TEACHERS' BELIEFS AND USE OF FROG VLE IN RURAL SECONDARY ENGLISH LANGUAGE EDUCATION

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ABSTRACT

Frog Virtual Learning Environment (VLE) is an online learning platform which has been introduced in Malaysian government-aided schools in 2012. Despite prominent calls for implementing Frog VLE and the efforts of the Ministry of Education (MOE), the application of this technology has yet to meet the expectations of MOE. This study aimed to investigate the rural secondary English language teachers' beliefs and their use of Frog VLE. Implementing an explanatory sequential mixed method design, data have been collected through survey questionnaires and interview. The survey involved 84 English language teachers, who are teaching in several districts in Negeri Sembilan, namely Jempol, Jelebu and Kuala Pilah, and interviews were conducted with 6 of the survey participants. Descriptive and inferential statistics such as Pearson Correlation test were utilised to analyse the data. The findings indicate that teachers in rural areas hold positive beliefs about the use of Frog VLE in English language teaching. However, result from the Pearson Correlation analysis showed no significant relationship between teachers' beliefs about Frog VLE and their actual practices in teaching English in rural secondary classrooms. Interview data indicated that infrastructure facilities, training, support and motivation, and workload management become major factors affecting rural English teachers' use of Frog VLE. It is hoped that the outcome of this research provides valuable information and recommendation to the stakeholders for integrating new technologies into the teaching and learning process.

Keywords: Frog VLE, Beliefs, Practices, English language teachers, MOE.

KEPERCAYAAN GURU TERHADAP VLE FROG DAN PENGGUNAANNYA DALAM PENDIDIKAN BAHASA INGGERIS DI SEKOLAH MENENGAH KAWASAN LUAR BANDAR

ABSTRAK

Pembelajaran Persekitaran Maya Frog (VLE FROG) merupakan medium pembelajaran dalam talian yang telah diperkenalkan di sekolah-sekolah bantuan kerajaan Malaysia pada tahun 2012. Walaupun pelbagai usaha telah diambil, tahap penggunaan teknologi ini masih belum memenuhi harapan Kementerian Pendidikan Malaysia (KPM). Kajian ini bertujuan untuk mengkaji kepercayaan dan penggunaan VLE Frog guru Bahasa Inggeris di sekolah menengah kawasan luar bandar. Dengan menggunakan kaedah penerokaan berurutan (exploratory sequential design), data telah dikumpul menggunakan borang soal selidik dan temubual. Tinjauan ini melibatkan seramai 84 guru bahasa Inggeris, yang mengajar di beberapa daerah di Negeri Sembilan, iaitu Jempol, Jelebu dan Kuala Pilah, dan temu bual telah dijalankan dengan 6 daripada peserta kaji selidik. Statistik deskriptif dan ujian Korelasi Pearson telah digunakan untuk menganalisis data. Hasil kajian ini menunjukkan bahawa guru-guru di kawasan luar bandar mempunyai kepercayaan positif mengenai penggunaan VLE Frog dalam pengajaran bahasa Inggeris. Walau bagaimanapun, ujian Korelasi Pearson menunjukkan bahawa kepercayaan guru mengenai VLE Frog tidak mempunyai pengaruh yang besar dalam amalan sebenar mereka dalam pengajaran bahasa Inggeris di dalam kelas di sekolah menengah luar bandar. Data dari temubual menunjukkan bahawa kemudahan infrastruktur, latihan, sokongan dan motivasi, dan pengurusan beban kerja menjadi faktor utama yang mempengaruhi penggunaan VLE Frog oleh guru Bahasa Inggeris luar bandar. Adalah diharapkan hasil kajian ini akan memberi maklumat yang berharga dan

cadangan kepada pihak yang bertanggungjawab untuk mengintegrasikan teknologi baru ke dalam proses pengajaran dan pembelajaran.

Kata kunci: VLE Frog, Kepercayaan, Penggunaan, Guru Bahasa Inggeris, KPM

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LIST OF ABBREVIATIONS

ICT	:	Information and Communication Technology
KPI	:	Key Performance Indicator
MOE	:	Ministry of Education
TAM	:	Technology Acceptance Model
VLE	:	Virtual Learning Environment

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CHAPTER 1

INTRODUCTION

1.1 Introduction

This study investigates teachers' beliefs and use of an online learning platform, Frog Virtual Learning Environment (VLE), in English language education in rural areas. In the first two sections of this introduction chapter, the background of the study is outlined and the problems which the study aims to address are stated. This is followed by the purpose, objectives and research questions of the study, after which theoretical framework of the study is presented. Next, the significance of the study is discussed. In the remaining sections, research scope and limitation are stated to highlight the boundaries of this research and key concepts are defined.

1.2 Background of the Study

English language is given importance as an international language and as a lingua franca in many countries. As a consequence, the worldwide need for English has created the need among Malaysians to be literate in English as it will be useful for knowledge acquisition and for future workplace needs. In light of this pull factor, the Malaysian Ministry of Education has taken many steps to improve English language literacy of the students. One of the steps is introducing technology-centric education in order to provide students with better learning experiences.

In recent times, the advancement in technology has crept into the field of education and language teaching where the integration of Information and Communication Technology (ICT) into teaching and learning are attempted at every opportunity and possibility. Using technology in language classroom can aid in the language acquisition process and at the same time develop the 21st century skills required by the students.

In order to keep up with the current technological trends in education, the Malaysian Ministry of Education (MOE) has been emphasizing the usage of technology in teaching and learning process. This is being implemented under one of 11 shifts listed in the blueprint for preschool to post-secondary education (*Malaysia Education Blueprint 2013-2025*, (2013). The ministry aims to equip students with the appropriate skills and knowledge so that they will be able to meet the demanding job requirements and become on par with the global society (Yunus, 2007). The government allocates a lot of funds to equip both urban and rural schools in Malaysia with necessary technological resources. A huge amount of money is being spent on adopting a learning management system which is called Frog Virtual Learning Environment (VLE). It was introduced in schools by MOE in 2012 under the 1 BestariNet Project. Through this project, 10 000 government-aided schools in Malaysia, both primary and secondary, are provided with a high-speed internet connectivity and a virtual learning platform, Frog VLE. Frog VLE is a learning platform which provides access to plenty of educational resources and cool apps from around the web. This web-based learning system provides opportunity to the students to experience real-world learning by incorporating authentic materials. It also let them learn anywhere and anytime beyond the four walls of classroom ("Learn center," 2014).

In relation to English language education, Frog VLE provides attractive and interactive teaching and learning materials that can be used in the instruction. Teachers can make use of the online learning tools such as blogs, forums, chats and websites which are available through the widgets in Frog VLE. These e-learning tools can stimulate students' interest on the language lessons (Chapelle, 2003).

The success of any newly introduced educational programs is highly reliant on the teachers' ability and intention to implement them. Therefore, many initiatives are taken by the ministry to help the teachers to integrate Frog VLE in their lessons. This includes providing quality training sessions to selected teachers from various schools in Malaysia. These trainings are meant to deliver knowledge on Frog VLE teaching methods and to guide the teachers in implementing it in schools ("FrogAsia Training," 2016). Besides, the government takes necessary steps to improve the infrastructure facilities in schools to allow the teachers and students to use Frog VLE effectively. As an example, schools are being provided with Chromebooks and wireless 4G internet connection which could allow teachers to carry out Frog VLE lessons in the normal classrooms instead of conducting it in the computer lab ("Learn center," 2014).

1.3 Statement of the Problem

This study intends to explore teachers' beliefs and practices on the implementation of Frog VLE as these aspects are vital in understanding and improving educational innovations. According to Fives and Gill (2014), teachers' beliefs can contribute to the success or failure of any educational reforms as they serve as filters that guide teachers in the instructional decision-making. In a detailed analysis of the obstacles to use technology in classroom from 48 research, Hew and Brush (2007) noted teachers' attitudes and beliefs as one of the three most cited factors that affect technology use. When teachers believe that a new innovation is feasible and desirable, they tend to utilise it fully. This proves that, being the implementers of innovations in the classrooms, teachers' beliefs are influential in the application of any innovation. Likewise, teachers' beliefs are also significant in determining the practice of Frog VLE in the classroom.

Frog VLE is an educational innovation project introduced by the government as an initiative to leverage technology in all the government-aided schools. A huge sum of money is being spent on this project every year for improving infrastructure as well as for the maintenance of the application. Despite prominent calls for implementing Frog VLE and the efforts of the Education Ministry, the application of this technology has yet to meet the expectations of MOE (Kamalludeen, Hassan, & Nasaruddin, 2016). The findings of a case study conducted by MOE show that less than 80% of teachers spend at least an hour a week using Frog VLE (Ministry of Education, Malaysia, 2014). This shows that there seems to be an unexplained disparity between the huge sum of money spent thus far and the expected return in the usage of Frog VLE.

One of the main causes of this disappointment is teachers' beliefs concerning teaching and learning as these beliefs strongly influence teachers' classroom practices (Cheok, Wong, Ayub, & Mahmud, 2016). This is supported by Kaur and Hussein (2015) who studied teachers' readiness to utilise Frog VLE. It was found out that that not many teachers hold a positive belief on their capabilities of delivering lessons aided by Frog VLE and view it as demanding task. For many teachers, conventional blackboards are still the most important teaching aid (King, 2002). These teachers, who hold more traditional beliefs, are likely to face great challenges in adopting technology. They prefer teaching using the traditional method over technology to teach English language as they believe it is more effective and easier to practice (Yunus, 2007). Since teachers' beliefs about the importance and ease of use of technology for teaching seem to predict their frequency of usage in the classroom, it is crucial to study teachers' beliefs on Frog VLE to ensure that the usage level of Frog VLE matches the government's efforts.

This study is intended to bridge the gap in the literature regarding the relationship between teachers' beliefs and their Frog VLE practices as the literature in this field is scarce. Several studies have been conducted in Malaysia on the implementation of Frog VLE. However, relatively few studies have explored the implicit link between teachers' beliefs and practices of Frog VLE (Cheok et al., 2016; Shen & Shariff, 2016; Thah, 2014) and none of these were carried out particularly in rural area. One of the main aims of the 1BestariNet project is to bridge the digital divide between rural and urban students by providing quality, Internet-enabled education to all Malaysians (Goon, 2014). However, schools in rural areas still lack ICT facilities which are necessary for the successful application of Frog VLE. Therefore, the level of Frog VLE usage in rural areas might not be same as its usage in urban areas. Besides, Palak and Walls (2009) describe teachers' beliefs as situationally determined and context-bound. This shows that teachers in rural areas might have different beliefs about using Frog VLE compared to the teachers in urban areas since teaching in these two areas provides teachers with varied experience in terms of facilities, students' level of proficiency and their motivation to learn.

Early studies indicated that there is an inconsistency between teachers' beliefs about technology and their actual classroom practice (Fang, 1996). Therefore, it is necessary to account for other factors that restrain teachers' ability to deliver instruction congruent with their beliefs. Amiruddin et al. (2016) report that there are many other crucial factors influencing the use of Frog VLE in language teaching apart from teachers' beliefs such as number of students in classrooms, training and support for teachers, teachers' workload and time constraints. These factors that hinder the integration of Frog VLE have been studied in a number of research throughout the years of its implementation (Kaur & Hussein, 2015; Shen & Shariff,

2016; Thah, 2014). An earlier study by Hamzah et al. (2016) was conducted on the relationship between rural school teachers' willingness to use Frog VLE and the obstacles faced when using it. However, the finding of this study is inadequate to fully understand the problems faced by rural teachers in implementing Frog VLE as the study was carried out only in two secondary schools in a small district, called Benut. It is important to identify the problems faced by the rural teachers to help them overcome the obstacles and encourage them to use Frog VLE. The recent Malaysia Education Blueprint 2013-2025 (2013) states that the government aims to provide equal and best possible education for all students throughout Malaysia regardless of their geographical area. One of the ways to fulfill this aim is by fully utilising Frog VLE to make the knowledge resources available to students. This could improve the learning experience of students and keep them on par with the students in urban areas as been stated in the Malaysian Education Blueprint.

1.4 Purpose and Objective of the Study

The study is set out to explore the English language teachers' beliefs and implementation of Frog VLE in rural secondary schools. It also aims to find out the factors that affect their implementation in English language classrooms. The following are determined as the objectives of this research:

1. To explore the beliefs of secondary English language teachers in rural areas about using Frog virtual learning environment (VLE) in teaching and learning English.
2. To find out if their beliefs are consistent with their implementation of Frog VLE.
3. To identify factors that influence their implementation of Frog VLE.

1.5 Research Questions

This study attempts to answer the following questions.

1. What beliefs do secondary English language teachers in rural areas hold about using Frog virtual learning environment (VLE) in teaching and learning English?
2. Are these beliefs consistent with their implementation of Frog VLE?
3. What are the factors that influence their implementation of Frog VLE?

1.6 Conceptual Framework

The conceptual framework of this study is adapted from the Technology Acceptance Model (TAM) introduced by F.D. Davis (1985). According to this model, those who accept a technology will use it as much as possible, whereas people who do not accept it will use it less frequently. One of the reasons for choosing TAM as a framework of this study is it has been widely used by the researchers to study the adoption of new technologies (Cowan & Earls, 2016; Kaur & Hussein, 2015; Nair & Das, 2012).

TAM theorizes that the use of a technology is determined by two beliefs, perceived usefulness and perceived ease of use. Davis (1989) defines perceived usefulness as "the degree to which a person believes that using a particular system would enhance his or her job performance" (p. 320). Whereas, perceived ease of use is "the degree to which a person believes that using a particular system would be free from effort" (p. 320).

Based on TAM, external factors can influence users' beliefs about using a system, which are their perceived usefulness and perceived ease of use, when adopting a system (Davis, 1993). The perceived usefulness and perceived ease of use

of the technology impact directly on the users' attitude towards using a system. TAM also claims that perceived usefulness and attitude towards a system influences the behavioral intention. As an example, users' positive beliefs and favourable attitude towards a particular system leads them developing an intention to utilise it (Ross, Fathema, & Shannon, 2015). All these five constructs of TAM model affect the actual use of a system.

Over the years, researchers have grounded their works on TAM to study teachers' beliefs in using technologies and the relationship between teachers' beliefs and technology practices (Azalea, Moses, & Yim, 2018; Chien, Wu, & Wu, 2018; Gilakjani, 2012; Kriek & Stols, 2010). Therefore, in this study, the TAM model is adapted to examine the relationship between teachers' beliefs about Frog VLE and their use of it. A conceptual framework is proposed by classifying the two constructs, perceived usefulness and perceived ease of use, as beliefs.

In the current research, perceived usefulness refers to the degree to which teachers believe that using Frog VLE can improve teaching and learning of English in rural areas, whereas perceived ease of use describes the degree to which teachers believe it can be used easily.

Figure 1 is a model showing the two main constructs, which are classified as beliefs, and the causal linkages in TAM.

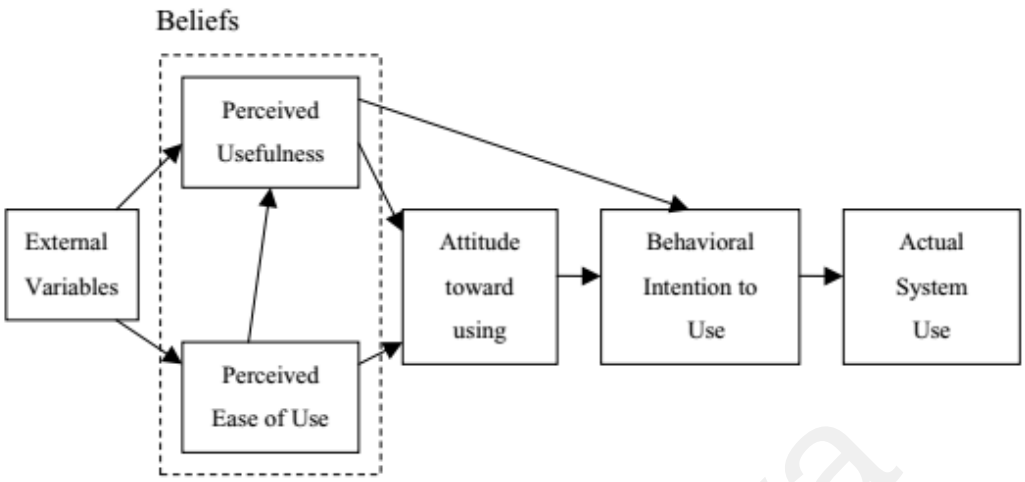

Figure 1.1. Technology Acceptance Model
Source: Adapted from Davis (1989)

This model fits the purpose of current study well. It will be useful in explaining the findings. Besides, it will be effective in exploring the relationship between teacher's beliefs and use of Frog VLE as well as the external factors influencing their adaptation. The factors affecting the use of Frog VLE will be examined based on the constructs of TAM. Beliefs of teachers on the usefulness of the software and perceived ease to use it will be included as domains in questionnaire to answer the first research question.

1.7 Significance of the Study

The findings of this study may be significant for many stakeholders. One of them is MOE. Frog VLE is still a new learning platform and MOE is constantly finding ways to promote its usage. This study would be useful in understanding teachers' views and their use of Frog VLE, which would serve as a guide for MOE to take suitable actions to assist teachers in using this technology more effectively. For instance, MOE can design suitable training and courses for teachers that will enable them to involve students in meaningful instruction and prepare students for twenty-first century learning. Moreover, the results can benefit Frog Asia, the developer of Frog

VLE. By knowing teachers' perception of their application, they can maintain or improve the features of their application to suit the English language education in Malaysian.

From the findings of this study, other contextual factors that encourage or inhibit teachers' use of Frog VLE would be better understood. This will be useful for the ministry and school administration to plan specific strategies to further increase its usage by overcoming the shortage and limitations faced by the teachers.

Next, the results of this study would contribute to the body of knowledge on Frog VLE in Malaysian rural area context. The results of this study would help the English teachers in the rural areas to make a shift from traditional approach to a technology-centric approach as they will be more aware of the obstacles to integrate Frog VLE and can prepare themselves to overcome them. With teachers' improved classroom practices, we could see a ripple effects on the students learning process.

1.8 Scope and Limitations of the Study

In the research, Frog VLE is given emphasis as a teaching and learning tool for English language instruction. Although it is being used to teach many subjects in schools, this study shall only look into teachers' beliefs about using Frog VLE English language education. Frog VLE is still new in many schools and teachers are among the first individuals who will use the application before the students. For this reason, this study only looks at teachers' implementation of Frog VLE in their teaching and does not focus on students' usage.

The limitation of this study is that it is a small-scale study, thus the results cannot be generalized to a larger population. Another boundary to this study is, the population of this study is only from rural schools in 3 districts in Negeri Sembilan, namely Jempol, Jelebu and Kuala Pilah. Therefore, the findings from this study may only be applicable to these particular districts and some other schools in Malaysian rural areas which have similar background.

1.9 Definitions of Key Concepts

1.9.1 Information and Communication Technology (ICT)

The abbreviation ICT means Information and Communication Technology. This term is defined as the technologies that are used to "transmit, process, store, create, display, share or exchange information by electronic means" (UNESCO, 2007, p. 1). It also includes communication technology, such as the internet. ICT consists of hardware like technological devices and the application software which are the programs that we run on computers (Evoh, 2011). In this research, we will specifically look into an ICT software application that runs through the internet.

1.9.2 Virtual Learning Environment (VLE)

Virtual Learning Environment (VLE) is an online software application that facilitates e-learning by providing different types of online learning services under one platform (Sharma & Barrett, 2011). It provides access to web-based learning tools for students, teachers, administrators as well as for parents. VLE let the teachers to share educational resources via the web and students to engage in learning without the limitations of time and place. Furthermore, administrators and parents will be able to monitor the students work on this platform (Emde, Schneider, & Kötter, 2001). In this study, the term VLE is referred to Frog VLE application. Frog VLE is an online learning system introduced in Malaysian schools that

replicates real-world learning by leveraging technology. It can be used to deliver lessons, set homework and monitor their students' performances, whereas students submit homework and view their grades virtually ("FrogAsia," 2016).

1.9.3 Beliefs

According to (Richardson, 1996) beliefs are "psychologically held understandings, premises or propositions about the world that are felt to be true". Similarly, Green (1971) defines belief as a conception that is thought to be true by the person holding the belief; a psychological concept that differs from knowledge. This statement is supported by some researchers who agreed that belief differs from knowledge (Nespor, 1987; Rokeach, 1968). For the purpose of the current study, the definition of beliefs draws from the definition suggested by scholars above, by not relating it to teachers' knowledge.

In the context of teaching, Elen and Lowyck (1999, as cited in McIntyre, 2011) describe teachers' beliefs as ideas about educational aspects like teaching, learning, and curricula. The beliefs of teachers influence their decisions in selecting their teaching goals and pedagogies. Teachers tend to choose teaching tools and instructions based on what they believe are effective and suitable to achieve their targets (Zheng, 2015). For this reason, this study will investigate teachers' beliefs to understand their usage of Frog VLE. By referring to the conceptual framework, this study refers to teachers' beliefs as their perceived usefulness and perceived ease of use of Frog VLE.

1.9.4 Rural Schools

The schools in Malaysia are classified based on their geographical area. According to Johnson and Strange (2005) rural schools are located in areas which are not a part of city. This article will adapt this definition to identify whether a certain

school belongs to a rural area. These rural schools will be selected from a list obtained from the particular District Education Offices (DEO).

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter provides a comprehensive review of the literature that is most pertinent to the purpose of this study. It begins with a discussion on the English language proficiency of rural students in Malaysia. Next, it considers the technology mediated instruction and teachers' beliefs on implementing it. This follows by describing the relationship between teachers' beliefs about technology and their classroom practice. Having established a foundation for this study, the study then addresses the use and the impact of Frog VLE in second language acquisition, followed by the factors influencing the implementation of Frog VLE by breaking it down into two subsections: individual and institutional factors.

2.2 English Language in Rural Areas of Malaysia

English is a compulsory subject in the Malaysian school curriculum. The reason is that it takes the position of the second language in Malaysia. This shows that English is considered the most important, after the national language, Bahasa Melayu. Therefore, all the students in Malaysia learn English as their second language during both primary and secondary schools. The latest *Malaysia Education Blueprint 2013-2025* (2013) places a great emphasis on developing the English literacy of students. Despite the placed emphasis and steps taken to improve students' command in English, the proficiency level in rural areas is still disappointing (Majid, Muhammad,

& Puteh, 2005). This section presents the current level of English language proficiency of students in Malaysian rural areas.

A few studies have pointed out that there is a wide discrepancy between the level of English language proficiency of students in urban and rural areas (Majid et al., 2005; Musa, Lie, & Azman, 2012). It is found that rural students are still lagging behind. "Education for All 2015 National Review: Malaysia" 2015) pointed out that the performance in the English subject of rural students in Sijil Pelajaran Malaysia (SPM) is always below the performance of urban students. Writing skill is one of the factors that students require to score well in the English language examination (Jalaluddin, Yunus, & Yamat, 2011). This notion is supported by Samuel and Bakar (2007) who stated that many rural students are incapable of writing even a short comprehensible text.

2.2.1 Factors affecting second language acquisition in rural areas.

Several factors influence rural students' development of English literacy. One of them is the availability of resources and exposure to the language. Students in rural areas have limited access to English resources and exposure to the language as they come from an area where the English language is not used in daily communication among people. They only use the resources available in schools. It is found by Majid et al. (2005) that the majority of parents in rural areas do not provide students with extra resources such as storybooks and magazines. In addition, a case study on improving rural students' writing skills found out that the teaching approaches used by teachers directly influence students' writing ability (Jalaluddin et al., 2011). The findings of this study call for a change in the approaches used in English language teaching for the students in rural areas. Teachers are suggested to use approaches that can gain the students' interest and increase their participation.

One of the language teaching approaches that can encourage the active participation of students is the integration of technology in language teaching (Chitravelu, Sithamparam, & Choon, 2005). A later section of this chapter describes how the usage of technology-mediated instruction can develop students' command of English.

2.3 Technology Mediated Instruction

For many years, technology has been used to supplement traditional classroom activities. It is used for teaching the same content and skills that are taught in normal classrooms through textbooks. However, using technology mediated instruction is different in a way as it promotes personalised interactive instruction (Sharma & Barrett, 2011). It is not only used as a teaching medium in a classroom but can also be used outside the formal teaching context.

In its early decades, due to the limited technology and slow network connection, the computer-based activities were in the form of text presented on screens to develop separate language skills. They were limited to drilling activities such as gap-filling and multiple-choice questions. Lately, with the advancement of technologies and the emergence of World Wide Web, computer-assisted instruction has become a more widely accepted and practiced approach of language teaching. The advancement in technology has caused the technology mediated pedagogies to shift, "from those supporting behaviourist principles to those supporting highly interactive and collaborative learning" (Reinders, Thomas & Warschauer, 2013). Consequently, computer-assisted instruction has become more of student-centered, thus creating opportunities for independent and self-paced learning. On the other hand, teachers take the role of a facilitator rather than being a knowledge transmitter.

Throughout its history, education professionals have been making constant efforts to develop various ways of acquiring knowledge and skills of language by

creating interactive and visually attractive applications leveraging technology. Examples of programs that have been used in technology mediated instruction to date are test-creation software, writing applications, online language games and grammar quizzes. In recent days, technology mediated instruction is also promoted through a Virtual Learning Environment (VLE) (Reinders, Thomas & Warschauer, 2013).

2.3.1 Teachers' beliefs about technology.

Teachers' beliefs do not form in a vacuum. Rather, the beliefs are evolved out of their personal, cultural and professional experiences (Pajares, 1992, as cited in Shifflet & Weilbacher, 2015). Zheng (2015) claimed that there is a bi-directional relationship between teachers' beliefs and classroom practices. Not only that teachers' pedagogical beliefs impact their classroom practices, but also classroom events, and in turn, shape their beliefs. This section provides review of the studies that examine teachers' beliefs about technology usage.

Many teachers appear to have a positive outlook on technology based language teaching (Alsaied, 2016; Mahmood & Saqlain, 2013). They believe that technology is a powerful motivating force for successful learning. For instance, a study conducted on English language teachers' perception of using Blackboard software confirmed that a vast majority of the participants agreed to the fact that teaching via Blackboard can exert high motivation and makes the learning very interesting for bored students (Alsaied, 2016). The participants also claimed that using Blackboard enables them to use various presentation styles during their lessons and avoids the students from getting bored. This is in line with the findings of a recent study in Malaysia by Ayub, Cheok, Mahmud, and Wong (2016). In their study, they suggested that the educators in a Teacher Training Institute express the belief

that ICT could add variety to their teaching and cater to students' unique learning styles. Besides, it is believed that various materials and media available through technology make teaching and learning more effective and meaningful.

A study by Chung (2014), further emphasises teachers' positive view on technology. The interview responses from both pre-service and in-service teachers revealed that the use of digital technology can make lessons more enjoyable for students. Consequently, it was perceived that students were much more engaged in the activities. Additionally, teachers also hold the belief that technology is capable of maximising students' learning. A mixed method study reports that the elementary school teachers' perception of using technology as an educational tool can support in building and activating students' prior knowledge and vocabulary, thus improving their reading process (McIntyre, 2011).

While a substantial amount of research reports that teachers generally have positive views on technology, several pieces of research that have been carried out in Malaysia reveal teachers' unfavourable beliefs towards Frog VLE use in the classrooms. Kaur and Hussein (2015) pointed out in their case study that only a few secondary teachers have positive perceptions in implementing an online education tool. Many find it difficult to use the technology despite their participation in internal courses and training. A study on teachers' perception of e-learning in Malaysian secondary schools also yields similar results. It noted that more than half of the participants felt that it is not convenient to use Frog VLE and as a result, found it ineffective in their classrooms (Cheok, Mahmud, & Wong, 2017). Some teachers do not believe the use of technology in teaching as it may bring negative effects in the learning process. Teachers are so concerned about plagiarised work when using internet-based teaching mediums (Cheok et al., 2016). Students tend to copy and

paste from various websites and this presents a challenge to their learning process. It makes them lazy and hinders them from applying their thinking skills as they get answers easily from the internet. Moreover, teachers perceive the use of technology as a demanding task because there is also a tendency for students to get distracted when using technology. It is a difficult task for a teacher to monitor them by ensuring that they are always performing their task. Due to these problems, teachers hold negative beliefs about the use technology in the classroom. The mismatch present in teachers' beliefs abroad and Malaysia motivated the researcher to explore the beliefs of teachers in Malaysia.

Studies usually point out that different groups of teachers tend to hold different views on technology use (Chung, 2014). This becomes the reason for the present study to look specifically at teachers in the rural areas as they might hold different beliefs compared to teachers in urban areas.

2.3.2 The relationship between teachers' beliefs and use of technology.

Fives and Gill (2014) argue that the beliefs that teachers hold are major influencing factors in implementing any programs as they filter, frame and dictate teachers' decisions and actions. Integrating technology is not exceptional from this influencing phenomenon. For this reason, teachers' beliefs have been studied to understand their instructional technology practices. A substantial amount of studies have proved that teachers' cherished beliefs are the indicators of their behaviours in the classroom and influence the structure of lessons (Levin & Wadmany, 2006; Palak & Walls, 2009; Shifflet & Weilbacher, 2015). In this section, this study looks into the influence of teachers' beliefs on the use of technology by reviewing the studies done in both inside and outside of Malaysia.

A systematic review of studies conducted in various educational settings pointed out that positive beliefs are translated into the use of technology in the English language curriculum (Galvis, 2012). This correlates with the result of a case study by (McIntyre, 2011) which was carried out to understand the technology beliefs and practices of instructors in a Teacher Training Institute. It proves that teachers' views about technology mediate the way and frequency of its use in the classroom. It is said that teachers who perceive the importance of technology usage, utilise the tools and applications that are available to them, whereas those who see little or no learning value in using technology, embrace it minimally.

Other studies that linked teachers' pedagogical beliefs with their actions have described a similar relationship that exists between beliefs and technology practices. Based on the qualitative evidence gathered from 14 studies (Braak, Ertmer, Ottenbreit-Leftwich, & Tondeur, 2016), the review pointed out the tendency of teachers' pedagogical beliefs becoming a stumbling block to educational technology use. Several authors of the reviewed studies suggested that teachers with more teacher-centered orientations do not consider technology as a useful tool for the teaching and learning process. Those teachers appeared to apply more traditional methods such as using whiteboards and believe that it can serve the same purpose as technology.

Researchers use the constructs of TAM, mainly perceived usefulness and perceived ease of use, in describing the links between these two variables clearly (Aljuaid, Alzahrani, & Islam, 2014; Chiou, 2011; Lau & Sim, 2008). A research on teachers' beliefs and practices on the role of technology in literacy instruction highlights that teachers' perceived benefits of using technology for their literacy instruction and their level of comfort with the technology may have a great influence

on their attitudes (McIntyre, 2011). The finding of this study proves that the more the teachers believe the technology is useful and easier to use, the greater the likelihood that it will be integrated into instruction. Similarly, Aljuaid et al. (2014), in their study on Saudi Arabian lecturers' readiness for mobile learning in higher education found that both perceived usefulness and perceived ease of use act as the fundamental determinants of lecturers' readiness to use mobile learning. Referring to this, the present research aims to study the teachers' beliefs on technology in terms of its perceived usefulness and perceived ease of use as these two variables can contribute to better understanding of the classroom practices.

On the other hand, research also suggests that teachers' use of technology does not always align with what they claim to believe. A review of teachers' beliefs and practices by Fang (1996) noted that there is an inconsistency between these two variables. Despite believing that using technology in education can reap better learning outcomes, teachers do not seem to use it frequently. Fang (1996) explains that classroom factors such as students learning styles and needs, support needed by students and textbooks hinder teachers from applying instructions that match their beliefs. Studies also reported other contextual factors that cause a mismatch between teachers' beliefs and practices. These barriers that impede the frequency and quality of technology use will be reviewed later in this chapter.

In terms of usage of Frog VLE in Malaysia, the literature lacks evidence that examines the alignment among teachers' beliefs and their technology practices. Most of the previous studies describe teachers' beliefs and technology practices with limited variables or in isolation and rarely investigate the connections between teachers' beliefs and their technology use in classroom instruction (Amiruddin et al., 2016; Cheok et al., 2017). This has outlined the need for further studies to develop a

deeper understanding of the links between teacher beliefs and their practice of Frog VLE in English language instruction.

2.3.3 The role of technology in second language acquisition.

Technology is being widely used in the teaching of English as a Second Language (ESL) and English as a Foreign Language (EFL) (Celce-Murcia, Brinton, & Snow, 2014). Studies show that it has great potential to support second language learning compared to in-person teaching. A review of the studies on Computer Assisted Language Learning (CALL) in the ESL context stated that the majority of the studies conducted in this area proved the advantage of technology in developing students' linguistic knowledge and language skills (Handley, Macaro & Walter, 2012).

One of the main benefits of technology mediated instruction in second language learning is that it increases students' level of motivation by providing interesting topics and materials. This is in line with a study conducted to examine the impacts of incorporating the internet in an ESL class in a secondary school in Taiwan (Young, 2003). The findings indicate that the effective use of internet resources can stimulate a strong intrinsic motivation in learning English and could reduce students' psychological barriers that are mostly present in face-to-face teaching. For instance, a study by Huang and Hwang (2013) suggest that e-learning environment can reduce foreign language learners' anxiety and offer a less stressful classroom atmosphere. Differently, another research pointed out that students' motivation and attention do not last long during computer-assisted lessons (Park & Son, 2014). This is because they get distracted with other interesting features in computers such as playing games and surfing the internet.

Moreover, computer-based activities can be tailored precisely to individual students more than any other material. This promotes learner autonomy which allows students to choose the time, place and learning strategies that are suitable for their learning. Gilakjani and Sabouri (2017) and Sai and Zinan (2017) supported this view by stating that technology assists learners learn based on their interest and choose the materials which are suitable for them. The researchers also pointed out that learners may get access to many information that cannot be provided by their teachers. In addition, technology allows learners to take control of their own learning by evaluating their own learning achievements in an independent way. It is mentioned by Sevilla-Pavón, Martínez-Sáez, and Siqueira (2011) that online learning lets students perform self-assessment and provide them with adequate feedback. The timely feedback which is offered immediately after completing an assessment is noted as practical way of assisting students become more aware of their mistakes and language level by the participants of a study by Oscarson (2009).

Technology also provides a highly authentic learning environment in which students can practice the natural use of language. This is very beneficial for second language learners as they will be exposed to the real world communication of the target language that is missing in their local environment (Shafaei, 2012). This is consistent with the findings of the study by Park and Son (2014), which investigated Korean teachers' perception in integrating CALL in the EFL classroom. The respondents asserted that CALL provides students with a range of language inputs and enhance their learning experiences in real and authentic contexts. Furthermore, in a study conducted to investigate foreign language learners' perception on their ICT based English course, majority of participant noted that they receive more input through online learning than in traditional context (Sai & Zinan, 2017).

Apart from that, learners tend to be more involved in technology incorporated lessons. This is because students feel more confident and less embarrassed to make mistakes in the online platform compared to face-to-face learning. Sai and Zinan (2017) points out that the students were more comfortable while asking questions, sharing information and ideas with other students and getting help to communicate. The researchers also found out that students asked more questions of different kinds in online cooperative learning than in a traditional teaching environment.

2.3.4 Steps towards Frog VLE in Malaysia.

In Malaysia, there have been plenty of efforts taken by the government to encourage the use of computers in education. Using computers in the Malaysian education system is not a new paradigm. Since the late 1990s, the MOE has started revising policies to include ICT in the field of education to raise its standard and quality (Chan, 2002). One of the reasons that drive MOE to develop an education policy based on ICT is to achieve the nation's long-term goal, Vision 2020, which aims to transform Malaysia into a fully developed nation. This goal can only be achieved through a technologically literate workforce that will be able to perform in a global market (Chitravelu et al., 2005). Every year a large amount of money is being spent to equip the schools with ICT facilities such as ICT laboratories, internet connectivity and courseware (Policy on ICT in Education, 2010). Besides, as an initiative to promote effective use of ICT in schools, the MOE has introduced several projects in schools such as Smart Schools, MySchootNet Project, School Access Centre and Eduweb. These facilities and programs offered by MOE create a platform to integrate technology into language education in Malaysia.

The latest *Malaysia Education Blueprint 2013-2025* (2013), emphasised the ICT use in education as one of its 11 strategic and operational shifts in transforming

the education system to provide students with 21st century education. As an initiative to incorporate ICT in education the MOE has introduced the 1BestariNet project. This project aims to offer a cloud-based virtual learning software, known as Frog VLE to all the schools nationwide. Frog VLE is now being used as a teaching medium for all subjects including languages. The following section will further describe how this software is being used in teaching and learning of the second language in Malaysia.

2.3.5 The use of Frog VLE in Malaysia.

Frog VLE is a system that replicates real-world learning by leveraging technology. It aims to create a more enjoyable and appealing learning environment for the students (Thah, 2014). In this section, the discussion on how Frog VLE is used as a teaching and learning platform in Malaysian schools is presented. With the presence of this technology, it is now easier to practice blended learning in the classrooms where teachers integrate Frog VLE into face-to-face classroom lessons (Sharma & Barrett, 2011). Teachers mainly use this platform to deliver lessons, set homework and monitor their students' performances, whereas students submit homework online using the platform and access their results virtually. Students have the opportunity to access this platform in both structured and unstructured ways. They can use it to perform specific tasks set by their teachers or to look for learning resources on their own to get more exposure and practice in the language ("FrogAsia," 2016).

Frog VLE is a unifier of online learning tools such as blogs, forums, chats and websites that can provide learning and teaching materials. These separate tools are brought together under one roof and linked to the management system of Frog VLE, thus making it easy for the teachers to utilise them ("FrogAsia," 2016). Apart

from that, this Software integrates various widgets that are used for teaching and learning. Figure 2.1 shows the widgets that are available in Frog VLE.

Figure 2.1. Widgets on Frog VLE

One of the widgets that is widely used by teachers is 'Sites'. Sites are webpages that are created inside the Frog VLE on a particular subject or topic. Teachers can integrate online tools and applications that have been mentioned above to create stimulating teaching Sites. It is also possible for the teachers to include media such as images and videos into their sites, thus making the lessons exciting while expanding the students' knowledge (Ministry of Education, Malaysia, 2014). The Sites can be designed to be used at all the stages of a lesson: set induction, presentation, practice and production. Using this approach saves a lot of time for both teachers and students. For instance, teachers can reuse the sites when teaching other classes and save their time and energy they spend on preparing lessons. Similarly, students can save their time by not having to copy notes into their exercise books as they can access the notes online at any time (Bahari, 2015).

Apart from that, 'Text Activity Widget' allows the teachers to include instructions regarding a task. Therefore, students will be able to learn the content of

the lesson and perform tasks without the presence of the teacher. Another beneficial widget that is utilised by the teachers is ‘Phrase of the Day’. This can be added to the Sites to encourage students in learning new words or phrases every day ("Learn center," 2014). As a result, students can improve their vocabulary knowledge. This is supported by a study which found out that students have significantly enhanced their vocabulary through the Virtual Learning Environment (Barker & Gossman, 2013).

In addition, by employing the ‘Assignment’ widget, teachers can set homework digitally and mark it once submitted by the students. The materials for assignments can either be designed by themselves or chosen from the repository of learning materials in Frog VLE. There are a plethora of national and international resources available in this software that match the Malaysian Education Syllabus ("FrogAsia," 2016). Teachers can choose the best resources that are suitable for their lesson objectives. This software also enables the teachers to construct or use pre-built quizzes for both in-class and homework assignments. Students will get the scores for the quizzes on the spot as the answers are checked automatically and this reduces the teachers’ burden as they do not have to mark the answers. Some quizzes are included with the features to provide feedback and explanations for the incorrect answers which allow the students to learn from mistakes (Bahari, 2015). Moreover, giving feedback and monitoring their students’ assignments are also possible through the ‘Assignment’ widget. By watching the students’ progress more closely, teachers will be able to provide targeted assistance efficiently, according to the needs of each student (Ministry of Education, Malaysia, 2014). After completing each task assigned by their teacher, students can relax their mind and recollect their focus by playing some educational games. These games are related to the activities that they have performed and it can assist them in revising the items learnt in an exciting way.

Playing games also enable students to have fun and improve their creative thinking skills (Thah, 2014).

The Learning Style application allows teachers to identify their students' preferred learning styles namely Visual, Auditory, or Kinesthetic. This application needs students to respond to a series of questions to find out their better learning style ("FrogAsia," 2016). Based on Lightbown and Spada (2006) it is important to understand individual differences in terms of students' preferred ways of processing information for the success of language learning. Knowing this will help for the teachers in tailoring lessons that match the students' learning styles. Besides, it will also help students in developing their metacognitive understanding of the way they absorb information. Metacognitive awareness will make them more successful learners because they will be able to apply the techniques to tackle their learning (Kendall-Seatter & Wilson, 2010). Frog VLE does not only help the students to understand their preferred learning styles, but also offers a wide range of resources which are suitable in enhancing their second language literacy based on their ideal learning styles.

Apart from using the software in conducting lessons, it also helps teachers also get in improving their teaching practices. Frog VLE offers a platform for the teachers to get connected to the community of educators who use Frog VLE around the world through forums. This provides room for the teachers to discuss the challenges they face and obtain responses on how to overcome them. They are also being exposed to articles written by educators on their best teaching practices and inspiring stories ("Learn center," 2014). Reading such articles will keep them up-to-date on the recent practices and issues related to their field. These practices of the

teachers will be useful in developing themselves professionally and conducting more effective lessons that can benefit the students.

Thus far, this section has outlined the ways on how Frog VLE can be used for teaching and learning purposes.

2.3.6 Teachers' use of Frog VLE.

Although MOE has spent millions on this educational tool, the level of its usage in teaching and learning is questionable (Cheok, Wong, Ayub, & Mahmud, 2016). The success of any educational program lies in the teachers' effective implementation. In this case, despite being a sophisticated software that contributes to carrying out effective lessons, Frog VLE is still not been fully utilised by the teachers. This claim is supported by the report published by Auditor-General (2013), which revealed the low level of Frog VLE usage by teachers, students and parents. The report stated that the usage of this software is less than 5%.

Many studies have been conducted in Malaysia to explore teachers' practice in using this technology. One of the studies was carried out by Cheok et al. (2016). By following a case study methodology, the study explored the extent to which Frog VLE is used by 12 teachers. The results of the study showed a poor usage of it among the 12 teachers even though they came from different states and schools. In another study, Haziqah (2014) described that teachers have positive perceptions of the utilisation of Frog VLE for teaching and learning. However, their perception does not reflect on their practice in the class. Some factors are hindering teachers on the use of this software despite their positive perception towards it. These factors will be discussed in the later section.

It is vital to study the teachers' usage of technology as it has a great impact on students' usage levels. According to Ofsted (2009) teachers should model the

usage of VLE effectively in order to encourage a positive attitude among students in using it. Research on students' usage patterns of Frog VLE discovered that there is a positive correlation between teachers' and students' usage of this technology. When the teachers incorporate it into the lessons, students do not only have the opportunity to use it in class but are also motivated to use it outside the classroom (Kamalludeen, Hassan, & Nasaruddin, 2016). Furthermore, a survey conducted using a large sample that included 426 teachers and 223 students from both primary and secondary schools throughout the country produced similar results. The survey responses from the students supported the statement that teachers' usage of this technology contributes to students' successful usage (Thah, 2014). However, the overall result presented by this study is different compared from other similar studies on Frog VLE. Unlike the studies which have been presented above, this study shows an effective application of Frog VLE among both teachers and students.

Besides, a comparative study of urban and rural teachers' ICT usage, reveals that urban teachers integrate ICT in their lessons more often than the rural teacher. However, there ais no significant difference recorded between their relevant qualifications and competencies in using ICT (Khairani, 2016). This shows that there are other disparities between these two areas that need further investigation.

Educational Technology Division of each state is given the responsibility to measure the Key Performance Indicators (KPI) of Frog VLE usage in schools. The KPI is calculated every week by monitoring the VLE usage among teachers and students in each district. This division also examines if the learning sites designed by the teachers are appropriate for the teaching purpose. Figure 2.2 and Figure 2.3 show the KPI measured on the usage of Frog VLE in the districts of Jempol and Jelebu, where this research has been carried out. These figures indicate that most secondary

schools in this district have poor usage of this software. Based on these figures, it can be concluded that the application of Frog VLE in rural schools has not attained the target set by the Ministry of Education.

Bil	Nama Sekolah	Kategori Sekolah	PPD	FA	PKG	Teknologi	Jenis Sekolah	M1 Pencapaian KPI KPI Target: 549.87 Jumlah	Peratus	Ked	Keputusan	Tindakan PKG
1	SJK(C) LDG GLENDALE (NBC6006)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SJKC	40	469.48	1	Pass	Cemerlan
2	SJK(T) LADANG AIR HITAM (NBD6002)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SJKT	0	0.00	7	Fail	Gagal
3	SK (FELDA) LUI MUDA (NBA6024)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK(F)	1	7.82	5	Fail	Gagal
4	SK (FELDA) LUI SELATAN (NBA6018)	Luar Banda	Jempol Jelet	Ya	Lui	ADSL	SK(F)	0	0.00	7	Fail	Gagal
5	SK (FELDA) PASOH 2 (NBA6011)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK(F)	0	0.00	7	Fail	Gagal
6	SK (FELDA) PASOH 3 (NBA6012)	Luar Banda	Jempol Jelet	Tiada	Lui	OCPE	SK(F)	0	0.00	7	Fail	Gagal
7	SK (FELDA) SERTING HILIR 2 (NBA602	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK(F)	41	153.33	3	Pass	Sederhan
8	SK AYER HITAM (NBA6006)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK	212	452.60	2	Pass	Cemerlan
9	SK LUI TIMOR (NBA6014)	Luar Banda	Jempol Jelet	Ya	Lui	ADSL	SK	0	0.00	7	Fail	Gagal
10	SK PULAPAH (NBA6021)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK	0	0.00	7	Fail	Gagal
11	SK SERTING HILIR KOMPLEKS (NBA6(	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK	0	0.00	7	Fail	Gagal
12	SK SERTING ULU (NBA6002)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK	0	0.00	7	Fail	Gagal
13	SK SUNGAI LUI (NBA6007)	Luar Banda	Jempol Jelet	Ya	Lui	ADSL	SK	0	0.00	7	Fail	Gagal
14	SK SUNGAI SAMPO (NBA6008)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SK	0	0.00	7	Fail	Gagal
15	SM AGAMA DATO' HAJI MUSTAFA (NF	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SMA	2	4.83	6	Fail	Gagal
16	SMK (FELDA) LUI BARAT (NEA6006)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SMK(F)	0	0.00	7	Fail	Gagal
17	SMK (FELDA) PASOH 2 (NEA6002)	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SMK(F)	0	0.00	7	Fail	Gagal
18	SMK SERTING HILIR KOMPLEKS (NEA	Luar Banda	Jempol Jelet	Tiada	Lui	Zoom	SMK	13	16.10	4	Fail	Gagal
JUMLAH								268	8.30			

Figure 2.2. KPI of Frog VLE usage (1)

Bil	Nama Sekolah	Kategori Sekolah	PPD	FA	PKG	Teknologi	Jenis Sekolah	M1 Pencapaian KPI KPI Target: 893.12 Jumlah	Peratus	Ked	Keputusan	Tindakan PKG
1	SJK(C) CHI WEN (NBC6002)	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SJKC	74	77.03	3	Fail	Lemah
2	SJK(C) CHUNG HUA (NBC6004)	Luar Banda	Jempol Jelet	Ya	Bahau	ADSL	SJKC	0	0.00	12	Fail	Gagal
3	SJK(C) KG MAHSAN (NBC6005)	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SJKC	41	121.55	1	Pass	Sederhan
4	SJK(T) LADANG SG SEBALING (NBD60	Luar Banda	Jempol Jelet	Ya	Bahau	VSAT	SJKT	0	0.00	12	Fail	Gagal
5	SJK(T) LDG BAHAU (NBD6001)	Luar Banda	Jempol Jelet	Ya	Bahau	ADSL	SJKT	0	0.00	12	Fail	Gagal
6	SJK(TAMIL & TELUGU) LADANG GEDD	Luar Banda	Jempol Jelet	Tiada	Bahau	Interim	SJKT	1	8.51	7	Fail	Gagal
7	SK (FELDA) BANDAR BARU SERTING (	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SK(F)	2	2.71	9	Fail	Gagal
8	SK (FELDA) SERTING (NBA6017)	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SK(F)	13	16.07	6	Fail	Gagal
9	SK (FELDA) SERTING 3 (NBA6026)	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SK(F)	1	1.82	10	Fail	Gagal
10	SK ST AIDAN (M) (NBB6001)	Bandar	Jempol Jelet	Tiada	Bahau	Zoom	SK	0	0.00	12	Fail	Gagal
11	SMK (FELDA) BANDAR BARU SERTIN(	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SMK(F)	83	99.44	2	Fail	Lemah
12	SMK BAHAU (NEA6001)	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SMK	4	2.88	8	Fail	Gagal
13	SMK BAHAU 2 (NEA6012)	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SMK	1	1.52	11	Fail	Gagal
14	SMK CHI WEN (CF) (NEB6001)	Bandar	Jempol Jelet	Tiada	Bahau	Zoom	SMK	23	27.00	5	Fail	Gagal
15	SMK SERI JEMPOL (NEA6011)	Luar Banda	Jempol Jelet	Tiada	Bahau	Zoom	SMK	30	48.79	4	Fail	Gagal
JUMLAH								157	2.99			

Figure 2.3. KPI of Frog VLE usage (2)

The discussion above shows that several studies have been carried out on teachers' use of Frog VLE. However, there is not much research conducted on this topic particularly in rural areas. The KPIs of Frog VLE usage that has been presented above indicate that there is a need to shed some light on teachers' practices in rural areas.

2.3.7 Frog VLE and second language acquisition.

Beverton and Low (2004), in their review of some research on ICT and distinct aspects of literacies that consists of spelling, vocabulary, reading and writing, stated that if utilised properly, ICT can create s positive impact on learning specifically on second language literacy. In terms of using Frog VLE, a recent study in Malaysia indicated that most students use Frog VLE to facilitate their learning process and improve their performance in all the subjects (Kamalludeen et al., 2016). However, there have been not many studies conducted on the role of Frog VLE in second language acquisition. Therefore, this section will look into how technology integrated lessons can assist in students' language learning process by reviewing the studies conducted both inside and outside of Malaysia.

Using technology can promote second and foreign language learning in several ways. First of all, technology can create a language-rich environment for students. This is in uniform with the findings of Parvin and Salam (2015) who found out that the use of e-content provides ample opportunities for the students to use the English language. More than 70% of their survey respondents revealed that e-content offers students extra activities where they can practice all the four language skills. This can be of benefit to the students in the rural areas. Students in rural areas are at a disadvantage compared to urban students in terms of exposure to the English language (Majid et al., 2005). As mentioned in an earlier section, most of the rural students only have the chance to use English and access learning resources in school. Majid et al. (2005) found out in their study that students' success in reading comprehension is correlated with the accessibility of reading materials at home. Technology provides a great opportunity for students to be exposed to the language outside the school and learn beyond the boundaries of the classroom. It contains a

wide range of engaging and interactive content that students can access from home. These resources will not only provide exposure in written texts but also enable students to experience the language used by native speakers in real through the audio and video resources (Thah, 2014). Therefore, there is a high tendency for students to develop their literacy as they gain continuous exposure to the language.

Furthermore, integrating technology can facilitate language learning by increasing students' level of confidence and controlling their anxiety (White, 2014). According to Lightbown and Spada (2006), the confidence level is influenced by how relaxed the students feel when producing or learning a language. He also added that experiencing anxiety could hinder learning performances. Young (2003) claimed in his research that using a web-based teaching medium allows students to choose a conducive environment for them to learn. It allows them to access learning resources at any time and place that are suitable and comfortable for them. This may create a stress-free environment for them to learn. Hence, students are allowed to practice language freely without having the fear of making mistakes. This is in line with the findings of Barker and Gossman (2013) which reported that the usage of VLE makes students comfortable as it provides the flexibility of time, place and pace, and variety of resources and activities.

It is fair to say that technology can provide additional benefits in developing language compared to a normal classroom. Students in this era, who are part of the net generation simply enjoy the use of technology (Sharma & Barrett, 2011). Getting them to learn a language with a medium they like can promote effective learning. A comparative research of two learning environments noted that computer-assisted classrooms bring more advantages to students' learning process than the traditional classrooms. The study stated that students gain more practice and are more focused

on their learning in a computer-assisted classroom. It is also found that using networked computers improves writing skills as more time is spent on writing tasks (Sullivan & Pratt, 1996). In addition, technology causes the students to be more engaged in the lesson than a normal classroom (Parvin & Salam, 2015). As mentioned by Ahmad, Corbett, Rogers and Sussex (1991), there is no 'low attention period' during a computer-assisted lesson. This is because students do not have to wait for their turn to be chosen by the teacher to be involved in the lesson such as answering questions orally during the discussion. They will be entirely focused throughout the lesson as they will have the full attention of the computer. As stated in the previous section, students receive instant feedback and comments on their errors when they perform tasks on Frog VLE. This can also take care of students' attention span (Ahmad et al, 1991). Moreover, instant error correction can trigger the students to remember it better and practise the language in the correct form (Sharma & Barrett, 2011). It may not be possible for the teachers to give immediate feedback for every student in a normal classroom due to a large number of students and the limited teaching period.

A large amount of money has been invested by the government in integrating technology into education. Yet, little evidence has been found on the effect of technology on literacy education (Torgeson & Zhu, 2004). This creates a necessity for this research.

2.3.8 Factors affecting the use of Frog VLE.

The previous section described the low-level usage of Frog VLE by the Malaysian teachers. Since a lot of money and efforts have been spent on the implementation of this software, it is important to study the factors contributing to its poor utilisation. Several studies have examined different aspects that limitat Frog

VLE and ICT practice in Malaysian classrooms (Hamzah, Zelkepli, & Noh, 2016; Kamalludeen et al., 2016; Samuel & Bakar, 2007). Based on the suggestion made by Becta (2004), these factors have been divided into two categories, which include individual and institutional. Individual factors are related to teachers and institutional factors are related to school.

2.3.8.1 Individual factors.

Teachers play a significant role to ensure successful implementation of any ICT tools in education. Without their active and confident participation, the aim to enrich students' learning using Frog VLE is doomed to fail. Also, we cannot omit the role of teachers in promoting this teaching medium to students because students will not be able to access it in the absence of proper guidance and support from the teachers. Therefore, it is important to find out the factors that hinder teachers from using Frog VLE.

One of the main determiners of teachers' level of Frog VLE usage is their teaching experience. The findings of a study by Chung (2014) displayed a noticeable gap between the pre-service and in-service teachers in terms of their digital technology usage. Inexperienced teachers face more difficulties in integrating technology than their experienced counterparts. Chung explains that the pre-service and in-service teachers exhibit different cognitive processes due to their difference in teaching experiences and this affects their instruction. Unlike pre-service teachers, the in-service teachers have acquired knowledge and skills that will enable them to integrate a variety of teaching tools, hence they develop a more positive attitude towards the use of digital technology. This contradicts Hamid's (2011) findings, which shows that novice teachers display a variety of ways of using ICT compared to the senior teachers who use only PowerPoint presentations in their lessons. Another

study by Samuel and Bakar (2006) also noted similar results. In their qualitative study, some old and experienced teachers asserted that they are not ready for change and prefer to continue teaching with the traditional approach. The reasons for their resistance to change can be linked their age and inadequate ICT skills. It is mentioned in the study that the older teachers let the job done by the younger teachers as they feel it is very hard for them to use ICT tools and they are too old to learn.

Teachers' incompetent use of technology is another stumbling block to the successful application of Frog VLE (Hamzah et al., 2016). Integrating this learning tool into teaching and learning requires teachers to master some ICT skills such as surfing the internet efficiently, application of basic word processing software, designing websites, sharing files and conducting electronic presentations. Unlike the young and tech-savvy teachers, some senior teachers who might not have enrolled in any computer courses face difficulties in applying even basic ICT skills. Therefore, they are reluctant and lack confidence in incorporating Frog VLE into their lessons. A study on the utilisation and integration of ICT tools into education, noted that senior teachers are fearful and have low self-esteem due to their incompetence in using ICT resources (Samuel & Bakar, 2006).

Teachers' workload is also one of the main obstacles in the implementation of Frog VLE (Harun, Hassan, Samad, & Zakariah, 2013; Samuel & Bakar, 2006). As stated by the interviewees, the increase in workload in school does not give them enough time to concentrate on lesson planning and material preparation. This affects their effective teaching in classrooms. This view matches a study conducted by the Ministry of Education (2007), which suggests that numerous complex duties of the teachers may cause them not to concentrate on classroom teaching and learning.

Another study by Lau and Sim (2008), which explores the extent of ICT usage among secondary school teachers in Malaysia, also supports this point by reporting lack of time as one of the key teacher-level barriers to ICT incorporation into education. They explained that teachers need time to prepare resources for lessons and familiarise themselves with the hardware and software. In terms of using Frog VLE, teachers are required to spend time in preparing the Sites before the lesson and check if the selected widgets or features are working well.

The acquisition of ICT skills by teachers and successful integration of Frog VLE into their repertoire teaching practices, teachers need adequate support and training. This is supported by Kaur and Hussein (2015) whose findings indicated that teachers' ICT knowledge is positively correlated to the Frog VLE training that they have acquired. The training should not only be given to the teachers with inadequate knowledge of ICT, but the tech-savvy teachers should also be guided to use their acquired skills to incorporate Frog VLE into their teaching practices to provide complex cognitive involvement for their students.

Each year, MOE offers courses and training for teachers to enhance their skills in accessing the software. However, it is inadequate to provide teachers with enough knowledge and skills (Kaur & Hussein, 2015). This is consistent with the results of a survey by Hamzah et al. (2016) which proves ineffective training as one of the key barriers in implementing Frog VLE. Due to the limited funding allocated for the training and workshops, only selected teachers from a school, usually the ICT teachers, are given the priority to attend the training. Those teachers who were opportune to attend the course are expected to conduct an in-house training for other teachers in school. There is a difference between a workshop conducted by a professional instructor, who has been specially trained to deliver knowledge on Frog

VLE, and a workshop carried out by a teacher who has just attended one training session (Gryzelius, 2015). As a result, it can be said that teachers do not gain full benefits from such training. The findings of the study by Kaur and Hussein (2015) also correlate with this statement as it shows no significant correlation between teachers' skills in using Frog VLE and the training they have received. It explains that the workshops attended by teachers are insufficient to give them knowledge and encouragement in using Frog VLE.

Another issue with the training and workshop is that the content is inappropriate. A report presented by the Institute of Democracy and Economic Affairs indicated that many teachers show dissatisfaction with the quality of the training they receive as the content fails to meet their expectations (Gryzelius, 2015). According to Andrews et al (2007), inappropriate content and insufficient training neither prepare teachers to use the technology nor develop their confidence. The deficiencies of training made some teachers not to show any progress in their teaching despite their enrollment in some courses (Samuel & Bakar, 2007). The training that is being conducted does not particularly focus on one subject, but all the subjects. This hinders teachers from acquiring complete knowledge of various ways of integrating the teaching medium into their subjects (Kader, 2007). As a result, they have a fragmented understanding of Frog VLE and this is insufficient in providing them confidence that they will apply in the classroom as they are not able to identify the Frog VLE features that are most relevant and effective for their subjects. Also, they are not trained to handle potential problems that may arise during the lesson such as malfunction of the technology.

2.3.8.2 Institutional factors.

A proper infrastructure facility is paramount to the successful use of Frog VLE. By considering this, MOE has equipped all the government schools with 4G internet access to support the use of Frog VLE. However, broadband access in many schools particularly in the rural area is inefficient as the connection is too slow and only certain parts of the school can access the internet (Cheok & Wong, 2016). This is supported by a survey carried out by Education Technology Division, MOE which found out that the broadband connectivity in rural schools is less stable compared to their urban counterparts (Thah, 2014). Moreover, the result of another survey, which was conducted in 46 schools within Malaysia, to find out the effectiveness of broadband access provided by the MOE, is also consistent with this. Nearly 71% of 491 respondents indicated that the internet speed in their schools is unsatisfactory. (Audit-General, 2013).

Some videos and content-heavy websites take a long time to load due to the poor internet connection speed. Frog VLE is one of the content-heavy webpages as it contains many widgets and features. Waiting for several minutes could make the students lose interest in the activity and give a sense of insecurity to the teachers. Consequently, teachers become reluctant to use this software which sometimes might double their workload as they might require to prepare a back-up lesson plan in case the webpages fail to load (Gryzelius, 2015).

Other than that, many schools in Malaysia do not have more than two ICT laboratories (*Malaysia Education Blueprint 2013-2025*, (2013). As a result, it is only possible for two classes to have Frog VLE integrated lessons at a time. This is consistent with the findings of a study by Samuel and Bakar (2006). Nearly all the respondents of the interview, who were selected from three premier schools, pointed

out that they have insufficient ICT laboratories in school and it is difficult to get access to them. This eventually brings frustration to the teachers. Moreover, there are inadequate computers in the laboratories to make Frog VLE possible in Malaysian government-aided secondary schools. The participants of the study also asserted that some of the computers are not functioning well and will soon become unusable as few amount of funds are allocated for repairs and maintenance. This situation poses a challenge to teachers in using Frog VLE with many students in a class. Malaysian classrooms are usually filled with a large number of students, about 30 to 35 pupils (Cheok & Wong, 2016). When there are fewer computers available, students will require to share them. This could turn the class noisy which will become difficult for teachers to monitor them.

In order to rectify this problem and as an initiative to successfully implement Frog VLE, the government has supplied Chromebook to both primary and secondary schools. However, not all schools have received Chromebooks. Also, the poor internet connectivity, which has been described above, makes it hard to use all the Chromebooks at the same time to access Frog VLE (Gryzelius, 2015).

Apart from the poor infrastructure facilities in schools, students may also not have adequate facilities at home to use Frog VLE. This is indeed true for many rural students, who do not have computers and proper internet connection at home (Majid et al., 2005). This becomes an obstacle for the teachers to assign homework using this software. For this reason, the use of Frog VLE by teachers is limited only in the classrooms (Kamalludeen et al., 2016).

Furthermore, limited teaching duration also impacts the teachers' application of Frog VLE. In Malaysian secondary classrooms, only 30 minutes is usually allocated for each teaching period. Therefore, teachers always try to avoid using Frog

VLE due to its time-consumption. It takes ample time to set up LCD projectors or to relocate the students to the computer lab (Samuel & Bakar, 2006). Consequently, teachers always avoid carrying out Frog VLE lessons with the notion that they will cut a huge amount of time off the class and are afraid of falling behind the schedule. Teachers will have to spend ample time conducting Frog VLE activities as it is still new to many students in Malaysia. Therefore, students need to be provided with clear instructions and demonstrations before carrying out the activities (Kamalludeen et al., 2016). These poor facilities and time factors, in turn, appear to discourage the use of Frog VLE in teaching and learning.

Andrews et al. (2007) mentioned that studying the factors hindering ICT practice in education can benefit the teachers to overcome the barriers and conduct effective lessons in the future. Thus, this study focuses on examining the challenges faced by teachers in using Frog VLE.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The overall purpose of this study is to explore the relationship between teachers' beliefs and practices of Frog VLE. The possible barriers for English teachers to use this application in language teaching will also be studied. This chapter gives an outline of the research designs that will be used in this study to address the research objectives and questions. Next, the information of the population and samples will be presented. The description of instruments, data collection and data analysis procedures that were decided to be the most suitable for this study are also included in this chapter. Lastly, the steps taken to maintain the reliability and validity of this study are discussed.

3.2 Research Design

A mixed method study allows the researcher to combine the strengths of both quantitative and qualitative data (Dornyei, 2011). For this reason, an explanatory sequential mixed method research design is chosen to answer the three research questions of this study. Creswell (2012, p.542) describes this as a design where quantitative and qualitative data are collected sequentially in different stages. The qualitative information will help in refining and extending the information gained through quantitative method. In this study, the quantitative data is used to describe trends about a population and to provide general picture of the research problem. Whereas, the qualitative data is used to provide different perspectives and complex picture of the findings from quantitative data (Creswell, 2012).

Quantitative research involves collecting numerical data which is then analysed by statistical methods (Dornyei, 2011). In order to collect data in the

numerical form, a survey research design was used. The advantage of survey design is it can identify the characteristics of a large population from a small number of individuals (Creswell, 2014). In this research, it was helpful to find out the beliefs and practice of teachers in rural area on Frog VLE through the chosen sample. According to Muijs (2004) survey research design is suitable for descriptive studies. In this case, it was useful to describe the English language teachers' beliefs about using Frog VLE and their actual use of this application in English language teaching. A cross-sectional survey was conducted to collect data for this study. It was easier to administer the survey on a one-off basis as the researcher did not have to spend money and energy to keep in touch with the respondents over a long period. A cross-sectional study can also avoid negative impact of unexpected external events that are beyond our control (Dornyei, 2011).

Next, semi-structured in-depth interviews were carried out to support the data collected through the survey. Interviews were conducted to answer the first and third research questions which aim to study teachers' beliefs of Frog VLE and to find out the factors influencing its utilisation. As the second research question aims to measure teachers Frog VLE use, it is only based on the quantitative data gathered from the survey. This qualitative method of research gave a wider perspective and detailed findings to the research because the qualitative data helped to find out the aspects that cannot be addressed by the quantitative data (Cresswell, 2014).

3.3 Population and Sample

English teachers from several districts in Negeri Sembilan, namely Jempol, Jelebu and Kuala Pilah, were selected as the target population. Based on the data obtained from District Education Office, there are about 40 rural government secondary schools in these 3 districts in Negeri Sembilan. About 90 English language teachers

were chosen as the sample of this study. Attempts were made to get a large number of samples as to avoid sampling errors (Creswell, 2012). Only teachers who have had experience of using Frog VLE were selected as the participants.

Dornyei (2011) describes that probability sampling is the most suitable technique for a quantitative research. Probability sampling allows the researcher to claim that the sample is a representative of the population, thus can generalize the results to the population (Creswell, 2012). Therefore, the samples for this survey were selected through cluster sampling method. According to Cohen, Manion, and Morrison (2011) this sampling method is recommended when a population is large and widely dispersed, which makes it impractical to compile a list of the population. In this study, it was difficult and time-consuming to obtain the list of individual teacher names in the selected districts as there were nearly forty schools which are classified as rural schools. Therefore, this sampling method was carried out by following the steps suggested by Dornyei (2011). The rural schools which have been chosen from the list obtained from District Education Office were marked as different clusters. Then, a number of clusters (schools) were randomly selected using the random number table. All the English Language teachers in those selected schools were asked to participate in this survey.

In a qualitative data collection procedure, it is vital to find participants who can provide rich and useful information into the aspect that is being studied rather than seeking representativeness of the wider population (Dornyei, 2011). Hence, a non-probability sampling technique is used to select the interview participants. The researcher employed purposive sampling to choose the eligible participants who meet the criterion being sought, Based on Cohen et al. (2011) this method is useful to satisfy the specific needs of the researcher. In this study, teachers who have more

than a year experience of using Frog VLE were aimed to be interviewed as these teachers would be able to provide more insights based on their experience compared to the novice users of the application. From the survey respondents, 6 participants, who met this criterion and were willing to be interviewed, were selected to answer the interview questions. However, to ensure the study has significant representativeness of the larger population of interest, the 6 interview participants were chosen from 6 different schools. Besides, the researcher made sure that the teachers from all three districts studied in this research were included.

3.4 Instruments

Two research instruments were used in collecting the data to answer the research questions of this study, which are questionnaire and interviews.

3.4.1 Questionnaire.

This study was conducted by using adapted questionnaires designed by different researchers. According to Creswell (2014), a researcher may assemble an instrument from parts of different instruments. The items to measure the first research question were constructed and modified from the questionnaire used by Silviyanti and Yusuf (2015). 18 items from the study on EFL teachers' perceptions on the use of ICT were adapted. 9 of these items measure teachers' perceived usefulness whereas another 9 items are on teachers' perceived ease of use of Frog VLE. The items for second research question were adapted from Bebell (2005). The survey by Bebell (2005) which is carried out to evaluate a computing program in New Hampshire middle schools consists of several parts. Using the entire instrument will be too long and will include items that are not related to this study. Therefore, 12 items from the section on frequency of teachers 'technology use were adapted for the current study. Items from both sets of questionnaires were modified to suit the

context of the current study, which is to study language teachers' Frog VLE beliefs and practice. The research questions and findings from the review of the literature were used to develop the existing survey items. As modifications were made to the original survey items, some measures were taken to ensure the reliability and validity of the current questionnaire, which will be discussed in the later sections.

The modified instrument is constructed with three sections. The first section includes demographic information of the participants and the two other sections contains questions concerning the first and second research questions. The second section consists of 18 items soliciting responses on a five-point Likert scale, which asks the respondents to rate their beliefs about using Frog VLE in English, ranging from strongly disagree to strongly agree. The items in this section are based on teachers' perceived usefulness and perceived ease of use of Frog VLE. The third part contains 12 items which measures the use of Frog VLE by teachers in terms of classroom application, homework and teaching aids. It measures teachers' frequency of Frog VLE usage with four-point Likert scale, ranging from never to very often. In order to keep the participants' information anonymous, the questionnaires did not ask for their names. Sensitive questions are not included in this questionnaire so that the respondents will be able to answer all the items and missing data will not occur (Creswell, 2012).

3.4.2 Interview.

Five semi-structured interview questions were formed based on the first and third research question to elicit opinions from the participants. Semi-structured interviews encourage the participants to elaborate on the issues raised in an exploratory manner in the direction provided by the interviewer (Lodico, Spaulding & Voegtle, 2016). This has helped the researcher to obtain detailed information

about teachers' beliefs and the practical barriers for Frog VLE in rural areas based on pre-determined domains. The interviews were conducted face-to-face using English language.

3.5 Pilot Test

Although the questionnaire is adapted from other studies which had successfully collected data by using it, it was necessary to conduct this pilot test as changes were made to the original instruments.

Conducting pilot study is very useful as it would aid in establishing the content validity of instrument which can influence the result of the study (Creswell, 2014). Therefore, before conducting the research, the instrument was pilot tested in two phases as suggested by Dornyei (2011). At the initial stage the items in the questionnaire were checked by 3 colleagues of the researcher and also by an expert. These pilot participants evaluated the items and overall format of design. Based on the constructive feedback given in the aspect of context, content and structure, the items were reorganized in order to assure clarity. The questions were rephrased, and some ambiguous parts were removed to make them coherent and cohesive (Creswell, 2014). With this, a near-final version of the instrument was formed, and this was tested in the final piloting. At this stage, respondents were asked to complete the questionnaires and their responses were statistically analysed. The questionnaire was administered to 12 teachers who are teaching in rural schools in the selected districts and the researcher made sure that these teachers were excluded from the final sample for the study. This process was helpful to check if the individuals in the sample can complete the questionnaire and understand every item in it. Through this, it was possible to revise the questionnaire by identifying commonly misunderstood and noncompleted items.

Isaac and Michael (1995) suggested a minimum of 10 participants for a pilot study and Connelly (2008) recommended obtaining 10% of the main sample size. This shows that the number of participants chosen is ideal to pilot test the instrument.

The pilot test was not carried out for the interview questions as Richards (2005) points out that the piloting stage is not essential in qualitative research.

3.6 Data Collection

Prior to data collection, a letter was sent to the school principals requesting permission for their school teachers to be surveyed and also for the researcher to gain access to each school to distribute the surveys. By considering the research ethics, the researcher had also obtained informed consent from all the participants and ensured confidentiality. They were also given the rights to withdraw from the study. After permission was granted from the principals, the researcher visited each school and distributed the questionnaires. Before the teachers filled out the questionnaires, they were briefed about the content of the survey and the purpose of the study. 90 questionnaires were distributed to the teachers and the researcher received 84 questionnaires that are completed fully. The incomplete questionnaires were discarded.

The interview was scheduled to last approximately 20 minutes to allow a thorough examination of the teachers' beliefs and factors affecting use of Frog VLE in English language education in rural schools. It was started with easy personal questions in order to create initial rapport. This would make them feel relaxed, thus encouraging them to open up. After asking all the planned questions, the teachers were asked if they have anything to add to the interview that was not addressed by any of the questions. If the interview questions fail to address some important areas,

the teachers' responses could improve on it. The interviews were recorded and transcribed. The transcripts were then distributed to every teacher to check and verify.

3.7 Data Analysis

Data collected from the survey were recorded and analysed using the Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics were used to analyse the data in terms of measures of central tendency, measures of variability, and frequency distributions. Before performing the statistical analysis, data were analysed to test for normality. This was done to ensure that the data are normally distributed (Creswell, 2012). Pearson correlation test was adopted to determine if there is a relationship between teachers' beliefs and their use of technology.

In the process of analyzing the data of interview, a thematic analysis was used. This method was carried out manually to identify the themes in the data. Firstly, the data was separated into small segments. Then, these segments were reorganized and categorized according to the themes that have been identified.

3.8 Validity and Reliability

3.8.1 Quantitative Data

As to ensure the validity and reliability of this study, a few steps were taken. First of all, the researcher ensured that large number of participants is involved in this study. As mentioned by Cohen et al. (2011), an unrepresentative and small sample can easily distort the data. As for the questionnaire, a pilot study was conducted for checking the reliability and validity of the instrument. Face validity was tested in the current study through careful review of each item on the instrument by a few participants and the content validity was checked by an expert. The items in the questionnaire were then revised as appropriate for the research questions and the sample being targeted based on the feedback received.

In order to test internal consistency of the adapted questionnaire, the researcher employed Cronbach's Alpha. The results indicated that Cronbach's Alpha for the items on teachers' beliefs is 0.869, suggesting that it is highly reliable (Creswell, 2012). Whereas, the Cronbach's Alpha for the items on teachers' practices reached 0.946, indicating very high internal consistency (Creswell, 2012). The reliability analysis is shown on Table 3.1.

Table 3.1

Cronbach's Alpha for Variables

Variables	Number of Items	Cronbach's α
Teachers' beliefs	18	0.869
Teachers' practices	12	0.946

3.8.2 Qualitative Data

Lincoln and Guba (I985, as cited in Cohen et al., 2011) introduced the term 'trustworthiness' to be replaced with reliability and validity in qualitative studies. In this study, as to ensure the trustworthiness of the qualitative data, a few strategies were applied. Firstly, triangulation process is implemented. The purpose of using triangulation is not only to ensure trustworthiness of interview data, but also to enhance the accuracy of the study as an overall. It involves using multiple data collection methods. This process let the researcher to validate the interview findings by presenting converging results obtained through survey. Dornyei (2011) stated that the validity of a study tends to be strong if researcher is able to reach to the same conclusion about the aspect that is being studied using different data collection

procedure. Furthermore, triangulation also allows the researcher to achieve better understanding of the phenomena being studied.

Another step taken to address the trustworthiness of interview is by getting a competent person to cross-check the codes derived from the interview data for intercoder agreement (Creswell, 2014). It was ensured that interview results were coded with the similar codes by the person who performed the cross-checking.

Next, member checking is used to ensure the accuracy of interview findings. In this process, the results are returned to the participants to be reviewed and validated. The participants were given opportunity to check if the interpretations of data were fair and comment of the findings. Once receiving the comments from the participants, the data was edited and final process of analysis was carried out.

According to Creswell (2014), interviews which are structured, have higher degree of validity and reliability as it would generate more focused answers than unstructured interviews. Therefore, semi-structured interview questions were designed. Besides, the participants were also allowed to probe during the interviews if they need any clarification about the question. The researcher believed this would aid in better understanding of the questions, thus providing accurate answers.

CHAPTER 4

FINDINGS

4.1 Introduction

The analysis of data collected to answer the research questions is presented in this chapter. First of all, demographic information of the participants in this study will be presented. Then it continues to discuss the findings for the three research questions set forth earlier. The research questions are:

1. What beliefs do secondary English language teachers in rural areas hold about using Frog virtual learning environment (VLE) in teaching and learning English?
2. Are these beliefs consistent with their implementation of Frog VLE?
3. What are the factors that influence their implementation of Frog VLE?

This study followed the quantitative as well as qualitative approaches of data collection and analyses. A set of instruments, namely survey questionnaires and interview were used to collect quantitative and qualitative data respectively. The data were organised, analysed and interpreted to find answers for the research questions and to achieve the research objectives. First research question will be answered based on both qualitative and quantitative data. Next, the second research question will be answered by analysing quantitative data. This will be followed by presenting findings for the third research question which are completely based on qualitative data.

4.2 Demographic Information of Participants

4.2.1 Gender

From the overall sample (n=84) of this study, 71 respondents are females with the percentage of 84.5%, whereas only 13 respondents are males with 15.5%.

This shows that the female population outnumbers the male population. Based on this, it can be concluded that majority of English teachers teaching in the rural areas in Negeri Sembilan are females.

Table 4.1

Frequency Distribution of Respondents According to Gender

Gender	Frequency	Percentage (%)
Male	13	15.5
Female	71	84.5
Total	84	100

4.2.2 Age

As shown in the table below, from the overall population based on age, majority of the participants (27 individuals) are in the age range of 31 to 40 years with a percentage of 32.1%, followed by the age range of 21 to 30 years with 29.8% (25 individuals), then the age range of 41 to 50 years with 23.8% (20 individuals) and only 14.3% (12 individuals) are aged more than 50 years.

Table 4.2

Frequency Distribution of Respondents According to Age

Age Range	Frequency	Percentage (%)
21 to 30 years	25	29.8
31 to 40 years	27	32.1
41 to 50 years	20	23.8
More than 50 years	12	14.3
Total	84	100

4.2.3 English Teaching Experience

From table 4. 3, the highest frequency of respondents have more than 10 years of experience in teaching English with a total of 36 (42.3%), 27 individuals (32.1%) are novice teachers with less than 5 years of teaching experience and just 21 individuals (25%) have 5 to 10 years of experience.

Table 4.3

Frequency Distribution of Respondents According to English Teaching Experience

English Teaching Experience	**Frequency**	**Percentage (%)**
Less than 5 years	27	32.1
5 to 10 years	21	25
More than 10 years	36	42.3
Total	84	100

4.2.4 Education Qualification

From the overall population based on highest level of education qualification, most of the respondents indicated that they have degree qualification with 66 (76.8%). A small number of participants, 18 (21.4%), are with Masters Degrees and none hold a Diploma nor have obtained PhD.

Table 4.4

Frequency Distribution of Respondents According to Education Qualification

Education Qualification	Frequency	Percentage (%)
Diploma	-	-
Degree	66	78.6
Masters	18	21.4
Phd	-	-
Total	84	100

4.2.5 Experience of using Frog VLE

As shown in Table 4.5, there are more respondents, 66 individuals (78.6%), who have more than a year experience of using Frog VLE with, as compared to those, 18 individuals (21.4%) who have less than a year of experience. This shows that most teachers in the chosen rural areas have been using this application for a reasonable amount of time and are expected to have some knowledge on how to use it.

Table 4.5

Frequency Distribution of Respondents According to Experience of Using Frog VLE

Experience of using Frog VLE	Frequency	Percentage (100%)
Less than a year	18	21.4
More than a year	66	78.6
Total	84	100

4.3 Research Question 1

The first research question concerns the investigation of teachers' beliefs on using Frog VLE for teaching and learning of English in rural area. The findings for this research question are gathered through survey and interview.

In this section, teachers' beliefs will be discussed based on two aspects namely teachers' perceived usefulness and perceived ease of use. The questionnaire consists of 9 items for each of these aspects. Besides, one question based on each aspect is asked to the participants during the interview. This section will present the data analysis of quantitative and qualitative data for each aspect.

4.3.1 Overall Findings from Quantitative Data

Table 4.6 shows the descriptive statistics of teachers' overall beliefs about implementing Frog VLE in rural English language classrooms based on two constructs namely, Perceived Usefulness and Perceived Ease of Use, which are derived from the Likert-scale questionnaire. The possible range of scores for the items in questionnaire is between 1 to 5, and the mid-point is set at 3. According to the table, the mean values for both constructs fall above this mid-point, which demonstrates positive beliefs of teachers about the use of Frog VLE. As for teachers' perceived usefulness of Frog VLE, results show that majority of the teachers perceive Frog VLE as a useful teaching and learning tool, with the mean score being 3.67 (close to 4, 'agree'). Whereas, the mean value of Perceived Ease of Use is 3.3 (slightly above the mid-point) exhibits that teachers, in general, believe that Frog VLE is reasonably easy to use.

The standard deviation ranged from .457 to .635, exhibiting narrow spreads in the participants' response choices. According to George and Mallery (2016) the kurtosis and skewness values between 2 and -2 are considered acceptable for a

normal distribution of data. All items in this study reported kurtosis and skewness value between this range, indicating the univariate normality of the data.

Table 4.6

Overall Findings from Quantitative Data

Construct	Mean	Standard Deviation	Skewness	Kurtosis
Perceived Usefulness	3.67	.635	-1.123	1.467
Perceived Ease of Use	3.3	.457	-.045	.344
Overall Mean	**3.48**			

The mean of 3.48 refers to teachers' overall beliefs about Frog VLE. This value is obtained by combining the scores of both perceived usefulness and perceived ease of use. As discussed in the conceptual framework, these two constructs form teachers' beliefs. The mean value (M= 3.48), which is above the mid-point, indicate that teachers hold positive beliefs about using Frog VLE.

Next, in this chapter, the findings for teachers' perceived usefulness and perceived ease of use of Frog VLE will be discussed in different sections. The findings will be presented based on a few themes which are emerged from the analysis of interviews and supported with data from questionnaire.

4.3.2 Teachers' Perceived Usefulness of Frog VLE

4.3.2.1 Theme 1: Effective Teaching

The interview responses collected indicate that secondary school English teachers in the selected rural areas generally hold positive beliefs about using Frog VLE for effective teaching. Almost all the teachers who were interviewed seem to believe that Frog VLE is useful for them to teach English better. For example, T1 mentioned that using Frog VLE well supports her instructional objectives. She further adds that Frog VLE;

"*....connects the teachers with the local teachers' community and expand opportunity to improve our teaching by sharing ideas and teaching materials."*

Table 4.7

Teachers' Perceived Usefulness of Frog VLE for Effective Teaching

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	I believe Frog VLE is an effective tool for teaching and learning of language in the classroom.	2.4%	8.3%	15.5%	65.5%	8.3%	3.69	.836
2	I think using Frog VLE helps to achieve my teaching objectives.	-	11.9%	23.8%	53.6%	10.7%	3.63	.833

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

Table 4.7 presents the items in the questionnaire which fall under the theme of effective teaching. Based on the table, the results are in accord with the interview results which shows that teachers exhibit strong agreement to both statements (with the mean values being close to 4, 'agree') regarding their beliefs of using Frog VLE for effective teaching. 73.8% of respondents believed that Frog VLE act as an

effecting teaching and learning tool (m=3.69), while 64.3% of respondents perceive it to be useful in achieving their teaching objectives (m=3.63).

This is in line with the literature reviewed in chapter 2 which stated that Frog VLE provides room for improving teaching by keeping teachers up-to-date on recent practices and issues related to their field through collaboration ("Learn center," 2014).

4.3.2.2 Theme 2: Effective Learning

The second theme that emerges from the interview responses on teachers' beliefs about the usefulness of Frog VLE is students' effective learning. The interview respondents noted that using Frog VLE in language teaching can provide vast language exposure to students. Students in rural areas have minimal exposure to the effective use of English language. T3 stated that:

"*Most students rarely use English outside the classroom as they do not get opportunities to converse in English. The only time for them to be exposed to the language is during English lessons in schools."*

Hence, having a platform for them to explore the language further would be beneficial as having constant practise in the language provides them more opportunity to acquire mastery over the language. Teachers believe that this can be done via Frog VLE. Another interviewee, T5 stated that this application allows students to gain access to variety of resources to gain knowledge which are not restricted to the textbook or reference material. These factors would certainly lead to students' effective language learning. The analysis of quantitative data also yields similar result to this.

As displayed in Table 4.8, majority of the participants, 64.3%, believed that using Frog VLE could further develop content understanding amongst students (m =3.64). Moreover, teachers also expressed positive beliefs through their disagreement to the statement that Frog VLE does not help in improving the language skills. More than 50% of the respondents marked 'disagree' and 'strongly disagree' to this item (m = 2.51). These findings on teachers' beliefs are in line with the literature on the use of technology to support English language learning (Alsaied, 2016; Ayub et al., 2016; Young, 2003).

In contrast with these beliefs, analysis of survey results points out that teachers seemed not to be sure about the role of Frog VLE in enhancing students' academic performance as about half of them (48.8%) answered 'uncertain' for this statement (m=3.07).

Table 4.8

Teachers' Perceived Usefulness of Frog VLE for Effective Learning

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	I think using Frog VLE develops deeper student understanding of the content.	-	15.5%	20.2%	48.8%	15.5%	3.64	.927
2	I believe that the use of Frog VLE can help to improve students' academic performance.	4.8%	16.7%	48.8%	26.2%	3.6%	3.07	.875
3	I feel Frog VLE is not useful in developing the language skills effectively.	13.1%	41.7%	28.6%	14.3%	2.4%	2.51	.976

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

4.3.2.3 Theme 3: Supports Personalised Learning

The next theme identified from the interview responses on teachers perceived usefulness on Frog VLE is 'supports personalised learning'. It has been pointed out that Frog VLE helps teachers to provide personalised learning experience for students. T4 mentioned that this learning tool enables students to learn at a pace that is comfortable for them. Similarly, T1 stated in the interview that:

"*students can access the materials uploaded at any time and refer back to them as needed to learn according to their own speed*"

Table 4.9

Teachers' Perceived Usefulness of Frog VLE for Personalised Learning

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	I believe Frog VLE helps meet individual students' learning needs.	6%	6%	20.2%	58.3%	9.5%	3.6	.958
2	I think Frog VLE caters to different learning style.	2.4%	4.8%	7.1%	59.5%	26.2%	4.02	.864

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

The result presented in table 4.10 indicate a positive sign on teachers' beliefs about the usefulness of Frog VLE in supporting personalised learning. This shows that the result is congruent with the findings gathered from the interview. A vast majority of teachers, 85.7% reported that they believe that this application could cater to different learning styles of students (m =4.02). Besides, more than 60% of respondents agreed that this software helps meet individual learning needs of students (m=3.6).

4.3.2.4 Theme 4: Boosts Motivation and Creativity

Next, some of the interview respondents reported that teachers generally believe that Frog VLE boosts students' motivation to learn the language. For instance, T2 stated that:

"*Many rural students lack interest to learn English as they don't find it to be significant to their lives in rural areas. A cool app like Frog VLE can trigger their interest to learn the language*"

Table 4.10

Teachers' Perceived Usefulness of Frog VLE for Boosting Motivation and Creativity

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	I believe using Frog VLE in language teaching motivates students to get more involved in learning activities.	1.2%	4.8%	8.3%	47.6%	38.1%	4.17	.862
2	I believe Frog VLE could stimulate creativity in students.	1.2%	6%	19%	65.5%	8.3%	3.74	.746

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

In line with the qualitative findings, an item on the questionnaire shows teachers believe that Frog VLE is an essential tool to motivate students. Analysis of the data on Table 4.10 shows that the statement "I believe using Frog VLE in language teaching motivates students to get more involved in learning activities" scored a high mean value (4.17) with 47.6% of the respondents stating agree and 38.1% stating strongly agree.

However, despite Table 4.10 showing that 73.8% respondents believed that Frog VLE could stimulate students' creativity (m = 3.74), there is no evidence

present in the interview findings on teachers' beliefs about using Frog VLE to enhance creativity of students.

4.3.3.5 Additional Data Collected through Qualitative Method

One aspect that is not included in the survey but has been figured out through the interview responses is teachers seem to believe that implementation of Frog VLE could increase students' confidence to participate actively in the class. An interview respondent, T6 noted that participating in online tasks provides students the chance to verify their answer and correct the language errors before sharing it. They also get the opportunity to privately answer a question without being noticed and exposing their answers to other students. In addition, it also acts as a perfect virtual space for passive students to clarify their doubts that they might hesitate to ask the teachers in front of their classmates in the classroom setting.

4.3.3 Perceived Ease of Use

Similar to the previous section, this section shall present teachers' beliefs about perceived ease of use of Frog VLE based on the emerging themes from the interview responses. Quantitative data from the survey will be presented to support these themes.

4.3.3.1 Theme 1: Trouble-free Application

The first theme identified for teachers' Perceived Ease of Use of Frog VLE is 'trouble-free application'. Interview data revealed that many teachers perceive it was challenging process to learn to use the software. For example, it is noted in the interview responses of T4 that:

"The learning process was hard in the beginning because there are so many procedures needed to be learnt in order to use it."

However, T6 explained that implementing it becomes easier as time goes by and they are able to explore many ways to integrate it in teaching through the manual provided in the Frog Asia website.

Similarly, the survey respondents, to the certain extent, perceive Frog VLE difficult to use. This is proved by the findings in Table 4.11 which reveals that the computed mean score for all the items is slightly less than 3.00 (which is the mid-point). For example, about half of the respondents, 48.8% find it difficult to learn to use Frog VLE (m = 2.79). Furthermore, a number of teachers disagreed that they rarely face difficulties when using this online tool (40.5% disagreed and 4.8% strongly disagreed). However, this only shows teachers' disagreement at a moderate level, with the mean value (m = 2.89) falling only slightly below the mid-point, 3.00.

Table 4.11

Trouble-free Application

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	I find it difficult to learn how to use Frog VLE in language teaching.	4.8%	44%	21.4%	27.4%	2.4%	2.79	.983
2	I rarely face problems when I use Frog VLE.	4.8%	40.5%	17.9%	34.5%	2.4%	2.89	1.018
3	Working with Frog VLE makes me feel tense and uncomfortable.	4.8%	29.8%	33.3%	28.6%	3.6%	2.96	.963

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

In contrast to these statements, an interview respondent, T2, holds different views on the ease of use of Frog VLE. She noted that Frog VLE is a user-friendly tool which can be easily used during the teaching process. It is mentioned that although teachers face some glitches when utilising this application in their teaching, they were able to find solutions to their problems and get their doubts clarified through the online manual provided by the website developer.

4.3.3.2 Theme 2: Makes Learning Easy for Students

Based on the responses given by nearly one third of the interviewees, it can be concluded that Frog VLE makes the learning process easy for students. They believe that the students' learning process becomes easy with this learning tool. For example, it is noted by one of the respondents, T3 that:

"*….marks students work immediately and gives comment on the errors*."

It was explained by the teachers that this feature on Frog VLE would lead to better understanding of the content as it allows the students to notice their errors and correct them on the spot.

Table 4.12

Makes Learning Easy for Students

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	Teaching language with Frog VLE makes learning easier for language learners.	1.2%	9.5%	25%	60.7%	3.6%	3.56	.766

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

According to Table 4.12, this belief of teachers is also reflected in the survey responses as a high percentage of survey respondents, 64.3% believe that language teaching using Frog VLE makes learning easier for students and only 10.7% of respondents showed their disagreement to this statement (m = 3.56).

4.3.3.3 Theme 3: Makes Teaching Easy

The next theme identified from the analysis of interview data is 'makes teaching process easy'. This theme is present in most of the interviewees' responses.

Through the quizzes present in Frog VLE teachers can conduct assessments. The questions will be automatically marked by the system and the scores for each student can be compiled. Some interviewees mentioned that the automated marking system makes the teachers' work easy and reduces their burden of marking piles of books. According to T3, this system has freed her time to analyse students' weaknesses as the analytics identify the areas that her students should improve on and she could plan her lessons accordingly.

Furthermore, Frog VLE allows teachers to collaborate with other teachers nationwide to share their ideas and resources. T6 mentions that this facility enables her to find solution for many challenges faced during language teaching and obtain ideas to present the lesson contents, thus making the teaching process easy.

Table 4. 13 presents the survey items which reflects this theme. It shows 75% of respondents indicated that they believe using Frog VLE makes language teaching easier, in terms of presentation of content (m = 3.71). Besides, only a small percentage of teachers, 31% agreed to the statement that "it is difficult to evaluate students' tasks performed on Frog VLE", whereas more teachers, 35.7% disagreed to this (m = 2.94),demonstrating that they find it reasonably easy to evaluate the tasks.

On the contrary, the responses on one of the items indicate that teachers perceive that using Frog VLE is difficult in their teaching. This is evident in their agreement to the statement "it is difficult to manage the students' behaviour when using Frog VLE" (57.1% agreed and 7.1% strongly agreed, m = 3.56).

Table 4.13

Makes Teaching Easy

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	Using Frog VLE makes language teaching easier, in terms of presentation of content.	1.2%	7.1%	16.7%	69%	6%	3.71	.737
2	It is difficult to manage the students' behaviour when using Frog VLE.	-	15.5%	20.2%	57.1%	7.1%	3.56	.841
3	It is difficult to evaluate students' tasks performed on Frog VLE.	2.4%	33.3%	33.3%	29.8%	1.2%	2.94	.883

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

4.3.3.4 Theme 4: Easy Access to Materials

The interview respondents perceive it is easy to use Frog VLE as it provides easy accessibility to myriad materials and resources without much difficulties. One of the interview respondents, T6 stated that:

"*Frog VLE offers a variety of learning materials. Teachers' job is just choosing the ones that are most suitable for their lesson content*"

Adding to this, T1 noted that she gets the chance to collaborate and share resources with the teachers nationwide on this application. It allows her to make use of the materials and lessons prepared by other teachers which have been shared on this application.

Also, two of the interviewees mentioned about reusing the presentations and activities that have been created on Frog VLE. T5 mentioned that:

"Once a presentation has been created, it will be there forever, and I can use them with different classes and even in the following years"

Table 4.14

Easy Access to Materials

	Item	Frequency (%)					Mean	SD
		SD	D	U	A	SA		
1	Using Frog VLE saves my time because once the materials are prepared, they can be used repeatedly.	1.2%	7.1%	13.1%	59.5%	19%	3.88	.842
2	It is easy to obtain teaching resources through Frog VLE.	-	6%	16.7%	46.4%	31%	4.02	.850

Note: SD= Strongly disagree; D= Disagree; U= Undecided; A= Agree; SA= Strongly Agree

The survey results confirm the findings of interview. Table 4.14 indicate survey respondents' strong positive beliefs on Frog VLE providing easy access to materials, with the mean values being close to and more than 4.00. For example, a high percentage of teachers (77.4%) agreed that "it is easy to obtain teaching resources through Frog VLE" while only 6% disagreed. Besides, the results disclosed that majority of teachers (59.5% agreed and 19% strongly agreed) believe that using Frog VLE saves their time as the teaching materials prepared by them are available to be used repeatedly. By this, language teaching becomes easier for the teachers.

To sum up, the results in this section demonstrate that teachers could see the value of Frog VLE in enhancing teaching and learning and in many ways, find it easy to use.

4.4 Research Question 2

The second research question aims to find out whether teachers' beliefs are consistent with their implementation of Frog VLE.

The previous section reported the findings on teachers' beliefs about Frog VLE. As to compare the beliefs with their practices, they were asked to indicate how often they use Frog VLE to perform various activities in the questionnaire. First, in this section, the findings on teachers' use of Frog VLE will be presented followed by the correlation test performed to examine the relationship between teachers' beliefs and practices of Frog VLE.

4.4.1 Teachers' Use of Frog VLE

The responses on teachers' use of Frog VLE are summarized in Table 4.15.

Table 4.15

Teachers' Use of Frog VLE

	Item	Frequency (%)				Mean	SD
		N	S	O	V O		
1	I use Frog VLE to set assignments for students.	20.2	61.9	11.9	6	2.04	.752
2	I share information about new topic through Frog VLE.	23.8	56	17.9	2.4	1.99	.720
3	I use Frog VLE to provide feedback on students' work.	35.7	52.4	9.5	2.4	1.79	.713
4	I communicate with my students through Frog VLE.	39.3	51.2	9.5	-	1.70	.636
5	I use Frog VLE to deliver lessons to my class.	20.2	59.5	19	1.2	2.01	.668
6	I build learning materials in the Frog VLE application.	20.2	64.3	14.3	1.2	1.96	.630
7	I use Frog VLE to conduct formative assessment in class.	39.3	48.8	10.7	1.2	1.74	.696
8	I use Frog VLE to access online learning tools (blogs, chats, videos etc.)	20.2	52.4	26.2	1.2	2.08	.715
9	I conduct quizzes using Frog VLE.	22.9	53	18.1	6	2.07	.808
10	I encourage my students to play language games on Frog VLE.	17.9	52.4	26.2	3.6	2.15	.752
11	I encourage students to read the reading materials available on Frog VLE.	20.2	54.8	23.8	1.2	2.06	.700
12	I carry out collaborative tasks using Frog VLE.	33.3	48.8	17.9	-	1.85	.703

Note: N= Never; S= Sometimes; O= Often; VO= Very Often

The data shown in Table 4.15 reveal that most teachers answered 'never' and 'sometimes' for all the items in the questionnaire. The result indicates that the mean scores for the items fall near to 2.00; and this is interpreted as teachers seldom use Frog VLE in their classes.

4.4.2 Correlation Test

Pearson correlation was computed to analyse if there is any statistically significant relationship between teachers' beliefs about Frog VLE and their actual practices in the English language classroom. The results of the analysis are summarized in Table 4.16.

Table 4.16

Relationship between Teachers' Beliefs and Practices

	Variables	Teachers' Beliefs	Teachers' Practices
Teachers' Beliefs	**Pearson Correlation**	1	0.265*
	Sig(2-tailed)		0.015
	N	84	84
Teachers' Practices	**Pearson Correlation**	0.265*	1
	Sig(2-tailed)	0.015	
	N	84	84

*$p < 0.05$

Results of Pearson correlation test indicates that there seems to be a low degree of correlation ($r = 0.265$, $p < 0.05$), between the two variables analysed. This finding appears to imply that the teachers' beliefs about Frog VLE do not have a great influence in their actual practices in teaching English in rural secondary classrooms.

The scatterplot in Figure 4.1 summarises the results. Based on the scatterplot, teachers' beliefs do not appear to be well aligned with their classroom practices. This result does not align with the view that teachers' technology practices are often a reflection of their beliefs (Levin & Wadmany, 2006; Palak & Walls, 2009; Shifflet & Weilbacher, 2015).

Reasons for the apparent disparity between the Frog VLE beliefs and practices of English teachers are related to the external constraint placed on the teachers (Ertmer, 1999). These aspects will be discussed in next section of this study.

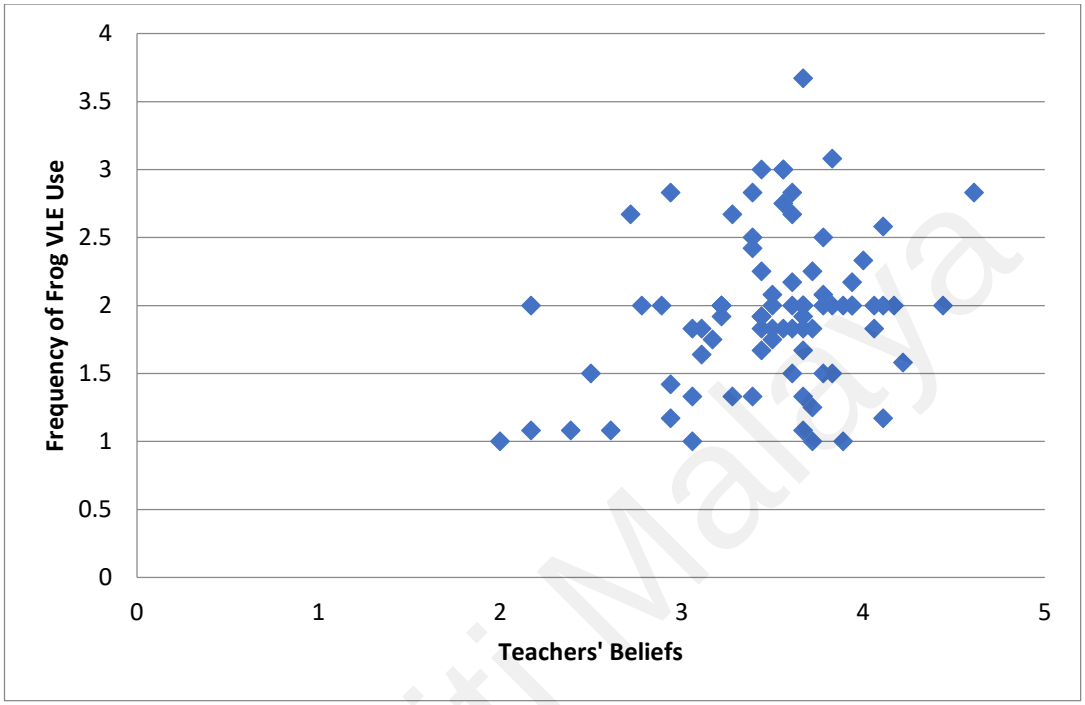

Figure 4.1. Scatterplot of Teachers' Beliefs and The Frequency of Their Frog VLE Use

4.5 Research Question 3

As we could see in the findings of research question 2, there is lack of convergence between teachers' beliefs and practices of Frog VLE in English language classrooms in rural areas. This leads the researcher to explore the other factors which may influence their practices, as suggested in the TAM model. These factors are the focus of the third research question of this study.

In order to answer research question three: "What are the factors that influence teachers' implementation of Frog VLE?", the researcher conducted personal interviews with 6 ESL teachers. These teachers have pointed out what they perceive as their challenges when they

try to use Frog VLE during English lessons.

The data collected through interview were examined to identify emerging themes that are relevant to the purpose of study. After analysing and summarizing the data, I categorised a few frequent themes which interviewees believe to be the major factors that affect their Frog VLE implementation.

Four major themes, "Infrastructure facilities", "Training", "Motivation" and "Workload Management", from interview findings were derived from the teachers' answers to questions three, four and five. These themes are classified into ten sub-themes for further consideration. The classification of the themes is tabulated in Table 4.17.

Table 4.17

Factors Affecting Frog VLE Implementation

	Themes	Sub-themes
1	Infrastructure Facilities	• Limited computer laboratories and lack of maintenance • Poor internet connection • Large class sizes • Internet access at home
2	Training	• Inadequate trainings and courses • Irrelevant training content
3	Support and Motivation	• Teachers' self-motivation • Supportive assistance from school
4	Workload Management	• Workload • Time constraint

4.5.1 Infrastructure Facilities

4.5.1.1 Limited computer laboratories and lack of maintenance

Approximately two-thirds of the respondents indicated that they have limited number of computer laboratories in the school. According to their responses, at the present time, many schools are provided with only two computer laboratories which have access to internet. Due to this, only two classes will be able to engage in technology integrated lessons at a time. Booking to use the laboratories needs to be done early and gaining access to the laboratories seems impossible for teachers. As T2 mentioned:

"*When the facilities are limited it is difficult to provide hands on experience to the students to use Frog VLE in language classrooms*."

As for the maintenance of facilities, findings show that many desktop computers in the computer laboratories are not in proper working condition. About half of the interviewees present their views on this issue.

"…*the condition of the computers in the computer laboratory plays a huge role in affecting my use of Frog VLE in my English classrooms. Some of the computers can't even be switched on*" *(T4)*

"*Although there are more than 30 computers in the computer labs, many of them are old, outdated and slow which do not support new software." (T5)*

These statements made by the teachers give a clear indication of the lack of maintenance of technological tools in schools. Besides having trouble to gain access to the laboratory and to use the technological tools, teachers also find it impossible to conduct Frog VLE based lessons in the classrooms even when there are netbooks available in certain schools. As stated by T2, the classrooms do not have enough power outlets to charge the netbooks for long use. Additionally, most of these power outlets are not functioning and dangerous to be used.

4.5.1.2 Poor Internet Connection

The second sub-theme which has been identified is "poor internet connection". The interview answers revealed that all informants (100%) believed that implementation of Frog VLE is hindered by erratic internet speed. One of the concerns of teachers is it takes too long to load pages due to poor network connectivity and this interrupts the flow of their lessons. For example, a teacher respondent, T1 was quoted saying:

"Frog VLE needs internet to operate and so without it or slow connection will surely affect the efficiency of the site and the whole teaching session itself. A lot of time will be consumed when the connection is bad"

4.5.1.3 Large Class Sizes

Apart from the factors mentioned above, there is also another aspect present under the theme of Infrastructure Facilities. In their interview responses, teachers have pointed out that facilities in school are insufficient to support the size of classes. As mentioned in the earlier chapter, Malaysian classrooms are usually filled with large number of students, around 30 to 35 (Cheok et al., 2016). This is considered to be an obstacle to implement Frog VLE by some of the respondents. An interviewee, T3 stated in her response that:

"when there is a big class of students, it is quite difficult to manage and monitor the things that they are accessing."

Apart from that, since many desktop computers in the school laboratories are out of order, there are insufficient unit of computers to cater for the large number of students. This is one of the causes for the student-to-computer ratio to be high in the rural schools and a few interview respondents stated this as a barrier to conduct lesson based on Frog VLE. As mentioned by T5:

"Learning process is hard when pupils have to share due to lack of computers."

When students share computers, they tend to rely on their partners to complete an activity. As a result, they will not be fully involved in the tasks given and the chances of them getting off-task increases.

4.5.1.4 Internet access at home

Although internet and smartphones have become a part of people's lives in today's world, there are still some students in the rural areas who do not have

access to internet at home, depending on their family background and due to the poor network coverage in those areas. This act as a factor which is likely to lead teachers to avoid Frog VLE. This is pointed out by half of the interview respondents. Here is a statement made by one of them, T6:

"....students' accessibility to internet at home is very much limited and it makes it difficult to use Frog VLE"

Teachers said students having access to computer and internet outside of class hours is vital for them to make use of the application to its fullest. Without it, students will not be able to participate in the tasks such as forums and discussions, and complete homework set by teachers.

As a result, teachers are required to provide class time for students to complete their homework and this reduces their teaching time. Furthermore, an interviewee mentioned that it also creates a gap between students who have access to internet at home and students who don't. It causes difficulties for teachers if they have to set different tasks for different students and lead them to avoid using this online learning platform.

4.5.2 Training

4.5.2.1 Inadequate trainings and courses

Inadequate trainings and courses also becomes a great impediment to the successful application of Frog VLE by English language teachers. Since Frog VLE is just introduced in the education system recently, teachers lack familiarity with it. One third of the interviewees indicated that trainings provided to them are insufficient to skilfully use Frog VLE in their teaching. T1 reported that there are no ongoing courses provided to help them integrate Frog VLE into instruction. Without proper knowledge and guidance, they are unable to use the abundant useful widgets

present on Frog VLE efficiently. Hence, training and support are considered vital by them to use a sophisticated learning tool like Frog VLE, as there are so much to learn and discover about it.

In addition, it was mentioned that some teachers (T1 and T6) receive no trainings at all as only selected teachers from each school are sent to attend the courses and workshops on Frog VLE and most of the time in-house trainings are not conducted by the teachers who attended the courses due to their heavy workload.

On the contrary, one of the teachers interviewed, T3 stated that there are sufficient trainings and professional development courses conducted to provide them with beneficial input and that helps them in using the application effectively. This proves that training and courses can have both positive and negative impacts on the usage of Frog VLE among the English teachers in rural areas.

4.5.2.2 Irrelevant training content

Another factor identified to be influencing in the effective implementation of Frog VLE is relevant training content. A few teachers agreed that there are trainings being conducted every year regarding the usage of Frog VLE. However, they also expressed their concern that the content presented do not completely equip them with the skills to apply Frog VLE to its full potential. The workshops conducted merely presented them the ways to use the application, but no exposure and assistance was given on the ways to deal with technical issues that teachers might come across during their teaching. It was also pointed out that they did not receive any guidance or demonstrations on designing lessons for the particular subject they teach. Therefore, they fail to see how the useful widgets present in Frog VLE could be utilised to provide rich learning experience to the students during English teaching.

A more alarming fact is, in some courses, focus is only given to access Frog VLE to achieve the Key Performance Indicator (KPI) set by the District Education Office. As mentioned by T2:

"The only thing being taught during the workshop was on how we should open Frog VLE…. Just for the sake of having long hours on the platform so that the JPN and PPD will have the record that we are "actively" using Frog VLE"

4.5.3 Support and Motivation

4.5.3.1 Teachers' self-motivation

Teachers' self-motivation is also identified as one of the themes when analysing the interview data. Two respondents (T4 and T5) noted motivation as a factor affecting their use of Frog VLE. T5 mentioned that the idea of changing from traditional way of teaching and chances to make the lessons more student-centered inspires her to use this application. Also, better involvement of students during Frog VLE lessons drives the teachers to use utilise it. Interview responses indicated that when teachers notice students are being attracted to the site, they tend to maximise the use of it to increase student participation and to provide a better learning experience.

On the other hand, teachers' motivation can also contribute to the negative trend on the use of Frog VLE. Some external factors cause teachers to have lack of motivation. One example is having lack of facilities in school. An interviewee, T3 pointed out that it makes teachers frustrated and suppresses their intention to use the application in their teaching.

4.5.3.2 Supportive assistance from school

Teachers' responses in the interview also indicate lack of support and encouragement from the school management as one of the obstacles that results in

Frog VLE being underutilised in their teaching. It is stated by T5 that teachers, especially the senior teachers, always have troubles in using Frog VLE due to lack of expertise on using technological tools. They are unsure of where to turn for help when something goes wrong with the server or technological tools during Frog VLE based lessons as no timely help is provided by the technical assistants of school. Consequently, teachers feel discouraged from using Frog VLE for the fear of equipment failure, thus not being able to deliver the planned lesson successfully.

In addition, the effective implementation of Frog VLE in teaching and learning activities to a large extent is dependent on the encouragement given by the school. T6 feels that her efforts are not being appreciated or recognized by the school leadership. The focus is given on producing better examination results, rather than providing motivation to teachers to conduct exciting lessons using Frog VLE. Teachers face pressure from school administrators to achieve the target set by the school or District Education Office in the examination. This results in teachers not choosing Frog VLE and carry out more exam-oriented teaching.

4.5.4 Workload Management

4.5.4.1 Workload

The next factor that could possibly affect teachers' implementation of Frog VLE is their workload. It is claimed to be a burden by more than one-third of the interviewees. This is evident from the statement made by a teacher, T4:

"*I perceive this platform as an additional burden to me with plenty of jobs I have to do in school"*

As a result, the teachers mention that they could not find time to learn to use Frog VLE in their English lessons.

"*I know how to use it, but I don't really have the time to explore it and to set any activities revolving around it,"* said T1.

Besides, T4 stated that:

"we are lacking English teachers in my school, hence I have to do twice the work."

This is a common problem in most rural schools in which they face shortage of teachers, especially to teach English, Science and Mathematics subjects (Marwan, Sumintono, & Mislan, 2012). Due to insufficient number of teachers, English teachers in rural schools are teaching more classes than other teachers in school. This significantly lessens teachers' free time and increases their burden such as in marking students' work and conducting English programs for students. For this reason, keeping up to date with technology and constantly upgraded learning systems are impossible for them.

4.5.4.2 Time constraint

Although teachers are interested to use Frog VLE and believe that it is useful in teaching English for rural students, time constraint is considered to be a factor which inhibits their use of it. T4 stated that it takes too long to set up the class for a Frog VLE lesson. Not all students are skilled in operating computers, hence there is a need for teachers to help the students operate the computers and to log in to the application before starting the lesson. This limits the amount of time spent on actual teaching and learning. Time is ineffectively spent on setting up devices especially if it is faulty one and exposing students to manoeuvre in the application. Apart from that, Frog VLE based lessons have to be conducted in computer labs as all students need access to computers and internet. A teacher, T2 mentioned that:

"*Normally, my students will take at least 15 minutes just to walk from their class to the lab"*

This significantly reduces teaching time and causes teachers to have insufficient time to complete the planned activities for a lesson as the average time allocated for each teaching period is only between 30 to 40 minutes.

In contrast to this, another interviewee, T1 said that Frog VLE is a time-saving tool for teachers to use. The respondent indicated that it allows teachers to perform their work, such as preparing for lessons, setting homework and marking students' assignments, anytime and anywhere as the application is easily accessible with mobile phones and does not require them to use their laptops or computer desktops.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter begins by presenting the discussion of the findings. It includes summary of findings for each research question and continues to discuss them with reference to the literature reported earlier in this study. It will then elaborate some implications for educational practice, followed by stating the limitations and suggesting recommendations for future studies. Lastly, a conclusion will be presented.

5.2 Discussion

Teachers' beliefs are considered to be vital in understanding and improving the implementation of any educational programs as they are linked to teachers' classroom strategies and techniques (Fives & Gill, 2014). Accordingly, their beliefs also influence their technology practices. Hence, this research was an effort to study teachers' beliefs about Frog VLE, a software introduced by MOE in Malaysian government schools. It aimed to explore the connection between teachers' beliefs and their actual Frog VLE practices in their teaching.

5.2.1 Teachers' Beliefs

Generally, the participants of this study exhibited positive beliefs towards the use of Frog VLE. They perceive it useful in teaching English in rural secondary classrooms and consider it to be reasonably easy to use. As mentioned earlier, the quantitative results of this study are mostly consistent with the qualitative results, which also depict teachers' positive beliefs about using Frog VLE in English language teaching. This result is supported by many other studies that have highlighted teachers' positive outlook on technology (Alsaied, 2016; Chung, 2014; Mahmood & Saqlain, 2013; McIntyre, 2011).

The results of both qualitative and quantitative data analysis on teachers' perceived usefulness of Frog VLE indicated that teachers appear to view Frog VLE as an effective motivating tool for students. It has been pointed out that using Frog VLE changed teachers' routine way of teaching which mainly includes whiteboards and worksheets as teaching aids. A website like Frog VLE offers various fun and interactive resources for the teachers to include in their lessons ("FrogAsia," 2016). As a result, lessons will be more interesting. Students will eventually be attracted to these materials and get engaged in the learning process more actively. This is similar to the study reported in the literature review (Alsaied, 2016). It indicated that most educators perceive technology usage in the classroom as motivating. The participants pointed out that using technology in teaching makes even the uninterested and unmotivated students be more involved in the lessons and assists them to complete tasks at an accelerated pace.

The present study also demonstrates teachers' positive belief about Frog VLE in terms of providing personalized learning experience to students. In every classroom, there will be students who learn at myriad pace. Despite the fact that there are some fast learners who can absorb new knowledge quickly, there are also students who need considerable amount of time to assimilate a thought. Therefore, digesting content delivered at teachers' pace could be challenging for some students and this is where Frog VLE plays a vital role in helping students. It allows students to work at their individual pace in the classroom and also provides them a chance to review the lesson materials from home to digest the content at their own speed. This finding is in line with the study of Palak and Walls (2009), in which the qualitative results indicated using technology in education can create positive impact on

students' learning by encouraging independent learning. It pointed out that students will be given the opportunity to work at their own pace and succeed.

In terms of teachers' perceived ease of use about Frog VLE, findings may indicate that teachers find it easy to obtain materials for their lessons. As pointed out by the interviewees, Frog VLE contains a wealth of educational resources which is available free-of-charge for its users ("FrogAsia," 2016). Teachers view this feature as a way to reduce their hassle in looking for the teaching aids. They do not need to flip through books to create their own worksheets anymore, instead they can just use the readily available quizzes, exercises and reading texts on Frog VLE. Besides, teachers find these materials to be more authentic and recent than the ones found in the textbooks which are only changed a few years once.

Other than that, it was pointed out by the teachers that Frog VLE makes the learning process easier for students. For an example, when doing a quiz on Frog VLE, students get to view which questions were answered correctly or incorrectly after completing the task. They can instantly review their answers and proceed to the next level without waiting for their teachers' feedback. In addition, Frog VLE also provides explanation for the answers for some exercises. The timely feedback provided on this application offers students opportunities to reflect on their errors and correct them immediately. This can improve students' greater understanding of a topic (Sharma & Barrett, 2011). As a result, students' learning process becomes easy and eventually help them to progress further and quicker in their studies.

In contrary, some teachers consider it hard to implement Frog VLE. Although teachers have been taught about the basic use of this tool prior to its implementation in schools, they find it challenging move any further and to explore its use in

teaching English. Kaur and Hussein's (2015) findings are consistent with this. They found out that many teachers find it difficult to use technology in their classrooms even though they have received internal courses and trainings to utilise the technological tools. However, the reported results in this study suggest that the learning process and implementation of Frog VLE became easier over time and when the teachers make use of the guided user manual provided in the Frog Asia website.

One of the main reasons to use interview as a method of data collection is that it is believed that qualitative data could help in revealing some important details that are not addressed in the survey (Creswell, 2012). This correlates with the present study as the interview data managed to uncover some other beliefs of teachers about Frog VLE. One of them is their opinion that Frog VLE could increase students' confidence in language learning. It is common to find a few students in a classroom being passive and reluctant to ask questions or take part in the classroom discussion compared to some other students who continuously shout out their answers at every opportunity they get. Fear of making mistakes can be a reason for these students to be unwilling to participate in the tasks. By conducting online forums and discussions, teachers can create a space for these shy and introverted students to show their active participation and express their opinions. Referring to the review of literature, this positive view is emphasized in the study of a few researchers (Barker & Gossman, 2013; White, 2014). It has been found out in the previous studies that online learning may reduce anxiety in students and make them feel comfortable by allowing flexibility of time, place and pace, variety of resources and activities that suits their learning styles.

5.2.2 Teachers' Beliefs and Practices

Another intriguing finding of this study directed the researcher to conclude that teachers' beliefs about technology does not have a great impact on their actual classroom practices. This study used Technology Acceptance Model (TAM) to examine the relationship between teachers' beliefs and practices. This model claims that the perceived usefulness and perceived ease of use of a technology impact directly on the users' intention to implement it (Ross et al., 2015). The analysis of data collected does not support this model as it shows that there is very low degree of correlation between teachers' Frog VLE beliefs and practices ($r = 0.265$, $p < 0.05$). Additionally, many previous studies reviewed in the literature review chapter also do not support the current findings (Galvis, 2012; Levin & Wadmany, 2006; Palak & Walls, 2009; Shifflet & Weilbacher, 2015). For example, Galvis' review of teachers' technology beliefs and practices emphasis that their perception about technology influence the way and frequency of its use in their teaching. Yet, in this study, teachers who hold strong positive beliefs about Frog VLE do not demonstrate their beliefs in its implementation as the frequency of their Frog VLE usage is below moderate level.

5.2.3 Factors Affecting Teachers' Use of Frog VLE

According to the TAM model there are barriers in the form of external factors which can affect teachers' practices. Similarly, there are indications in this study that despite teachers' positive beliefs, some factors appear to impede the frequency of Frog VLE use. This is supported by the review of Becta (2004) which noted that an individual's decision to use technology is greatly influenced by several key aspects. The factors identified through this research include infrastructure facilities, training, support and motivation as well as workload management. These are considered as

the reasons for the inconsistencies between teachers' expressed beliefs about Frog VLE and their actual use of the application in their teaching. The results are parallel to the research findings reported in literature review and reinforce the findings of some earlier studies done in the field of technology and second language teaching (Ertmer, 1999; Gibbone, Rukavina, & Silverman, 2010; Samuel & Bakar, 2007; Schulz, Isabwe, & Reichert, 2015).

A major influencing factor identified by most of the respondents of this study is the infrastructure facilities available in schools. It has been pointed out by the interviewees that lack of laboratories in schools makes it difficult for them to gain access and conduct Frog VLE-based lessons. This validates the research by Samuel and Bakar (2006), in which 100% of the interview respondents indicated that there are inadequate ICT laboratories in schools which makes it difficult for teachers and students to gain constant access to them. The small number of computer laboratories and high demand to use them makes it difficult for teachers to gain access to them. They need to compete with other teachers to make bookings and wait for their turns in order to use the labs. These could possibly create frustration among teachers and becomes a reason to shy away from Frog VLE.

Furthermore, the statements made by the teachers during interview give clear indication that lack of maintenance becomes a hurdle for them to use Frog VLE. This factor in consistent with the result of a survey conducted with 101 teachers from 10 secondary schools in Kuala Lumpur (Simin & Sani, 2015). It specified poor maintenance of facilities and technological tools by the schools' management in those 10 schools. This aspect becomes an obstacle for the teachers to use technology during their lessons.

Based on the interview findings, poor internet connection is another factor related to teachers' Frog VLE practices. Teachers claim that erratic internet speed impedes natural flow of the activities during a lesson and requires them to always be ready with back-up lessons or activities to be conducted if the access to internet is interrupted. This certainly adds to their workload and causes them to lose enthusiasm to use Frog VLE in the teaching and learning process. This is in line with the findings of survey by Abdullah et al. (2016) which noted internet access as the second vital factor that influence Mathematics teachers' use of technology in Malaysian schools. Majority of the teachers tended to agree that unreliable network connectivity demotivates them to integrate technology in their teaching.

A research on physical educators' practices on technology integration has yielded similar result to the current interview results (Gibbone et al., 2010). The participants of the study recognised classroom size as the key barrier to teachers' use of technology. Likewise, the respondents in this research view large class size as an influencing factor for their implementation of Frog VLE. It is challenging for the teachers to make sure that the students are performing the given tasks when there are too many students. There are chances for the students to access other webpages that catches their interest when they receive less attention from teachers. Moreover, classroom management becomes tougher in a class of students with disruptive behaviour. According to the interview responses, even the experienced teachers find it demanding to deal with an overcrowded classroom successfully and as a result they find themselves using more time on classroom management than presenting their teaching content. It was also mentioned that teachers find it time consuming helping pupils with technical problems during the lesson. It impedes the lessons.

Apart from these infrastructure facilities, teachers also noted trainings as an impactful factor in using Frog VLE. This finding is supported by (Ertmer, 1999), who noted not receiving proper training as the major and most commonly cited factor that affects teachers' capabilities in using new technology. This factor is stated as both impeding and facilitating aspect for the Frog VLE practice. Some describes the trainings to be ineffective while some teachers find it really useful in guiding their teaching practices. In agreement with this finding, many previous studies have highlighted both the importance and ineffectiveness of trainings and courses to teachers. For example, the participants of a survey conducted by Hamzah et al. (2016) on the barriers faced by secondary school teachers in a rural area in using Frog VLE indicated that trainings provided on this application were less effective. Conversely, Yunus' (2007) research shows that courses organised on computer usage is viewed positively by some of the teachers. It was found that the trainings conducted for teachers are very useful for exchanging ideas and knowledge on utilising technological tool in teaching and learning.

The next aspect highlighted by the research participants is the importance of motivation. Both internal and external motivation are considered to play a vital role in teachers' engagement with this technology. Teachers' internal motivation is generated when they obtain personal satisfaction from using Frog VLE, for instance when they observe students' development and active involvement during the lesson. This is supported by the findings of Schulz et al. (2015), in which most participants viewed students' better understanding as a potential motivating factor for their use of technology. On the other hand, teachers tend to get demotivated due to certain reasons. In this study, the participants linked their motivation to the facilities available to conduct lessons using Frog VLE. This is consistent with the result of

Abdullah et al. (2016) that shows poor facilities in the long run can cause teachers to lose their motivation to use technology during lessons.

Teachers' extrinsic motivation is seemed to be affected by the supportive assistance from school. Most rural secondary teachers in this study pointed out that they do not receive enough support from the school management which becomes a reason for them to avoid using Frog VLE. However, this finding is inconsistent with the research results of some previous studies. For example, in the study of Kafyulilo, Fisser, and Voogt (2016), teachers reported positive recognition and encouragement from the school management. An interview respondent stated that the principal and other top administrators of school motivate teachers to utilise technology in teaching and encourage other teachers to learn from them who actively engage in innovative practice. Apart from that, a survey conducted in a few secondary schools in Kenya by Ahmed (2016) also produces the same results. About half of the respondents agreed to the statement that monetary incentives are provided to teachers who conduct apply ICT based lessons as a form of encouragement.

A previous study stated in the literature review (Harun et al., 2013), reported significant relationship between administrative burden and technology usage of vocational and technical schools teachers in Johor Bahru. This is related to the next factor that affects teachers' use of Frog VLE, which is workload. The study respondents view their workload as a hindrance in implementing the software. Teachers nowadays are not only given teaching responsibilities, but they are also expected to perform clerical works and other works such as taking attendance every day, managing co-curricular activities, organising school programs, preparing reports, printing, recording and updating of students' test scores. Other than that, the requirement to complete the syllabus according to scheduled dates adds to the issue

of escalating workload. With all these works, using Frog VLE becomes an added burden to them.

Time constraint is found to be another influencing aspect. Teachers are unfamiliar with Frog VLE as it is still a new teaching and learning platform for them, and it takes too long to plan for their lessons as they need to explore the widgets to create a suitable learning sites for their lesson contents. The research participants feel that they need more time to be comfortable with Frog VLE in order to explore its features and make the best use of it to suit the students' learning needs and styles. This is because the usage of technology in teaching and learning is more about practicality as compared to theories and what works with a class of students might not work with a different set of students due to their different learning styles and abilities. This is in line with the findings of the survey by (Lau & Sim, 2008). The survey identified time constraint as the major factor influencing teachers' use of ICT. A high percentage of the respondents agreed that it is time-consuming to prepare for an ICT based lesson since teachers are not skillful in utilising the latest educational applications to create activities.

5.3 Implications for Educational Practice

The data of present study provide evidence that rural teachers rarely implement Frog VLE in their English language teaching. Improving this situation is challenging and it needs the cooperation of different authorities such as the school administration, school technical support team, Teacher Training Centers and the Ministry of Education.

From the findings, we gained some invaluable insights on the factors impacting rural teachers' use of Frog VLE. Based on the findings, infrastructure facilities, trainings and courses, teachers' motivation and workload management play

a crucial role in educators' intention to use Frog VLE within their classroom practices. In this section, these aspects, which influence teachers' use of Frog VLE, will be discussed with their implications in relation to integrating the application into the English language classroom practices in rural areas.

First of all, infrastructure facilities are deemed as a vital factor in the process of Frog VLE implementation. It is therefore suggested that the schools should be equipped with necessary facilities to support the use of technology in education. The findings of the present study reinforce the need for MOE and school administration to maintain the equipment and resources in schools well. There must be consistent and adequate funding from MOE so that any failure in the system or computers could be repaired immediately, thus it will not impede teachers' intention to use Frog VLE. Moreover, infrastructures such as laboratories should be equipped with enough computers to accommodate the number of students in a classroom in the school. This can help reduce the student-to-computer ratio and lead to greater involvement of students in the tasks. Consequently, it will reduce the behavioural problems during lessons and makes it trouble-free for teachers to conduct Frog VLE based lessons. Other than that, the facilities in rural schools should be improved to be on par with the urban schools to reduce the digital divide and provide teachers with equal opportunities to implement technology. One of the conditions that should be improved in rural schools is the poor access to internet. Steps must be taken to provide reliable high-speed internet access which is essential for the implementation of Frog VLE. Facilitating these essential conditions at schools may increase the frequency in which teachers engage in Frog VLE based lessons.

Aligned with the call of many other researchers (Andrews et al., 2007; Gryzelius, 2015; Kaur & Hussein, 2015), the findings further solidify the role of in-

service trainings and courses in teachers' implementation of a new technology. Teachers should be provided with trainings to use Frog VLE effectively in their teaching. Based on the findings, these trainings are reported to be essential to change teachers' attitude and promote the use of Frog VLE in teaching and learning. First of all, these trainings should focus on helping teachers to expertise basic ICT skills as it can boost their confidence when dealing with any technological tools. They do not have to depend on technical staffs to set up the tools and equipment for the lesson and would be able to rectify any minor problems regarding computers on their own. Next, rather than focusing on achieving the targeted Frog VLE usage (KPI) of the schools and districts, the trainings should give importance to providing teachers with insights on integrating the software into the teaching and learning process. According to Garling (2016), an efficient training offers teachers plenty of chances to participate in more hands-on learning to use a tool. Having the teachers create real lessons and activities to be used with their students will allow them to retain the skills acquired during the training as they would apply the skills for a real purpose. Hands-on learning can also enhance teachers' knowledge on how Frog VLE can be used to maximise efficient language learning opportunities for their students. Furthermore, it is important to conduct assessment prior to the training to identify the teachers' exact needs. Through this they can be guided in the areas they need support, instead of providing them with knowledge that they have already acquired.

Another factor that should be given importance is the duration of training. As found out by Abdullah et al. (2016), short sessions do not fully equip teachers with the knowledge and skills to use a tool. Besides, they also explained the necessity for trainings and courses to be conducted continuously as non-consistent trainings causes the knowledge acquired and the memory on the contents fade out as time passes.

Additional materials such as short videos and online tutorials can be provided during the training for the teachers to refer to if they forget the contents learnt.

Apart from that, administrators should ensure that in-house trainings are conducted by the teachers who have attended the courses to pass their knowledge to the other teachers in school. As mentioned by the interviewees, only a few teachers in school are given chance to participate in the training workshops conducted by the District Education Office or MOE. Therefore, by having in-house trainings, the information could be delivered to all the teachers to let them benefit from it. Teacher Training Institutes should also play their role in providing essential technological training to produce more equipped language teachers to teach in this 21st century. Teacher trainees must be offered courses on technology and methodology on how to integrate technology into curriculum. Additionally, the pre-service course components also need to include modelling of effective uses of technology in the classrooms (Garling, 2016). With this, teachers will be well prepared to use technology in their future classrooms. It can also help to form positive beliefs about implementing technology in language teaching, consequently their intention to use it will most likely be increased.

Another essential factor highlighted by the findings is the need to reduce teachers' workload to support their implementation of Frog VLE. One of the ways to achieve this is school administrations and MOE should consider abolishing various committees in schools unrelated to the task of education. By doing so, we could avoid teachers being heavily pressured and stressed, thus allowing them to fully focus on their core duties. Furthermore, schools should divide the jobs equally among teachers to avoid the same teachers being burdened with plenty of tasks. It is also important for the schools and local education authorities to set reasonable

expectations on teachers. High expectations on teachers, especially to produce excellent results place an incredible amount of pressure on teachers and force them to be exam-oriented, prepare students for tests and to cover the syllabus. This results in them having to fend off from innovation and creativity in lessons. Besides, it is recommended that the MOE to employ teacher assistants to help teachers with clerical duties. MOE should also take initiatives to increase the number of teachers in schools. It will eventually reduce the teacher-pupil ratio and as a result, teachers' workload will be lightened. Reducing their workload would certainly offer them more time to plan and prepare for technology integrated lessons.

Based on the findings of this study, it can be concluded that the duration of teaching periods is also an important determinant of teachers' use of Frog VLE. Therefore, it is suggested that MOE should consider increasing the duration of each class period. This can provide better support to the use of technology in education by reducing a number of problems that arise due to time constraint. It will offer teachers more time to set up the devices and equipment needed for the lesson. Besides, teachers will obtain enough time to deal with the hurdles that may arise when implementing technology in their teaching. For instance, they can monitor students to not get distracted with other webpages and provide students with individual assistance as needed.

Teachers' intention to use Frog VLE also hinges on the support they receive. There are many ways in which the school could support teachers' implementation of Frog VLE. Firstly, teachers should be well supported in terms of their technology needs. As for this, there should be enough technical staffs appointed in schools. Having these technical staffs available especially for struggling teachers is vital in any cases of technological malfunctions during Frog VLE-based lessons in

classrooms and lab settings. They can also help in maintaining and repairing the computers in order to always keep the devices in proper working condition. Next, school administration could create support groups for teachers in which they can share their ideas on successful lessons that include technology into the curriculum. This will be very beneficial for the teachers as observing others who are effectively implementing this software can provide novice Frog VLE users with new and powerful images on how it could be used improve their own teaching. Consequently, their perceived need to use this software will increase. Moreover, through the support groups, teachers will be able to discuss the obstacles they face and receive assistance and practical advice from their colleagues who have faced similar predicaments before (Garling, 2016). Another effective way to promote the implementation of Frog VLE is school administration should provide rewards or incentives to the frequent users of this technology. The types of incentives that can be used include certification, opportunities to participate in professional development courses, formal and informal recognition at the school level and among colleagues. This would possibly increase teachers' motivation and encourage other teachers to observe and imitate the practice of those who successfully use Frog VLE in their teaching. At the same time, it is also the responsibility of administrators to communicate and collaborate with teachers about their goals and improvement plans for the application of Frog VLE in school. According to Richard (2007), this could help teachers to be clear about what they need to achieve and set the tone for reluctant teachers.

5.4 Limitations and Recommendation for Future Studies

Although the present research has provided some beneficial insights into the implementation of Frog VLE in the context of English language teaching in rural secondary classrooms, it is not without its own limitations. In this section, I will

discuss each of these constraints in depth and provide considerations for future research.

Firstly, the sample size of this study is eighty-four participants after removing 8 questionnaire responses due to missing data. Although this sample size is adequate to produce statistically significant results, a larger sample size would be needed to form a more reliable conclusion. In order to make the findings generalizable to a wider population, future studies should include more participants in the survey. Interview responses from more teachers should also be gathered to uncover more challenges for implementing Frog VLE in rural schools and understand them in depth.

Another constraint to the current research is its setting. This study was conducted only in 3 districts of Negeri Sembilan. The researcher believes that these districts were ideal to carry out this study because they have the most number of rural schools in the particular state. As a result, the findings are not readily generalizable to the teachers teaching in rural schools countrywide. Therefore, in order to gain get more reliable results, further studies should be conducted in rural areas in different states of Malaysia to include language teachers from different settings, without just focusing at one state. This might bring in the full spectrum of perspectives on the implementation of Frog VLE. It is because teachers' views might differ according to the place they teach as each setting is unique in its own way and can provide teachers with diverse experiences.

The next limitation is related to the data collection method. In this study, teachers' practices of Frog VLE were not directly observed. Instead, these practices were predicted from their frequency of usage, collected through the survey

responses. According to Levin and Wadmany (2006), teachers' explicit statements would not be sufficient to describe their practices in detail. Also, the frequency of technology use may not always resemble the quality of the lessons. Should similar research be conducted again, it is suggested that classroom observations are carried out to accompany other research instruments to examine if teachers reflect their beliefs in their teaching practices. Exploring teachers' practices through both observations and survey responses can provide powerful means that can enhance the understanding of the relationship between teachers' beliefs and practices.

One of the aspects that is absent in this study which could be included by future researchers is the suggestions to improve the implementation of Frog VLE. Exploring teachers' viewpoints would indeed be useful to overcome the obstacles they face. Teachers could come up with more practical solutions since they experience the challenges themselves and would have tried applying various approaches to solve them. Also, they would be able to state accurately the kind of support they are expecting to receive from various bodies namely school administration, parents, District Education Office and Ministry of Education.

Teachers and students are two significant stakeholders in the implementation of any educational innovation. This study aims to uncover only teachers' beliefs and practices of Frog VLE. As to gain an in depth understanding of poor usage of Frog VLE, students' perceptions and their willingness to participate in Frog VLE-based lessons need to be analysed too. It is important to study these factors because they could influence teachers' attitudes and practices.

Next, the present study identifies a low correlation between the two variables; teachers' beliefs about Frog VLE and their use of the system. One of the aspects that

affects the correlation between these two variables is the external constraints placed on the teacher. Future studies could further examine the effects these constraints have on teachers' beliefs and use of Frog VLE in detail. Another suggestion would be studying teachers' beliefs and use of technology by controlling some of the external variables.

Lastly, upcoming studies should focus on other new technologies introduced by the education ministry in the field of education. A new platform, called Google Classroom, would be introduced in schools after the Phase 2 of the 1BestariNet service expires (Rajaendram, 2019). Hence, it will be beneficial to study teachers' perception on the new application. Understanding teachers' views at the initial stage of a project would be useful to make changes to it to suit the needs of teachers.

Despite these limitations, it is believed that the present study enriches our comprehension of rural English language teachers' beliefs and practices of Frog VLE as well as the factors need to be considered toward increasing its usage in teaching and learning.

5.5 Conclusion

In order to prepare the students for the 21st century, there have been consistent reforms in the education system. Introducing Frog VLE is one of such efforts of MOE. Addressing teachers' beliefs is useful to achieve effective use of Frog VLE as they are considered pivotal to make any educational programs or policies realistic and successful. Besides, by acquiring deeper understanding on the complex relationship between teachers' Frog VLE beliefs and practices, the ability to influence those practices increases.

In hindsight, the successful implementation of Frog VLE certainly needs combined effort of all the stakeholders. Without holistic improvements to the various

constraints faced by teachers, achieving meaningful use of this application would be a far-fetched dream. Although removing the barriers completely would impossible, steps should be taken as suggested above to provide better facilities and conducive environment for the teachers in rural areas.

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