboration between the system's developer, and management will be of tremendous help in facilitating change among the teachers. Regular feedbacks on what they are doing, can sustain any little change they are trying to make.

Sustaining change after the implementation period must be seen as a continuous and ongoing endeavour. Considering the importance of their role, teachers' perceptions of the newly implemented FROG VLE must be considered and taken into consideration for the betterment of the e-learning implementation in Malaysian schools. Though there are a number of studies carried out in other countries, effects of differences in context should not be discounted. Development of educational ICT path for every country is unique with its own educational, social, political and cultural contexts. These will differentiate factors that influence ICT usage among teachers according to the countries which they are from. So this study will be particularly useful in identifying factors that are affecting Malaysian teachers' use of the e-learning.

## 3. Method

### 3.1 Participants

Participants in this study were 60 teachers from three secondary schools from two states in Malaysia. 18.33% of them mentioned no training was received so far while 75% indicated that they have received training with 6.67% did not indicate. 70% of them have less than fifteen years of teaching experience while the rest has more. As for the age of the respondents, 40% are male, one did not indicate, while the other 58.33 % are female. As for their age mainly were in the 41 to 50 years old range (refer Table 1).

Table 1: Distribution of Participants' Age in the Survey

| Age Range | Percentage |
|---|---|
| 24-30 | 20% |
| 31-40 | 23.34% |
| 41-50 | 45% |
| 51-60 | 11.66% |

3.2 Procedures

Participants responded to an open-ended questionnaire administered to them in schools. An open-ended survey form with three questions that inquired about teachers' perceptions of the benefits, barriers and suggestion for improvement towards the FROG VLE were distributed. Data were collected about six months after the FROG VLE's was implemented across the nation.

3.3 Measures

Open-ended survey form was employed as the data collection method. Three questions posed were meant to provide a window on what was working or not working and what needed further refinement in the recent implementation of e-learning. The data collected were then analysed for key themes or patterns in teachers' perceptions of the e-learning in schools. The data were analysed and results of the analyses were reviewed to verify for accuracy and enhance reliability. In our analysis process, we are aware of Van Maanen's statement (1988), whereby, there can never be "immaculate perception", and no text or research may be closed to further interpretations (Van Maanen, 1988). The study would provide different interpretations had it involved different researchers and participants and was carried out in another place or at a different time. With this realisation, the researchers have approached this research with the belief that there will not be any single one truth; instead there will be many, with multiple realities and multiple interpretations of the same events (Cohen et al., 2000).

## 4. Results

Several themes emerged from our analyses of the open-ended questionnaire. The findings were summarised and organised by the aforementioned three research questions.

### 4.1 Benefits of Teaching Online

4.1.1 For the students

Most teachers recognised that the FROG VLE has created lots of interest among the students. Besides interest, easy access to a wealth of materials and resources were some of the main benefits identified. These teaching and learning resources can help to improve learning outcome and increase self-directed learners among the students. Flexibility in learning regardless of place and time, increases motivation among the students and in the process it also increases their ICT usage and awareness of ICT's potential as an alternative way to learning. This 'updated' approach of learning, in the long run provides greater opportunities when these students enter the job market. Respondents felt students will be more equipped with the much needed 21st century work skills. FROG VLE is more student-centered with its reduced need for teacher talk. However, despite the reduced in teacher talk, surprisingly a few teachers

felt that their interaction with their students can be increased through e-learning. Another important finding was when a number of teachers claimed that the system provides "hands-on" information for the students. These may be that with technology, students can view, listen, reflect and just do about anything in order to comprehend any new items that they wished to learn.

#### 4.1.2 For the teachers

Many of the teachers appreciated FROG VLE in helping them make their teaching job easier than the traditional approach. Besides being easy to use, the system also helped them to organise their teaching and learning materials. This saves their time when updating or locating for specific materials. They are also pleased that with the system, they need not print or distribute handouts and this reduces cost substantially.

### 4.2 Barriers to Teaching Online

#### 4.2.1 Within the School

Some teachers viewed lack of time as the key concern towards the e-learning implementation. They claimed the workload in school prevented them from exploring and mastering the system further. As such, many expressed critical need for more training and exposure of the system. Despite having trained, ICT skills remained an issue with the teachers. Not having technical support was also stressed as a main challenge in utilising the system, and teachers felt management should be working on this aspect to ease the innovation's adoption process. Besides having limited ICT skills, lacking in English proficiency is also a barrier in understanding the FROG VLE. Some felt the language used was difficult for them to understand including the students. The inability to understand the language used by the system even caused confusion as claimed by some teachers. Validity of information over the internet was also questioned. Another identified barrier was having too many students in a class (30-40). This made it difficult for them to implement e-learning in the classroom. It is a challenge to let students take more responsibility for their own learning as they were not always on task. Whatever the technology being used, teachers with strong classroom management skills and ability to create a positive classroom culture are needed. Students tend to get distracted and visit other than the suggested websites, thus this lack of control was considered a struggle in running e-learning in the classrooms. One teacher also mentioned that she felt students were lazier when using the e-learning. Some felt teachers' initial guidance is heavily needed by the students due to students lacking in skills and exposure in using the system. Nearly all teachers complained of poor internet connection and facilities as the greatest barrier towards e-learning implementation. Slow internet connection and that only certain areas in the school have access to the internet made it difficult for the teachers. They also claimed that they do not have enough working computers to make e-learning possible during their lessons. As such, due to the constraints expressed, plus high maintenance incurred by e-learning, some teachers insist preference over the traditional face-to-face approach.

#### 4.2.2 Beyond the School

Teachers in their comments made it clear that not all students have access to internet and computers at home. These are the basic neccessities that they felt the Malayisan government need to look into before exercising e-learning in our education system. To make matters worse, rural areas in Malaysia will need more time to make e-learning a reality. Students' involvement beyond the classroom walls can only be turned into a reality when these barriers are removed.

### **4.3 Suggestions for Improvement**

#### 4.3.1 Training

Suggestions provided by most of the teachers reflected the urgent need for more training and assistance in delivering the e-learning. Technical support is necessary though very few teachers suggested this. Most of the teachers instead mentioned their lack of skills and confidence in utilising the FROG VLE.

They are of the opinion that with more skills and knowledge of the FROG VLE, they would be able to increase their usage. This should also be extended to trainee teachers at the Teacher Training Institute.

#### 4.3.2 Facilities

A vast majority of teachers in the survey provided suggestions related to providing and upgrading the facilities in schools. Most teachers are crying out for better access to the internet, and ICT devices like laptop, both at school and at home. Internet access and computers for students at home must also be provided.

#### 4.3.3 Awareness

Awareness programmes must be carried out to inform students, teachers and parents as to the e-learning initiatives. More enthusiastic involvement from students and soft pressure from the parents will hopefully create more urgency and motivate the teachers in sustaining the e-learning. Some respondents even suggested having a monthly e-learning programme, to make it more of a whole school initiative instead of individual teacher's effort in the confine of his or her classroom.

#### 4.3.4 FROG VLE's Relevance

Subject like Mathematics was felt not compatible with the online system used. Innovative practices must be linked to school curriculum for sustainability. Teachers mentioned that they were not able to use certain symbols necessary in their teaching. A few teachers commented on the webpage design and content. The internet access to the e-learning is also restricting teachers' usage or visits to certain websites, the Youtube for example. There were mixed opinions regarding this restriction as some agree to this while others felt this restriction was not necessary.

## 5 Discussions and Implications

The research described above sought to investigate the use of e-learning in the classrooms, as perceived by teachers, its benefits and barriers. They were also asked to provide some suggestions on how e-learning implementation can be sustained and improved. An open-ended survey was created which included three questions pertaining to the focus of this study. These findings are significant as they come directly from those who have the greatest power to provide an impact towards the success of the e-learning initiative. Findings suggest that e-learning has created lots of interest among students and could improve students' learning outcomes as was also found in a number of previous studies (Vaughan, 2010; Callopy and Arnold, 2009). E-learning was also found to be helpful as it helped teachers in managing their materials and resources. Teachers also acknowledged that the use of e-learning provides opportunities for students beyond what they can offer in their traditional classrooms.

This study also provides important information as to the barriers in using e-learning. If e-learning is to be successful, teachers must have the appropriate technology, training and time to spend on the system. Trainings must not cease after the implementation, instead continued throughout the initial implementation when struggles are likely to be at their greatest. Moderate skill level and comfort in using the technology is a necessity. This is because their personal comfort and confidence will to a large extent depict how they approach the use of technology, design their lessons and approach the use of technology. Administrative support is also important especially by looking into facilities that are critically needed, like a reliable and fast internet connection plus to provide enough computers for all students. Administrators need to play a more active role in creating conditions in fostering the innovation. They must be the one who need to identify with the innovation, persuades and cajoles others into adopting the innovation. Their importance has many times been confirmed in many past empirical studies (Lafford, 2009; Young, 2008). Having access to internet at home is still not possible for many students. Involvement of parents was repeatedly stressed in order to overcome barriers. By educating parents as to the importance of e-learning, and if financial is not an issue, we would be able to see more students' houses equipped with computers and internet access.

Analysis of findings on suggestions also showed heavy focus on the need for training and facilites for better uptake of the e-learning. Teachers realised the need for them to learn many new skills and unlearn instructional pedagogical practices that have long dominated their professional lives. To do this, teachers must be given ample time and support to master the FROG VLE. Learning to teach an online course requires time, preparing for online teaching involves considerable time, effort and workload. Kaleta, Skibba and Joosten (2007) in their study even proposed that teachers were to be given the necessary training at least six months before implementation. Creating a community of practice among the teachers may be a good idea as then teachers will not feel alone in their struggle. They will then have each other to bounce off ideas and make planning and preparation easier.

Carrying out this study has shown us a number of pertinent aspects about the e-learning implementation in Malaysian schools nationwide. The first most obvious was that most schools are not well-equipped. Poor internet connection and insufficient computers to cater for big number of students in each classroom made it quite a challenge for teachers to carry out online learning. Our second finding points towards the critical lack of training and support for teachers. There was a unanimous plea to provide teachers with the necessary ICT qualifications as to enable them to effectively engage students in using ICT to enhance their learning. Technological infrastructure and technical training are important aspects if e-learning success is to be expected. Finally, we also realised the lackadaisical attitude among the teachers, administrators and the relevant government agencies in trying to make this innovation a success. However, all is not lost as we also found some schools which were not involved in this study, but who are doing extremely well in their e-learning initiatives. Though their numbers are small, future studies need to study these schools in order to understand how barriers were removed in their contexts. Hopefully, they can act as catalyst of change for other schools to follow suit.

## 6 Conclusion

As mentioned by Einstein, "The only source of knowledge is experience", teachers must start experimenting and experiencing with e-learning or Malaysian education system will be left far behind. This modest study was an attempt to explore teachers' perceptions of the newly implemented online learning across the schools in Malaysia, in order to accelerate the usage of e-learning across schools nationwide. Lacking in facilities and training were found to be the most common barrier among educators. As such, increasing the sense of urgency to use technology must be accompanied with reliable and effective on-going support by providing what teachers need. Knowing the benefits of e-learning alone will not help accelerate the adoption process if teachers do not have sufficient pedagogical and technological knowledge and skills. Room to experiment, to make mistakes, to try again and finally learn must be made part of the school culture if change is expected.

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