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Table of Contents – September 2017

Editorial

The future is now

Donald G. Perrin

The 1960's saw the introduction of new technologies for education. It was also a time for restructuring curriculum and experimenting with new methods of teaching and learning. A school superintendent in the State ofNew York came up with a catchphrase "the problem is the solution", suggesting that if we can define the (learning) problem, that will point us to the solution. Robert Mager taught us to describe the desired outcomes by writing "behavioral" or "performance" objectives. Jerry Kemp and others introduced the concept of instructional design. Numerous "performance aides" were introduced, visualization moved from film to television to digital, and instructional technologies were refocused from large group to small group to individualized methods of teaching and learning.

Initially the technologies were expensive. Some were adopted to solve problems for learners with special needs, as with Captioned Films for the Deaf and Kurzweils book reader for blind students. With growing availability, these technologies found uses for other student populations. Captioned films helped students with learning disabilities and second language learners; computers, scanners and interpreters provided a foundation for many variations of man-to-machine, machine-to-man, man-to-man, and machine-to-machine communication. With integration of technologies, miniaturization, increase in power and exploding markets, these technologies became ubiquitous and affordable for business, education, and ultimately for everyone. Couple these with simulators, robotics, artificial intelligence, networks, and 2.0 internet and you have the paradigm for education in the future. And because all of these things already exist, you can have it now!

Are we ready? What are the constraints? Needs assessment, goal setting, learning objectives, planning, future based curriculum materials, instructional designers, hardware, software, networks, teacher and administrator training, public support, funding, teacher training, technical support, and development of self-directed students starting in preschool, R & D. All of the above and more. Many components of the future system have been tested, some have already been adopted, but we are a long way from integrating these and fine-tuning the result to create the school of the future.

We need leadership, learning architects and blueprints for learning based on the world the students will be moving into. We need an accelerated research and development program and model schools. We need commitment from every level of society and we need it now. In scope, it will be something like the space program. The paradigm shift may take a generation, but we need it now. We need an entrepreneur like Elon Musk with the vision and power to motivate people and governments to make effective education a national priority and move us rapidly into the future.

Effective relevant quality education is a key to solving many of the world's problems. Our very survival may well depend on our ability to rapidly complete and launch a new educational paradigm to meet the needs of learning in the 21st century.

The construct of factors acceptance and use of blended learning for teachers in Malaysia

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Malaysia

Abstract

This paper will discuss determining construction, formation of the factors of acceptance and use of the Blended Learning approach among teachers. The determining construction for the teacher's acceptance and use were identified through literature review and semi-structured interviews. The writing of this paper is to discuss in detail the determining constructs that make up the factors of acceptance and use of Blended Learning approach among teachers based on previous models for the learning environment of schools in Malaysia.

The results of this study are expected to give a complete picture regarding constructs that make up the factors of acceptance and use among teachers and improve overall understanding of the individual's acceptance of the Blended Learning approach. This understanding is also expected to guide implementation policies to create an effective Blended Learning environment for Malaysian education settings.

Keywords: Blended learning, teacher acceptance, blended learning's constructs

Introduction

Our lives are increasingly dependent on technology: all aspects of social life, economics, politics, culture and education are very dependent on technology. Kong et al. (2014) and Agostinho, Bennett, Lockyer, and Harper (2011), agree that the development of computer technology is very dynamic and futuristic. Parallel to the development of hardware and software, improvisation to the nature of the technology itself produces tools and techniques to meet the needs of contemporary life of the 21st century. Reformation to effective nature of technology, especially web-based technology, has increased the use of this technology by leaps and bounds. This has opened an opportunity for educators to find ways to use technology to create learning environments that meet the needs of a variety of learning styles and consequently produce meaningful learning. According to reports from Shamsuddin (n.d.) and Kern & Rubin (2012), the use of technology in teaching and learning is a must and inevitable. Through learning approach and the use of appropriate technology, it should be able to produce a learning environment that is more interesting and meaningful.

Many studies have shown that the use of technology in the learning process can attract, motivate, focus, facilitate leaning and develop positive attitudes towards learning (Abdelmalak, 2015; Alwehaibi, 2015; Henrie, Halverson, & Graham, 2015; Hwang, Sung, & Chang, 2016). Mohd Azli and Abdul Latif (2012) advocate a diversity of methods and technologies for implementing educational activities stimulate the positive acceptance of students to the learning process and contribute to the achievement of specified learning outcomes. Next, the integration of web technology in the learning process can also improve learning effectiveness (Briggs, 2014; Cheung & Slavin, 2013; Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012). Based on this situation, there should be innovation and transformation of learning approaches practiced by school teachers. Among these is the innovative practice of Blended Learning.

Parallel to these changing demands, the Ministry of Education (MOE) has taken proactive steps in drafting changes in the education system through the Malaysia Education Blueprint (MEB). This clearly shows the government's efforts to leverage information and comunication technologies (ICT) to improve the quality of student learning. The MOE has introduced a virtual platform which is known as a-Frog Virtual Learning Environment (VLE Frog). Frog VLE is a cloud-based platform aims to provide flexible and mobile a virtual learning environment.

The Frog LE learning environment contains the properties of virtual learning, on-line content, collaboration, assessment and online reference materials, a characteristic of Blended Learning approach (Carman, 2005). Cimermanová (2013), supported by stating, Blended Learning is assessed as an instructional strategy as it is made possible through an effective medium combination of virtual learning environment (VLE) and face-to-face teacher-student interaction and students in the classroom. Wayne (2012) explains, the learning environment arising from mixing these approaches has been accepted and recognized as an instructional strategy known as a blended learning approach.

Blended Learning

What is Blended Learning? Blended Learning has been defined and redefined in many previous studies, but none has given a complete picture regarding what contributes to the formation of Blended Learning and how Blended Learning components are blended together to achieve cohesion as expected. Brief summaries explained that, most parties have accepted that Blended Learning combines face-to-face instruction and online-mediated instruction (Briggs, 2014; Graham, 2006; Wong, Tatnall, & Burgess, 2014).

Singh (2003) explains, Blended Learning is the combination of learning and effective delivery method serves to support meaningful learning process of students. Mohamed Amin, Norazah, & Ebrahim (2014) explain there are four ways to define Blended Learning, namely i) a combination of diversification of web-based technology in the learning process, ii) a combination of pedagogical approaches learning, iii) the mix of instructional technology and learning face-to-face and iv) instructional technology blends with students learning tasks. According to Zaharah, Saedah, Ghazali, & Nur Hasbuna (2015), Blended Learning is a mixture of conventional learning model and online learning. It is hoped that students will be individually involved and active in the learning process so as to identify appropriate methods of self-directed learning. Teachers play a role as mediator, facilitator, and friend to produce a meaningful and supportive learning environment. Blended Learning is believed to become a catalyst or enhancement of conventional learning through current technological innovations. The concept of Blended Learning is shown in Figure 1.
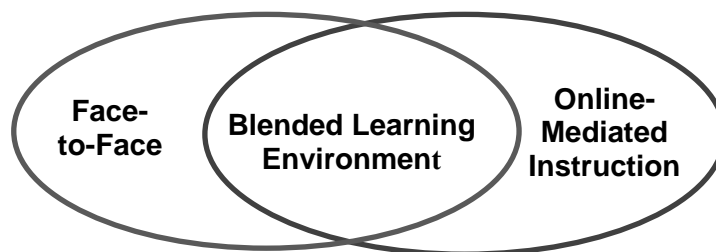

Figure 1 Concept of Blended Learning

It can be concluded that, Blended Learning is a process of learning founded by the successful combination of components including: multiple methods of delivery, compliance to learning models and accommodating the individual learning styles. This process is conducted in an interactive learning environment to focus and achieve learning objectives (Mohd Azli, Wong, & Noraini, 2016).

Acceptance Model

Huang, Ma, and Zhang (2008), Isman et al. (2012), Mohamed Amin et al. (2014), and Nuanmeesri (2014), agreed that the main component of the Blended Learning approach is based on the use of technology. Therefore, this study will refer to the prior theoretical conception of the model in an effort to identify, define and construct a teacher recruitment factor for a Blended Learning approach in schools.

Empirically, theoretical model of individual acceptance to technology is formulated through a detailed study related to perceptions, beliefs, attitudes of individuals, external influences, and feedback on what drives the behavior of individuals to receive and use the technology to achieve learning. Davis, (1989), identified *'Perceived ease of use'* and *'perceived usefulness'* as the key determinant of the technology acceptance. In the Technology Acceptance Model (TAM) adapted from the Theory of Reasoned Action Model (TRA), he defined *'Perceived ease of use'* as *"the degree to which a person believes that using a particular system would be free of physical and mental effort"*, while *'perceived usefulness'* is *"the degree to which a person believes that using a particular system would enhance his/her job performance"*.

Both definitions of these properties have become a solid construct and form the basis of almost all of the latest acceptance model technologies. Models receptions such as *Theory of Reasoned Action*-TRA (Fishbein & Ajzen, 1975), *Technology Acceptance Model*-TAM (Davis, Bagozzi, & Warshaw, 1989), *Theory of Planned Behavior*-TPB (Ajzen, 1991), C-TAM-TPB (Taylor & Todd, 1995), and *Unified Theory of Acceptance and Use of Technology* - UTAUT (Venkatesh, Morris, Davis, & Davis, 2003) are referred to as a theoretical basis in many empirical studies related to the individual acceptance of the current technologies. However, Khechine, Lakhal, Pascot, and Bytha (2014) explains that, UTAUT model is a more comprehensive acceptance model; including constructional component of individuals and organizations as well as giving a better explanation relevant to an individual's intention to use technology (individual acceptance of technology), compared to previous models of acceptance.

Through literature review, theoretical model of acceptance has been through verification and strengthening process, expansion of advanced construct and improvised explanation of technology acceptance parallel with latest technological development's timeline. Venkatesh, Thong, and Xu (2012), concluded that the UTAUT model is the latest and most comprehensive model of acceptance in assessing individual's acceptance to technology because this model is developed through the expansion and consolidation based on previous models of acceptance using relevant theories to motivation and attitudes towards technology. This statement proves that the model UTAUT is the latest acceptance model that will provide a more thorough and integrated description of the individual's acceptance to the use of technology. Development and interaction between model-acceptance theories based on a timeline is shown in Figure 2.

Research objective

In general, this study aims to identify factors that influence the teacher's acceptance and use in successful implementation of the Blended Learning approach in schools. However, due to the limited scope of the discussion, this study will focus on identifying the constructs that make up the factors of acceptance and the teacher's usage for the successful implementation of the Blended Learning approach.
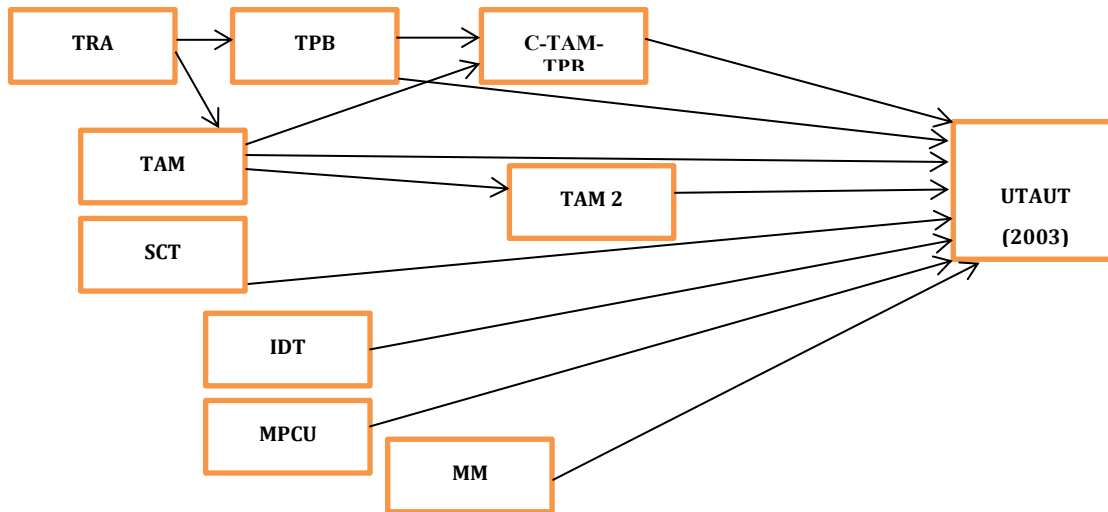
Figure 2 Development and interaction between the model-theory acceptance according to the timeline

The findings in the paper are expected to give a clearer picture of the constructs that determine the factors of acceptance and use by teachers. This paper seeks to be a catalyst for a common understanding regarding the acceptance and use of Blended Learning approach among teachers in Malaysia and thus provides guidance to policy makers to formulate policy changes for the successful implementation of Blended Learning approach.

Research method

It is recognized that "Blended Learning" is a term that is relatively new in the Malaysian education system and the learning approach is still an obscure practice in schools. Hence, the writing of this paper was carried out within a limited scope and with relatively limited resources. The content analysis was used for the formulation of cross-references between the findings of a literature review of studies and the previous empirical theory model with the findings from semi-structured interviews with focus groups. Thus, the findings of this paper are limited to a formula based on the settings of the local education system.

Determining construct for acceptance factor

Based on the literature on the construct of theoretical acceptance model of previous technology, the researchers were able to construct an initial draft outlines for teacher recruitment factor of Blended Learning approach. Next, the construct is extracted and determined through a literature review of previous empirical studies as well as a brief survey, semi-structured interviews with focus groups. Panel of focus groups involved were from the group of academic teachers, VLE Frog young teachers, Frog VLE school administration teachers, school administrators, teachers, trainers and officials Frog VLE program coordinator. Creswell (2012) explains that this method is the best method in the process of identifying constructs of the study before it is tested for validity of the item, which is part of the process of building and testing the instrument. This method has been widely used by researchers, in order to determine the construct for the purpose of establishing the factors or variables of the study (Şad, 2012; Wong, Teo, & Goh, 2014).

In Table 1, the key findings of the theme-construct through feedback and semi-structured interviews were obtained during interviews with focus groups.

Table 1

Thematic summary through feedback and semi-structured interviews

Interview Questions	Feedback	Construct-Theme
What do you understand of the blended learning approach?	Never heard of blended learning. Use mixed teaching methods	Understanding of a blended learning approach
What do you understand with learning using Frog VLE in your classroom?	Using a computer and Frog website in the process of teaching and learning. Students use computers during the learning process. Students access learning materials via computer from web Frog. Teachers can upload and share learning materials in web Frog. Students and teachers can interact through web Frog. Students can answer questions/quizzes via web Frog.	Understanding of the Frog VLE
What are your views on the Frog VLE?	Good, fun for students. Good, a lot of new information. Good, can develop new skills. Good but kind of hard to use. Good but looks like it will delay efforts to complete the syllabus.	Teacher's general perception. Performance Expectancy (PE)
How does the implementation and introduction Frog VLE made by the MOE influence teachers decision to use or not?	Do not understand the purpose/ concept of Frog VLE. Not interested. Unclear of the objectives. Unsure of how to use. Difficult to use because of lack of technological resources (computers and Internet access). Yes and good, will try to make it a success because it has a lot of advantages/advantages/benefits	Performance Expectancy (PE) Effort Expectancy (EE) Facilitating Conditions (FC) Teacher Efficacy (TE)
Your expectations of Frog VLE advantages?	Time saving – able to achieve the learning objectives quickly and easily. Many students can use. Easy to access websites. Encourages students to learn - fun and easy to understand content subjects. Easy exploration of knowledge by students, without limit and from a variety of sources. Students are able to implement / follow the process of learning from / to home.	Performance Expectancy (PE) Effort Expectancy (EE) Blended Learning's attribute
Your expectation of Frog VLE weaknesses?	ICT facilities uncertain. Difficult to implement without support or assistance. Cannot be implemented	Performance Expectancy (PE) Effort Expectancy (EE)
Can you explain, whether there is or not advantages of using Frog VLE platform in the learning process? / What is your opinion about the advantages of Frog VLE when used in the learning process?	Do not see any advantages when using Frog VLE. Students enjoy and explore information / new knowledge. Students and teachers can get new skills. Teachers are more innovative.	Performance Expectancy (PE) Effort Expectancy (EE) Teacher Efficacy (TE) Behavioral Intention (BI) Use Behavior (UB)
Can you explain are there any weaknesses in using Frog VLE platform in the learning process in the classroom? a. What is your opinion - why is it difficult to use Frog VLE in the learning process?	Time is wasted to handle the technology hardware. Students often misuse technology. Students focus often interrupted / diverted and abused. Difficult to manage the learning process - students often misuse the ICT facilities.	Effort Expectancy (EE) Performance Expectancy (PE) Teacher Efficacy (TE) Behavioral Intention (BI) Use Behavior (UB)

Does the school have adequate facilities to carry out the Frog VLE in the learning process?	Inadequate facilities - computers and internet coverage is not comprehensive in the school (computer lab only). Yes, but difficult to practice during the learning process (don't know how to use). Always have internet issues- slow web login into Frog. Always fighting over a computer lab with other teachers	Facilitating Conditions (FC) Effort Expectancy (EE) Blended Learning's attribute
Are teachers using Frog VLE in the learning process? Why?	Don't use it because do not know how to. No because it is difficult to use. No because always face difficulty to access Frog website. Yes because I am into ICT. Yes because the students have fun. Yes because of the initiative/support/directive from the administrator. Yes but always behind time to complete syllabus.	Behavioral Intention (BI) Use Behavior (UB) Teacher Efficacy (TE) Facilitating Conditions (FC) Effort Expectancy (EE) Efikasi Guru (TE)
Can you tell me your experience in the process of using blended learning approach?/ Can you tell me your teaching experience using Frog VLE in class? (difficult/easy/fun/fear)?	Difficult. Not fun. Always unable to finish syllabus/ objective not accomplished. Fun but inadequate time.	Effort Expectancy (EE) Performance Expectancy (PE) Behavioral Intention (BI) Use Behavior (UB)
Do you face problems during the teaching execution using Frog VLE? a. If yes, could you describe your experience?	The use of computer facilities is always clashed. Internet connection is slow. I don't know how to use the functions in Frog VLE. Problems related to technology (internet and computer) always disrupt learning process.	Facilitating Conditions (FC) Teacher Efficacy (TE) Behavioral Intention (BI) Use Behavior (UB) Keadaan Kemudahan (FC)
In your opinion, is Frog VLE able to fulfill learning needs of the students? a. How?	Yes, it builds ICT skills. Students have fun and motivated. Variety of information resources.	Teacher Efficacy (TE) Effort Expectancy (EE) Performance Expectancy (PE) Blended Learning's attribute
In your opinion, what are the obstacles to using Frog VLE in the learning process?	Technology resources in school. The functions in Frog VLE is difficult to comprehend. Aim on the use is unclear. Teacher's skill (no training/ inadequate) Teacher's motivation/drive. Support/ directive from the administration party. Inadequate guidance and training for the teacher.	Facilitating Conditions (FC) Teacher Efficacy (TE) Social Influence (SI)
What is your suggestion on how to improve/encourage the use of Frog VLE in the learning process?	Training and exposure to ICT literacy skills to teachers. Training and practice using Frog VLE. Strong support and encouragement from a third party (friend, school culture and administrators). Awards to teachers who practice the use Frog VLE in the learning process. ICT facilities are adequate. Strong internet connection. Easy reference. Frog VLE web function should be more user-friendly. Should have more Frog VLE functions (goals). Parents need to be exposed with the importance of Frog VLE and their role in providing ICT facilities in the house for student use.	Teacher Efficacy (TE) Facilitating Conditions (FC) Social Influence (SI) Performance Expectancy (PE) Effort Expectancy (EE)

From the findings from interviews and literature on previous empirical studies and cross-references of previous theoretical acceptance model, the researchers have been able to list the proposed constructs that determine the factors of teacher's acceptance to Blended Learning.

Below is the list of the proposed constructs and matching with the prior original source of a model or theory reception (see Table 2).

Table 2

Constructs of Teacher's acceptance of Blended Learning and Corresponding Original Source of the previous acceptance Model-theory

Constructs	Sub- Constructs	Model-theory	References
Performance Expectancy (PE)	*Performance Expectancy* *Perceived usefulness* *Extrinsic motivation* *Job-fit* *Relative advantage* *Outcome expectation*	UTAUT; TAM/TAM2/C-TAM-TPB; MM; MPCU; IDT; SCT.	Davis, Bagozzi, & Warshaw (1989), Venkatesh et al. (2003), Rogers (1983), Bandura (1989)
Effort Expectancy (EE)	*Effort expectancy* *Perceived ease of use* *Complexity*	UTAUT; TAM/TAM2; MPCU/IDT.	Davis, Bagozzi, & Warshaw (1989), Venkatesh et al. (2003)
Social Influence (SI)	*Social influence* *Subjective norm* *Social factors Influencing*	UTAUT; TRA, TPB, TAM2, C-TAM-TPB; MPCU.	Ajzen (1991) Venkatesh et al. (2003)
Facilitating Conditions (FC)	*Facilitating conditions* *Perceived behavioral control* *Compatibility* *Perceived Control*	UTAUT, MPCU; C-TAM-TPB; IDT; TPB.	Thompson et al. (1991), Taylor & Todd (1995), Venkatesh et al. (2003)
Teacher Efficacy (TE)	*Attitude Toward Computer Use* *Self-Efficacy*	TRA, TAM; SCT, C-TAM-TPB.	Davis, Bagozzi, & Warshaw (1989), Compeau & Higgins (1995), Thompson et al. (1991)
Behavioral Intention (BI)	*Behavioral Intention* *Intention to Perform Behavior*	TRA, TAM, TAM2, C-TAM-TPB, UTAUT; TPB.	Davis, Bagozzi, & Warshaw (1989), Taylor & Todd (1995), Venkatesh et al. (2003)
Use Behavior (UB)	*Use Behavioral* *Usage* *Behavior*	TRA, TAM, TAM2, C-TAM-TPB, UTAUT; SCT; TPB.	Davis, Bagozzi, & Warshaw (1989), Venkatesh et al. (2003)

Table 3 lists determinants and definitions of each proposed teacher acceptance constructs for Malaysian educational setting.

Table 3

Determinant and definitions of teacher's acceptance factor of Blended Learning

Construct	Determinants	Definition
Performance Expectancy (PE)	Construct is extracted and determined based on Blended Learning attributed and six prior model/theory of acceptance construction; *Performance Expectancy (UTAUT)*, *Perceived usefulness (TAM)*, *Extrinsic motivation (MM)*, *Job-fit (MPCU)*, *Relative advantage (IDT)* dan *Outcome expectation (SCT)*.	Defined as to how far the level of individual's trust in the use or execution of Blended Learning approach will aid them in achieving the decided learning objective (expected effectiveness)
Effort Expectancy (EE)	Construct is extracted and determined based on Blended Learning attributed and four prior model/theory of acceptance construction; *Effort expectancy (UTAUT)*, *Perceived ease of use (TAM)* dan *Complexity (MPCU)*.	Defined as to how far an individual's trust to the accessibility or execution ability of the Blended Learning approach.
Social Influence (SI)	This construction is determined by previous construction; *Social influence (UTAUT)*, *Subjective norm (TAM2/TRA)* dan *Social factors Influencing (MPCU)*.	Social Influence (SI) refers to the level of individual's assumption on how important other people believe that they should use or execute the Blended Learning approach.

Construct	Determinants	Definition
Facilitating Conditions (FC)	The extraction of the construct is based on the attribute of Blended Learning dan combined construction; *Facilitating conditions (UTAUT), Perceived behavioural control (C-TAM-TPB), Compatibility (IDT)* serta *Perceived Control (TPB).*	Facilitating Conditions (FC) refers to teacher's perspective of quality in the system, technical resources and existing support to aid them in the execution of Blended Learning.
Teacher Efficacy (TE)	The construction is based on the attributed Blended Learning and previous combined constructions; *Attitude Toward Computer Use (TAM)* dan *Self-Efficacy (SCT/C-TAM-TPB).*	Definition refers to the teacher's perspective on confidence, positive or negative attitude towards self-ability to accept, use or carry out Blended Learning approach in effective ways.
Behavioral Intention (BI)	Determining source of construction; *Behavioral Intention (TAM/UTAUT)* dan *Intention to Perform Behavior (TPB).*	Refers to the level of intent to perform or repeat an action (to use or execute Blended Learning approach).
Use Behavior (UB)	Determining source of construction; *Use Behavioral (TAM/UTAUT), Usage (SCT)* dan *Behavior (TPB).*	Refers to the action or performing or repeating (using or executing Blended Learning approach).

Conclusion

This writing discussed on the formation of the construct in teacher acceptance factors to the Blended Learning approach. This factors, have been formulated through; i) analysis of the literature review of relevant empirical studies, models / theories of acceptance of previous Blended Learning and attribute and ii) a brief analysis of the findings of semi-structured interviews with focus groups. Hence, there are five listed predictive factors suggested namely;- Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), and Teacher Efficacy (TE). Therefore, predictive factors are believed to be the major determinants of Behavioral Intention (BI) and Use Behavior (UB) of which the main construct to be assessed its effectiveness to identify the level of acceptance by teachers towards Blended Learning approach (the learning process using Frog VLE as the main platform of learning).

It is hoped that the listing of suggested factors to teacher's acceptance can be a guide to the MOE in considering essential factors to be taken into account when formulating more effective efforts to ensure the success of Blended Learning (Frog VLE integration in the learning process) in Malaysian schools. Hopefully, efforts to refine the school education system will produce individuals who are capable of handling global challenges of the next century into reality.

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Distance education and the need for strong leadership

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Abstract

This paper explores the changing role of the distance education leader. Rapid changes in the technology used to teach distance education courses has forced corresponding changes in pedagogy (Beaudoin, 2015). Technology changes are rapid and often disruptive, replacing a technology that faculty has become comfortable with and does not want to leave (Campbell, 2012). Because of this pattern, new leaders in distance education will need to excel at change management while also having a deep understanding of technology and pedagogy. Traditional leadership skills will still be essential, like networking and consensus building, though often these skills will be implemented over a distance while managing virtual teams.

Distance education and the need for strong leadership

Distance education is in a cycle of rapid change. In less than two decades, distance education has moved from telecourses and video conferencing to online learning (Beaudoin, 2015). Rapid changes in technology prompt corollary changes in instructional design; online courses change the focus from the teacher and teaching to the student and learning (Roby, Ashe, Sing, & Clark, 2012). The role of an online instructor shifts to become a coach, mentor, and tutor (Garcia, 2015). When distance education first started gaining a foothold in enrollment numbers, there were not leaders with the experience to manage the new technologies and pedagogies that would emerge. Now, with high student enrollments in online courses (Burnette, 2015), distance education is becoming a permanent and important part of higher education. Leaders need to be developed who have the necessary skills to ensure top quality curriculum and strong student outcomes from online courses, while managing disruptive changes and ensuring that all stakeholders contribute to the goals and requirements of learning online. What skills will these new leaders need to work towards to ensure quality courses for all students?

Distance education is rapidly growing

Distance education is an important segment of higher education. In 2012, over 89% of colleges offered online courses, with about 50% of graduates have taken at least one online course (Roby, Ashe, Sing, & Clark, 2012). Now, slightly more than one-third of college courses are taken online (Beaudoin, 2016). Over 7 million college students take at least one online course (Burnette, 2015). The increasing number of online courses taken each year ensures that this will continue to be a vital portion of college enrollment. Strong leadership of the distance education area will be critical to ensure quality education, student satisfaction, and learning outcomes for online students. College leaders consider distance education an important part of their management roles (Roby, Ashe, Sing, & Clark, 2012). Having a strong leader in charge of the distance education department at each college or university will become increasingly important due to the growing number of online courses offered, and increasing student enrollment in those courses.

Even though the steady growth in enrollments proves that there is a market for online courses, the technology and pedagogy for teaching online courses are still evolving. Distance education has experienced rapid changes in both the technology and pedagogy. In just a few decades, distance education pedagogy has shifted from having video cameras of an instructor at one location

broadcasting to students at multiple locations, to online courses that often include video lectures (Beaudoin, 2015). Online course design shifts pedagogy from being instructor-centered to student-centered when the delivery method changes from face-to-face to an online format (Roby, Ashe, Sing, & Clark, 2012) (Beaudoin, 2016). Traditional classrooms have been teacher-centered; the role of a teacher in an online class changes to become a coach, mentor, and tutor (Garcia, 2015). Online instructors are still adjusting to the new roles that they must play, and the new pedagogy. Distance education leaders must be well versed in the changing pedagogy, and be able to support and train online instructors to take advantage of the technology that is available while applying appropriate pedagogy to the design of their online courses.

A new breed of college leader is needed to manage the rapid changes in technology and pedagogy that occur in distance education. What challenges are these leaders going to face, and what skills will they need to handle those challenges? This article explores current literature on the challenges of distance education, and what skills will be required by leaders in distance education to help them manage disruptive change in this rapidly growing segment of higher education.

Unique challenges in distance education

The pedagogy of online courses should be different than that of face-to-face courses. When instructors and students are no longer in the same geographic location, the pedagogy must change to reflect that distance. Distance education students need to take greater responsibility for their own learning. This requirement changes the instructional design of online courses to focus on fostering student activity, where the student interacts frequently in the online course (Garcia, 2015). While traditional on-campus courses allow students and teachers to easily interact both in class and outside of class through office hours, online students often never meet their instructor face-to-face (Garcia, 2015). More than 30% of full-time faculty have taught an online course; frequently, these faculty members also serve as the subject matter expert and instructional designer of the courses that they facilitate (Roby, Ashe, Sing, & Clark, 2012). These instructors, who are typically hired because of their content expertise not their training in education, must cope with technology changes that trigger new pedagogical approaches (Beaudoin, 2016). These changes in how courses are delivered and taught will require strong leaders who can understand, select, and lead the implementation of the required technology and pedagogy.

Challenges to distance education leadership

The responsibilities of distance education leaders are not clearly defined. This is a new area which has grown significantly since the turn of the century. Historic leadership approaches for colleges do not completely translate to the needs of leadership for distance education programs. Educational approaches have been stable for centuries until changing technology forced rapid changes in pedagogy and delivery that no leaders have had to handle before this (Beaudoin, 2015). The changing pedagogy of online instruction means that distance education leaders must continuously keep up with the changing pedagogy and technology, and then collaborate with their information technology teams, administration, and faculty to ensure that the correct technology and pedagogical approaches are integrated into the design of distance education courses. The rapid change in technology is exemplified by the move from video conferencing in the late 1990's to fully asynchronous online courses hosted in modern learning management systems today. The changes to the technology and pedagogy of how online courses are taught have happened so quickly that the changes are unpredictable (Beaudoin, 2015). It will take a competent leader well versed in change management to guide faculty, administrators, and students through the changes that will continue to occur in the distance learning environment.

Distance education leaders must address the fact that online degrees still are not viewed as being equivalent to traditional degrees. Some college faculty question if online courses can provide the

same quality of instruction that face-to-face courses do; this attitude is backed by many public cases of fraud at online institutions (Piña & Bohn, 2015). Despite this perception, studies have shown that there are not any significant differences in outcomes between traditional face-to-face courses and online courses (Roby, Ashe, Sing, & Clark, 2012). A study by the U.S. Department of Education found that online students performed better than those receiving face-to-face instruction (Piña & Bohn, 2015). Student perceptions of online quality show better outcomes than traditional learning (Roby, Ashe, Sing, & Clark, 2012). When students do express concerns about online courses there can be a perception that online courses require more self-discipline and more work than traditional courses, and that they dislike the lack of instructor availability (Roby, Ashe, Sing, & Clark, 2012). To address the concerns of online course quality multiple quality rubrics have emerged to validate the quality of online courses like the Quality Matters Rubric (Crews & Wilkinson, 2014) or the ION Quality Online Course Initiative from the Illinois Online Network (McGhan, Jackson, & Premer, 2015). Distance education leaders will need to collaborate with the stakeholders at their institutions to use the available tools to evaluate and ensure the quality of online courses.

Managing faculty members who are pushed to teach online due to student demand will be an additional challenge for the distance education leader. Even faculty members who want to teach online can find it difficult to change their teaching approach. Often, faculty who have been teaching in a traditional environment through lecturing try to move what they are doing in their face-to-face course directly into their online course without adjusting the instructional design. Effective online courses use a student-centered pedagogy that faculty members who come from the traditional face-to-face background may have difficulty adjusting to (Beaudoin, 2015). Assisting traditional instructors to adapt their pedagogy will be a crucial component of distance education leadership.

Effective teachers who are happy with their current teaching methods are often hesitant to adopt new technology. They view the technology as disruptive and need to be convinced that it is a significant improvement over the methods that they are currently using. They will not consider adopting new technology until they are convinced that it is better than the technology they are currently using (Campbell, 2012). Selecting appropriate technology will require the distance education leader to collaborate with college and university information technology professionals, faculty members, and students. Once a new standard has been determined, and buy-in from all stakeholders achieved, it will fall to the distance education leader to organize training of faculty and demonstrate how the new standard improves student outcomes to ensure that the standard is adopted campus-wide.

These challenges are new to college leaders. Traditional campus-based classes have not had the same level of change as online courses. These unique challenges will require distance education leaders to have all the skills and abilities required by traditional college leaders as well as some skills that are unique to the area of distance education.

Skills beyond traditional college leadership

Overseeing a distance education department will require special skills to handle the unique aspects of distance education: technology, pedagogy, managing virtual teams, and dealing with continuous change. These skills complement the skills needed by all higher education leaders like technology use, global thinking, and risk-taking, humor, vision, and inspiring others (Kuscu & Arslan, 2016). Leaders must have both the traditional skills and the special skills required to handle the new environment of distance education.

Distance education leaders will need to be well versed in technology, and able to evaluate and learn to use the new technology as it emerges. The changing technology will lead to more

changes in best practices for instructional design for online learning. Leaders must understand the changing dynamic of online courses from being instructor-centered to being student-centered, with a focus on active pedagogy that relies on students to frequently interact in the online environment (Garcia, 2015). While dealing with changing pedagogy and technological changes the added challenge of overseeing instructors and other support personnel who may not ever be physically on campus compounds the challenges to leading the distance education department. The new distance education leader will need a blend of traditional educational leadership skills plus be able to manage the dynamic of working virtually; there will be a mix in how they work with stakeholders between a traditional and distance environment (Garcia, 2015).

Change management is a critical skill for the leader of distance education. Student demand for distance education mixed with changing technology creates a continuous state of disruptive change that is unlike anything colleges have seen before (Beaudoin, 2015). Colleges adapt to changes more slowly than industry, and college instructors can be resistant to change (Chow, 2013). The changes that are occurring are challenging the status quo, new distance education leaders need to be experts in change management rather than a technology (Beaudoin, 2015). It is critical to get all stakeholders working together, with buy-in from all areas, before moving to any major change in the way things are done (Chow, 2013). With the continuing changes in technology and pedagogy, change management becomes a critical leadership skill. Part of change management is the ability and desire to lead innovation. Distance education leaders need to be willing to question, observe, network, and experiment to be innovative leaders (Campbell, 2012). Due to the constantly changing nature of instructional technology, it is important for leadership to embrace innovation.

Leaders will need a strong grasp of changing technology

Technology is constantly changing; distance education leaders must not only be familiar with the existing technology, they need to stay on top of emerging technology and be able to learn and apply it on their own so that they can determine which technologies to introduce to their stakeholders to consider for adoption. It is necessary to have strong leaders advocating for stakeholder support in adopting new technology, without that person the technology at a campus will remain stagnant (Albright & Nworie, 2008). The distance education leader will serve as the guide for faculty, staff, and students during periods of technological change; this is essential because there is a tendency to resist learning new technology when stakeholders are comfortable with the existing technology and processes (Beaudoin, 2015). Selecting and implementing technology will depend on collaborating with stakeholders, and convincing them that the new technology will improve student outcomes.

Need to collaborate with stake holders

While every leader in higher education is responsible for collaborating with multiple groups on campus, it can be a greater challenge for the distance education leader. Often, campuses administrations that have successful traditional programs that have been doing well for decades hesitate to try new things or approach new situations with innovative solutions (Beaudoin, 2015). This happens because the colleges have become risk-averse, and the possibility of trying something and failing may be an unacceptable risk (Beaudoin, 2015). The demand of students for online classes pushes colleges to step into new areas forcing instructors who have never taught online to adapt to new pedagogies and technologies that are needed in the online environment (Beaudoin, 2016). During this transition, it is critical to include faculty representation. Policies dictated to faculty without their input frequently fail, and faculty will feel frustrated if they are not included in the change decisions and instead see the changes and requirements as imposed

upon them rather than chosen by them (Chow, 2013). This environment makes the ability to collaborate and build consensus an absolute necessity for distance education leaders.

The new distance education leader must be politically savvy and work closely with the decision makers at their institution (Burnette, 2015). Some of the existing leadership at many colleges still have lingering doubts than online classes can be as effective in teaching as face-to-face classes (Beaudoin, 2016). Even though online learning accounts for a significant percentage of the number of courses offered in higher education, some institutions still view online learning as experimental (Burnette, 2015). To further challenge the new distance education leader, they often don't fit into the traditional administrative hierarchy at their colleges, which can make them less effective as leaders (Burnette, 2015). Throughout these challenges, the distance education leader must build consensus on new policies and the adoption of new technology, or there will be problems with the college community members who don't feel valued or informed (Chow, 2013). To accomplish consensus among stakeholders, the distance education leaders should cultivate a distributed leadership model, working with leaders across the college community in different departments to jointly set goals and work to achieve them (Keppel, O'Dwyer, Lyon, & Childs, 2011). Only through building strong relationships with stakeholders across departments will leaders be able to manage change (Burnette, 2015) (Garcia, 2015).

Transitioning to a new leadership model

To be effective in leading colleges through the disruptive changes to come distance education leaders should work closely with leaders in other areas of the college and the community to achieve consensus and get stakeholder buy-in for any policy changes and to implement those changes (Garcia, 2015). When approaching new problems, new technology, and new pedagogy, leaders need to be willing to innovate, network, and experiment to determine the best way to accomplish campus-wide goals (Campbell, 2012). Adding to these challenges is the difficulty of merging people working in the same place and virtual teams.

In distance education programs, especially at those schools which only offer online courses and have no face-to-face sections, working with employees as part of a virtual team is becoming common. Often the distance education leader will have to work with faculty and staff remotely, as well as providing online support for all the services that students expect from their institution. The distance leader must be able to work with multiple stakeholders across different teams: instructors, students, vendors, staff, and management (Garcia, 2015). To effectively manage these virtual teams, the leader must stress goals and ensure that each team member understands their personal goals and meets deadlines (Kuscu & Arslan, 2016). Building consensus and managing virtual teams will be a key skill for distance education leaders.

Potential impact of leadership on the quality of distance education

Higher education has faced many changes and challenges over the last few decades, a change in demographics and needs of students accompanied by changing technologies has led to pedagogical changes in the classroom. These changes reflect the changes that are going on in business and industry and change the notion of what quality education looks like (Vlachopoulos, 2016). Even though the number of students taking online courses is steadily increasing (Beaudoin, 2016), and colleges have been teaching distance education for years, this is still a young area for research and best practices are continuing to evolve. Distance education leaders will be tasked with ensuring the quality of courses that are being offered by their institutions. They will need to be familiar with the emerging standards and the tools used to evaluate the quality of online courses, like the Quality Matters Rubric (Crews & Wilkinson, 2014) or the ION Quality Online Course Initiative from the Illinois Online Network (McGhan, Jackson, & Premer,

2015). Ensuring that quality standards are consistently applied across their campuses will be a key responsibility of distance education leaders.

What attributes should the next generation of leaders have?

New leaders in distance education are going to require many different skills. These leaders will need to be able to understand and quickly teach themselves new technology. Also, leaders must have a firm understanding of pedagogy and how to merge new pedagogical approaches with existing curriculum to fully take advantage of the opportunities new technology brings to the online environment. While it will be important to lead the development of new courses, it will also be critical to lead the review and update of existing courses that were often designed by eager instructors who wanted to teach online but did not have the training in instructional design or online pedagogy to create the most effective courses. The ability to understand both technology and pedagogy while building consensus about the best way to integrate them across the curriculum forms the cornerstone of knowledge for the distance education leader.

Leaders need to understand how to integrate legacy technology with new technology to work in areas of varying levels of technical sophistication. Leaders must be able to take current pedagogical principles and apply them to multiple types of technology. One example of this is the Higher Education Leadership and Management Organization in Indonesia where students use mobile and landlines to call into sessions intended for the internet because that technology is not stable enough in that location (Bosch, Hartenberger & Rahman, 2015). The educational leadership must be actively involved in leading technology decisions for efforts to be successfully integrated into education (Garcia, 2015). It will be important for leaders to be able to vet out new technology and determine what is likely to work for the environment that the students and faculty work in. This understanding will allow leaders to merge appropriate technology and pedagogy into the curriculum.

The successful leader will ideally have teaching experience in both the traditional classroom and online classrooms. Successful education leaders need to understand and function in both the traditional and online areas (Burnette, 2015). Classroom and online teaching experience will help the distance education leader relate to, and support faculty as they transition to teaching online and seek to improve the quality of their online courses. By having teaching experience in both modalities, the distance education leader will understand how the online pedagogy usually switches from being teacher centered to being student-centered, and the distance education leader will be able to train faculty in the new pedagogies (Swan, 2015).

Combining strong technical skills with teaching experience and a solid understanding of pedagogy will enable leaders to understand how to integrate technology and pedagogy in a modern online course (Garcia, 2015). These skills must coexist in the leadership, having only one of the skills will not be enough to ensure successful outcomes for a college distance education program.

Using the knowledge of pedagogy and technology that they have acquired, leaders will have to analyze and collaborate with current instructors to help them bring outdated online courses up to current standards. Analyzing and evaluation of existing programs will be a leadership challenge because the instructor who is teaching them is likely to be very invested in the course they designed and are teaching, and they probably feel that they are doing so with the best possible design and results. Unfortunately, traditional colleges who added online instruction often developed programs without the benefit of design theory and best practices in online education, leaving them with a need to be evaluated and updated (Nworie, Haughton, & Oprandi, 2012). The distance education leaders will use their change management skills to mentor online instructors and help bring all courses on a campus up to the same standard.

The distance education leader must also have the traditional leadership skills required in any area of college administration. A distance education leader must be able to drive innovation at the college while building support for that innovation across departments with all stakeholders (Garcia, 2015). The distance education leader will frequently deal with disruptive change. Disruptive change, when one technology replaces another, is going to be an ongoing problem as distance education evolves. Disruptive change in distance education is also occurring because adult learners see themselves as clients, with greater choices for where they complete their education than ever before (Williams & Gardner, 2012). The new leaders must have a plan to address the technology changes, and more importantly work collaboratively with all stakeholders to help integrate the new disruptive technology into the pedagogy following best practices. To do this the leader must advocate for new technology and pedagogy with instructors and administration to make better use of e-learning (Williams & Gardner, 2012). With these skills, a leader has the tools they need to ensure the quality and growth of a distance education program.

Conclusion

Online courses are still the fastest growing segment of higher education (Beaudoin, 2016). Individuals who have a background in traditional college leadership goals are not fully prepared for all of the challenges that they will face in leading a distance education department. To be successful, a leader of distance education will need to have all of the skills of leaders from other areas of the college, plus they will need to be excellent at change management, have a solid and intuitive grasp of technology, and a thorough understanding of pedagogy. Ideally, this leader will come from a teaching background where they have classroom and online instruction experience. This will help the leader to relate to, and build consensus with faculty. Even though studies show that online students demonstrate equivalent or better outcomes than their face-to-face peers (Beaudoin, 2016), many college faculty and administrators still feel that online courses are inferior to face-to-face courses. The next generation of distance education leader will need to be politically savvy, and cultivate allies across the campus while building support for new and innovative practices in online learning. Putting the correct leaders in place, with both traditional leadership skills and the special skills necessary for leading a distance education department, will help the whole field move forward. Rubrics and evaluation tools are appearing to help ensure quality standards across the curriculum, and it will be an important part of the job for the new leaders to work with their colleagues to adopt and implement quality standards for their online courses. This will be a difficult job, and getting the right person with the correct set of leadership skills will be critical to ensure the success and growth of an online department.

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Editor's Note: Whether for comparison studies or for validation, continuous improvement is accomplished step-by- step.

Investigating the effect of dynamic assessment on modality learning by EFL learners

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Iran

Abstract

The current study was an attempt to explore whether dynamic assessment had any significant impact on learning English modal verbs by Iranian learners. To this end, 88 out of 150 Iranian EFL students were randomly selected based their scores on an Oxford Placement Test and equally divided into experimental and control groups. During 10 sessions, English modal verbs were presented to the learners. The experimental group taught via dynamic assessment received treatment in line with Poehner (2008). In contrast, the control group was instructed through conventional ways of teaching English modal verbs. To compare the performance of the two groups in the posttest an independent sample t-test was run. The findings revealed that the dynamic assessment instruction had a significant effect on learning English modal verbs by Iranian EFL learners. The study presents theoretical and practical implications for EFL/ESL teachers, learners and curriculum designers.

Keywords: dynamic assessment; English modal verbs; ZPD; Iranian EFL learners.

Introduction

The meaning of 'assessment' is different in "dynamic assessment". Often, the term assessment is used both directly for formal testing instruments and indirectly for other forms of evaluation. Consequently, there are two different types of assessment called Summative and Formative. According to Bachman (1990), summative assessment reports on the results of learning after instruction is finished, while formative assessment is associated with the goal of providing feedback and valuable information for the teaching.

Based on formative assessment, the weaknesses and skills of the learners are recognized for future educational decisions. As a result, teachers usually offer this kind of assessment and use it in their educational strategies. Summative assessment deals with standardized tests and scoring of learning and performance. The order of items, the assigned time, and the language of the questions are among factors that should be measured to have an effective assessment of the skill, aptitude or ability that is measured.

Scores are analyzed to associate and classify the learners' abilities in a large scale and for making important decisions about the funding and student acceptance into schools and universities. While standardized tests are now the most suitable form of assessment, Ellis (2003) proposes that many creative assessments are used even after these tests. A weaknesses of formative assessment is the statistical problem required for standardization. Nevertheless, for administration procedures and interpretation of performance, formative assessment equals with its psychometric counterparts. Hence, instruction and assessment are dichotomized teaching and testing that relates to learning and measuring the learning respectively.

Statement of the problem

The origins of dynamic assessment began about 80 years ago rooted in a theory by the famous Russian psychologist L. S. Vygotsky (1989) as Sociocultural Theory of Mind (SCT) and Zone of

Proximal Development (ZPD). It uses the human abilities with the goal of finding and enhancing the potential skills. This theory considers the cognitive functions that identify that in this system the person is more active since by getting supported by communications, the way of finding different methods of thinking and presenting are recognized. The cognitive functions which act because of the reaction of the students to the support presented to them for the areas of problem, describe the role of SCT and these functions come to increase in this process. Instead, by appropriate mediation individuals can exceed their independent performance, and this in turn encourages additional development (Vygotsky, 1998).

One of the important factors in dynamic assessment is Vygotskian notion of ZPD. The ZPD can be defined as "the distance between the actual development level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in association with more talented peers" (Vygotsky, 1978, p. 24). The ability to control ourselves occurs from mediation by others and by this definition mediation can be associated with ZPD (Lantolf, 2009).

ZPD is about mediation and internalization which are two related concepts. Individuals can develop their potential by the role of mediation. Additionally, Mediated Learning Experience (MLE) that supports Feuerstein's theory is also involved in the central notions of dynamic assessment.

Some recent studies have related to the effect of first language to EFL learners' acquisition of English associations. The results indicated that L2 learners use their first language when they fall short of English word knowledge (Koprowski, 2005). Additionally, other studies have showed that in first and second languages, the acquisition of congruent and non-congruent items is different (Nesselhauf, 2003).

Dynamic Assessment (DA) is one specific way which may help EFL learners hold the problem of learning English modal verbs. Dynamic assessment, by arguing that teaching and assessment should not be divided, disputes predictable views on the significance of these two parts. Actually, DA shows that teaching and assessment should be fully included. As a result, the goal of present investigation is exploring the effect of dynamic assessment on learning English modal verbs by Iranian EFL learners.

Research questions and hypothesis

In line with the objectives of the study to find out the possible significant effect of dynamic assessment on learning English modal verbs by Iranian EFL learners, the following research questions and hypotheses were formulated:

RQ1: Does dynamic assessment have any significant impact on learning English modal verbs by Iranian learners?

H01: Dynamic assessment does not have any significant impact on learning English modal verbs by Iranian learners.

Review of related literature

Anton (2003) in her study in dynamic assessment used a dynamic assessment process for placement of L2 Spanish undergraduate students. She clarifies that dynamic assessment is more suitable for placement purposes because it sheds light on students' developing skills instead of focusing just on developed ones which is done by non-dynamic assessment. She considers that using dynamic assessment procedures makes the placement more correct because a complete picture of the capabilities is offered. So important hidden differences among students become vivid which is an evidence of the validity of dynamic assessment.

Poehner (2008) study showed .advanced level adults learning French as their foreign language played different parts of an English movie to the contributors. At first, learners created an oral narrative in the target language after watching a short film, they established no mediation in the first task. Then they were shown a second clip from the same story but this time to increase the speaking ability of these French learners. They received suggestions, leading questions, ideas, and obvious feedback when creating their oral narratives. The assessment which highlighted the performance differences between the first and second tests was applied as the basis for an individualized instructional program in which participants were educated in areas that had been recognized during the dynamic assessment sessions as requiring different attention.

Lantolf and Poehner (2011) studied how a K-5 Spanish teacher used dynamic assessment with a large group of students at the same time. Previously, dynamic assessment was typically used individually with one mediator and only one learner. They integrated dynamic assessment into daily lessons without changing instructional objectives or curricular aims by teaching within the ZPD of students to encourage development of subject/adjective agreement in Spanish and increased positive effects in encouraging the group's ZPD.

Davin (2011) examined the use of Group DA to classroom (a combination of fourth and fifth grade elementary Spanish students) where students measured interrogative use and formation. Findings showed that although some students moved from supported to unsupported performance during large group DA, other students needed peer mediation offered during small group work to improve inquiring use and formation.

Tajeddin and Tayebipour (2012) examined the effect of dynamic assessment on Iranian students' acquisition of practical skills. They found that dynamic assessment has been more effective than non-dynamic assessment in helping to learners' need of pragmatic skills.

Ghahremani and Azarizad (2013) studied the result of dynamic assessment on organization and content of Iranian students' writing process. The study implemented through providing mediation as a means of helping students to span ZPD which is recognized by the distance between them and their teacher or peers in a writing task and the researchers were trying to achieve the goal of improving their writing competence. The results show that the writing ability of the students has been developed significantly.

The study of Barzegar and Azarizad (2014) showed the positive result of dynamic assessment on the writing abilities of the learners. They found that there were no important differences prior to the start of the experiment in the learners' performance. Nevertheless, the findings showed that the experimental group had a better performance than the control group because of the implementation of dynamic valuation as the midterm exam."(p. 112).

Lastly, Taghizadeh and Bahrami (2014) studied the effect of DA as an assessment and instructional tool on lexical inferencing ability of Iranian EFL learners. The findings showed that both DA of lexical inferencing and teaching lexical inference strategies caused an important difference between the pretest and posttest of both groups, control and experimental.

Methodology

Participants

First, 120 learners from two language institutes in Tehran, Iran, were selected non-randomly. They ranged between 19-28 years of age. Based on the Oxford Placement Test (OPT) results, the selected participants included those whose scores fell between (+1) standard deviation. They were divided into experimental and control groups. Thus, the total number of control group and experimental group came to 80 participants, 40 each.

Instruments and materials

Oxford Placement Test (OPT)

In order to check the level of general language proficiency of the participants at the beginning of the study, and to find out a homogenous sample, an Oxford Placement Test (OPT) was used. The items of the OPT test were taken from 'Longman Complete Course for the TOEFL Test by Philips (2016).

English modal verbs pretest and posttest

Firstly, a list of English modal verbs were given to a panel of experts to identify English modal verbs to be utilized for the purpose of this study. Following that, an English modal test was designed based on selected modals. To assure the content validity of the constructed test, the researcher appealed to expert opinion. To this aim, three PhD holders in the field of TEFL reviewed the test items and commented on the faulty items.

Data collection

First, the OPT was administered among 120 language learners in English classes at two language institutes in Tehran, Iran. The allotted time for this test was 100 minutes. Then, based on the results of the placement test, 80 students, who got similar scores, were first divided into two equal groups. That is to say, the participants scoring one standard deviation (+1SD) above the mean and one standard deviation (-1SD) below the mean were selected. Then, a list of 10 English modal verbs was given to a panel of experts to identify English modal verbs which were utilized for the purpose of the study. Following that, a pretest was designed based on these English modal verbs.

The whole treatment lasted 10 sessions. To this end, in every treatment session English modal verbs incorporated in the initial test were presented to the learners. The experimental group taught via dynamic assessment received treatment in the following steps in line with Pohener (2004). Though, it must be noted at the very outset that, according to Pohener (2004), intending to mediate development in the L2 classroom entails being open to providing any form of mediation learners require without concern for standardization of the procedure or adherence to a set repertoire of mediating techniques. Having finished the 10 sessions, the pretest devised by the researcher was administered immediately after the treatment as posttest to both groups to test their learning English modal verbs.

Data analysis

To investigate the research question in the present study, first, both descriptive and inferential statistics were administered. Furthermore, to ensure the normality distribution of data set one-sample Kolmogorov-Smirnov test was run. Further, to answer the research question, the independent sample t-test was conducted. The descriptive statistics of two groups are illustrated in Table 1.

Table 1.

Descriptive statistics of experimental and the control groups in the post-test

Groups	Mean	Std. Deviation	Std. Error
EG	81.04	2.451	.12
CG	77.15	1.255	.11
Total	79.25	1.853	.115

To ensure the normality of data distribution, One-Sample Kolmogorov-Smirnov Test sets of scores was run. Table 2 demonstrates the results of this test.

Table 2
One sample Kolmogorov-Smirnov Test

		Posttest in Control Group	Posttest in Experimental Group
N		40	40
Normal Parameters[a,b]	Mean	77.15	81.04
	SD	1.255	2.451
Most Extreme Differences	Absolute	.367	.354
	Positive	.367	.284
	Negative	-.233	-.354
KolmogorovSmirnovZ		.367	.354
Asymp. Sig. (2-tailed)		.216	.374

Test distribution is Normal.

Calculated from data.

As it is shown in Table 2, p-value for both sets of scores was higher than 0.05. Thus, the scores were normally distributed and the parametric test of independent sample t-test could be appropriate to be administered.

Table 3
Independent Sample T-test results

Groups	N	Mean	SD Levene's Test for	t-test for Equality of Means	Equality of Variances	F	Sig.t df.	Sig. (2-tailed)
EG	40	81.04	2.451	12.002	0.001	2.494	79	0.014
CG	40	77.15						

As it can be seen in Table 3, the mean of the experimental groups who were taught via dynamic assessment on both congruent and non-congruent English modal verbs is 81.04, and that of the control group is 77.15 with the level of significance of .001. Since the level of Sig. is less than 0.05 set for the study, $F(1, 87) = 12.002$, $p<.05$), thus, it is concluded that there was a significant difference between two groups' performance in the posttest, thereby answering the research question, and the null hypothesis was selected.

Results and discussion

The current study investigated whether dynamic assessment had any significant effect on learning English modal verbs by Iranian EFL learners. The results of independent sample t-test revealed that the dynamic assessment instruction had a significantly positive effect on learning English modal verbs of the experimental group. In fact, the performance of the participants enhanced due to the dynamic assessment.

The findings of the current study were in line with the results of a number of studies in this area (Hessamy & Ghaderi, 2014; Oskoz, 2013). Relating the results of the current study with those of previous studies would be useful to get a better understanding of the effect of dynamic assessment on language skill in general and English modality particularly. Nevertheless, it should be noted here that while dynamic assessment has been emphasized in many studies, its result in English modal verbs has not been examined appropriately. For example, a few studies studied the effect of dynamic assessment on EFL learners' reading comprehension, writing, speaking, listening comprehension, EFL learners' vocabulary learning. Instead, few studies have been done in the area of modal verb learning in ESL/EFL frameworks. This means that the present research provided evidence in the area needed for more studies.

Conclusion

Indeed, most of earlier DA based studies have focused on the structural linguistic analysis, while more recent studies have mostly adopted cognitive linguistic analysis in their educational instructions. Since cognitive linguistic analysis is mostly based on individuals'' commonly shared mental and/or experiences, it may be most on line with DA. It is recommended that more DA studies might study different lexical concepts (i.e., English modal verbs) by applying cognitive linguistic analysis. Additionally, more longitudinal DA research is needed to provide a comprehensive picture of English modal verbs learning in Iranian EFL learners. Most recent DA studies mostly study the immediate influence of DA, but have not considered the learners' performance and learning after a longer time. A longitudinal research might not only inform the educational practices but also focus on the acquisition and understanding of new English modal verbs. Further, the findings of DA studies like the current study would have practical and theoretical implications for the EFL/ESL teachers and learners, as well as the curriculum designers.

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Editor's Note: When we make extensive use of technology, we should periodically check these tools to be sure they continue to meet our educational objectives.

User Feedback of Modular Object Oriented Dynamic Learning Environment (MOODLE):
A study of twelve Pacific Island countries

Shavneet Sharma

Fiji

Abstract

The main aim of this paper is to look at the students' feedback on the design aspects of MOODLE at the University of the South Pacific (USP). The paper found that majority of the users were satisfied with the design of MOODLE; however, some users indicated issues in the areas of content, design and layout. This paper is useful for tertiary institutions, instructional designers and educators to understand how the MOODLE environment can be better set up to facilitate the needs and preference of users.

Keywords: university, Fiji, higher education, MOODLE

Introduction

The teaching and learning environment has undergone rapid changes with the appearance of new technologies. Learning management systems (LMS) have become the mainstream technology for accessing, communicating and delivering content to students (Black, Dawson, & Preim, 2008; Schaffhauser, 2010). MOODLE is an open source LMS that has been widely adopted by universities all over the world. It is also referred to as a virtual learning environment (VLE) or course management system (Bamiah, Brohi, & Chuprat, 2012). MOODLE currently has 79,291 registered sites in 234 countries, facilitating 12,516,194 courses with around 107,158,467 users (Moodle.net, 2017).

Despite the increase of e-learning applications such as MOODLE increasing at universities, little is known about students' expectation and experiences. Recent research has focused on specific aspects of students' experiences such as characteristics of the course, learning using specific applications or interactions with the educator (Engelbrecht, 2005; Alexander & Golja, 2007; Coates, James, & Baldwin, 2005; Marikar, Kotelawala, & Jayarathne, 2016).

The aim of this paper is to evaluate students' feedback of MOODLE at USP to determine the preference and suitability of students to address the gap in literature.

Methodology

This survey was set up on MOODLE in March of 2015 and an invitation to participate was sent out to the users (all registered students, administrative staff and faculty) of MOODLE. Participation in this survey was purely voluntary. This survey focused on three main areas. These were the home page, "My Course" page and the course pages. Information for this paper was collected from a report by Totaram & Chief, 2015.

Findings and discussion

There were a total of 3,745 responses received from this survey. Of the 3,745 responses, 43 percent were respondents were males (n=1,611) while 57 percent (n=2,134) respondents were female.

The respondents for this survey were from all the 14 USP campuses across 12 Pacific Island countries. The breakdown of respondents by campus are as follows:

Campus	Number of Responses	Percentage (%)
Alafua	127	3.4
Cook Islands	17	0.5
Kiribati	90	2.4
Labasa	156	4.2
Laucala	2411	64.4
Lautoka	248	6.6
Marshall Islands	17	0.5
Nauru	5	0.1
Niue	3	0.1
Solomon Islands	260	6.9
Tokelau	7	0.2
Tonga	172	4.6
Tuvalu	43	1.1
Vanuatu	189	5.0

MOODLE URL

The respondents were asked to write down the URL to access MOODLE directly. Around 47 percent of the students could correctly type out the MOODLE URL. This implies that about half the students could access MOODLE directly by typing the Moodle URL in their web browsers while the other half use the assistance of a "landing page", such as USP Homepage, that provides links to MOODLE.

Overall MOODLE Site Design

The main focus of the survey was to gather feedback from users on the design aspects of MOODLE. The questionnaire was designed to capture feedback on the different components of Moodle: the Homepage, My Courses page and Course page. Users were also asked to provide feedback on the overall Moodle design.

Aesthetics

The respondents were asked to rate the aesthetics of the MOODLE site. 10 percent of the respondents considered that MOODLE was aesthetically poor, 16 percent of the respondents consider MOODLE to be aesthetically good while about 74 percent of the respondents considered MOODLE aesthetically very good.

To further validate the user perception, Respondents were also asked to rate the look of the overall Moodle site. A Likert rating scale of 1 – 5 was used, where 1 was poor and 5 was Very Good. The average rating was 4.0 out of 5.0. Seven percent of the respondents gave low (poor) ratings, while 70 percent gave a rating of 4 and above (very Good).

Ease of use (Usability)

Respondents were asked to rate the usability of the overall MOODLE site. A Likert rating scale of 1 – 5 was used, where 1 was poor and 5 was very good. The average rating was 4.2 out of 5.

MOODLE Homepage

Login

The respondents were asked about the ease of logging into MOODLE. 97 percent of the respondents stated that it was easy to log into MOODLE.

Layout and Design of the Home Page

There were a total of 1,823 comments received about the layout and design of the homepage. The comments were grouped into "positive", "negative" and "suggestions".

Positive:

75 percent of the respondents were satisfied with the layout and design of the homepage. The respondents used words such as "attractive", "professional" and "user friendly" to describe the homepage

Negative:

5 percent of the respondents were not satisfied with the layout and design of the homepage. Comments such as "dull" and "needs attractive design" were used to describe the page.

Suggestions:

7 percent of the respondents provided suggestions to improve homepage. The common suggestions were to:

- Incorporate Pacific elements of design into the MOODLE homepage
- Move the login box to the left side of the page
- Include inspirational/motivational quotes on the home page

My Course Page

Ease of current semester course identification

The respondents were asked if they were easily able to identify their current semester courses on the course page. 96 percent of the respondents stated that they were easily able to identify the courses while four percent of the respondents faced difficulties.

Ease of previous semester course identification

The respondents were asked if they were easily able to identify their previous semester courses on the course page. 95 percent of the respondents stated that they were easily able to identify the courses while five percent of the respondents faced difficulties.

Faculty Color Tags

The respondents were asked if they found the colour tags of different faculties at USP useful. 94 percent of the respondents stated that they were useful while six percent of the respondents did not find it useful.

Comments on the Layout and Design of the "My Course Page"

There were a total of 1,334 comments received about the layout and design of the "My Course Page". The comments were grouped into "positive", "negative" and "suggestions".

Positive:

83 percent of the respondents found the layout and design of the "my course page" to be clear and easy to use.

Negative:

Two percent of the respondents were confused with the layout and design of the "My Course Page".

Suggestions:

Six percent of the respondents provided suggestions to improve the "My Course Page". The common suggestions were to:

- Include a heading to distinguish courses taken in different semesters
- Ensure that students had access to all the courses taken by the students previously. Respondents stated that they were missing some courses from the prior semesters.

Course Page

Aesthetics

Respondents were asked to rate the course pages on MOODLE. 12 percent of the respondents considered the course pages to be aesthetically poor, while 69 percent of the respondents considered the course pages to be aesthetically very good.

Ease of locating and accessing information on the course page

91 percent of the respondents indicated that they were easily able to locate and access information on the course page.

Font size used in the course pages

93 percent of the respondents considered that the font size used on the course page to be good, 6 percent found the font to be too small to read while 1 percent of the respondents found the font size to be too big.

First thing to view/access on course page

Respondents were asked to state the first thing that they wished to view when they accessed their courses page on Moodle. A total of 2,937 comments were received. The main areas identified from the comments were as follows:

- Notifications and news updates
- 44 percent of the respondents preferred to have the latest announcements, notifications and updates as the first things on the course page.
- Current course content/activities
- 32 percent of the respondents preferred to have the current weeks activities and resources displayed first when they accessed the course page.   Respondents did not wish to scroll and find the current week's content on the page.
- Assessment information

- ▪ 10 percent respondents preferred that details about the assessment activities of the course be located first on the course page. Respondents also stated that the due dates and submission instructions should be clearly stated for each assessment task.

- ▪ Course Introduction

- ▪ 6 percent of the respondents preferred to see a brief description of the course as the first item on the course page.

- ▪ Others

Eight percent of the respondents stated Marksheet, course outline and brief welcome message as their preference of the first item on the course page.

What users like about the current course layout and design

Respondents were asked to state aspects of the design/layout of the course page that they liked. A total of 1,618 comments were received. The breakdown of the comments is as follows:

- ▪ 16 percent of the respondents indicated that the respondents were satisfied with the existing course page layout and design and there was no need for any changes.
- ▪ 19 percent of the respondents liked the arrangement of the course contents in weekly sections was the main aspect that respondents liked.
- ▪ 15 percent of the respondents appreciated the creative and colourful design of the course page.
- ▪ Four percent of the respondents liked being able to access the course activities, resources and announcements
- ▪ Three percent of the respondents liked the Usability (simplicity, easy to use and user friendly) of the course page.
- ▪ Forty percent of the respondents chose to give a neutral comment, neither mentioning what they liked or disliked. The remaining comments mentioned various items that were minute in nature.

Issues with the course page layout and design

Respondents were asked to state any issues that they have identified with the design and layout of the course page.

A total of 1,591 comments were received. 64 percent of the comments stated that there was any issue with the course page design while 21 percent of the comments were varied comments.

The main issues identified from the comments are grouped into the following categories:

Cluttered and Confusing design

Respondents indicated that some the course pages were cluttered with too much information. The design of some course pages was confusing to some respondents. There was a lack of instructions provided to the students. Some course pages were considered over crowded or "too wordy". Respondents indicated that they sometimes had to scroll a lot to reach the desired section of the page, hence, they suggested showing the current week's content at the top of the page.

Inconsistent layout

Several comments were made about the inconsistent layout across different course pages. The respondents stated that the arrangement of course activities and resources was different across courses. There was also mention of the inconsistent positioning of the side blocks in courses. This caused confusion and made access information difficult. The respondents suggested a uniform layout and design of all the course pages.

Overall Comments on MOODLE

There were a total of 869 comments received from respondents. These comments were divided into the following categories:

Positive Comments

66 percent of the respondents were satisfied with the overall design of MOODLE. The respondents also stated that MOODLE played a crucial role in teaching and learning at USP. Some of the respondents also acknowledged the attempts made to improve MOODLE.

Negative Comments

Seven percent of the respondents highlighted two key issues in relation to MOODLE. The first was the poor connectivity issue faced when attempting to access MOODLE. This issue was brought up for the Solomon Island campus of USP. The second issue was in relation to Turnitin. Respondents indicated that they found it difficult to open and view the Turnitin Similarity Report.

Suggestions

Four percent of the respondents suggested that the MOODLE course page has a uniform design and layout to ensure ease in locating information. Also, respondents wanted to see the Pacific design incorporated into MOODLE.

Help

Six percent of the respondents were interested in undertaking an online course to learn MOODLE if it was free of charge. Students were willing to do this so that they could learn about all the features that are part of MOODLE.

Conclusion

This paper has looked at the feedback of MOODLE users in the aspects of design and layout. It highlights strengths and areas that need improvement. The findings of the survey generally depict the positive responses of users. This reaffirms the need for further development and use of MOODLE as a tool for teaching and learning in the Pacific region.

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Editor's Note: Facebook is an effective communication tool that is widely used for social networking. It is easily adapted for educational use since it is easy to use and most students are frequent users.

Facebook as a tool for higher learning:
a South Pacific Regional University perspective

Shavneet Sharma, Jashwini Narayan and Tuma Greig

Fiji

Abstract

This research focused on the educational context of social media in a South Pacific regional university – USP (University of the South Pacific). This paper looks at how Facebook can be used for knowledge sharing, collaboration and interaction and learner-centered activities with students of different gender, age, country of origin and time spent on social networking sites. This study is useful in setting the premise for future large scale empirical research. Tertiary institutes, scholars and educators will benefit from this research.

Keywords: University, Fiji, higher-education, Facebook

Introduction

Technology Web 2.0 has revolutionized the communiqué platform, allowing tools such as social media to generate an enhanced digital approach of communication among its users, in particular the social networking site - Facebook (Calvi et al., 2010; Dba et al., 2008; Hew, 2011; Mazman & Usluel , 2010; Pempek et al., 2009; Roblyer et al., 2010; Scale, 2008). Facebook is considered to be one of the most popular choices of social media communication channels among university students because of its significant adoption rate, user friendly features (Muñoz & Towner, 2009; Roblyer et al., 2010) and ease of communication among peers (Ellison et al., 2007; Wong et al., 2001). Facebook is ranked as the most used sites among college and university students as a social communication channel as well as a tool for online educational activities (Lenhart et al., 2010), with the average users spending more than 20 minutes per day on the site (Cassidy, 2006). Majority of undergraduate students across the globe use Facebook on a daily basis (Hewitt & Forte, 2006; Kirschner & Karpinski, 2010; Madge et al., 2009; Ophus & Abbitt, 2009; Roblyer et al., 2010; Subrahmanyam et al., 2008; Wise et al., 2011; Wolfe, 2007).

In support of this Heiberger & Harper (2008, p. 19) observed that "students today network with each other using technology as much as, if not more, than, face-to-face communication." In the context of education and social media in higher education Selwyn (2012: 2) argues that

> Growing numbers of educationalist are beginning to consider the possible significance and the likely implications of social media for educational practice and provision – especially in terms of higher education.

Facebook may just as well provide a forum to benefit the learner in pursuit of higher education where the classroom environment is turned into a network of channels of knowledge sharing, collaborations and interaction among the students and teacher, hence fostering a digital approach towards learning in this technologically savvy 21st century (Maloney, 2007; Selwyn, 2009).

The remainder of this article is organized as follows. The following section presents the literature review and the importance of this study, leading to a model for this research. The next section highlights the methodology and then presents the results and discussion, highlighting areas for future research. We close off with conclusion and contributions of this paper.

Facebook as an educational apparatus

Facebook was introduced into the world of technology in 2004 by Mark Zuckerberg, a young and ambitious Harvard University student (Lampe et al., 2006; Salaway et al., 2008; Tufekci, 2008). Since its inception, Facebook has become a global phenomenon and is labelled the fastest growing online social network site (Mazman & Usluel, 2010), with over 1550 million users as of January 2016 (Statista.com, 2016). Facebook is accessible to any person over the age of 13. With a valid email address, this social site allows users to interact with others and share information pertaining to ideas, thoughts and pictures, and chatting with friends and family, making this a very popular and ideal way to communicate among university students (Alexander, 2006; Boyd et al., 2008; Ellison et al., 2011; Lampe et al., 2006; Luckin et al., 2009; Raacke & Bonds-Raacke, 2008; Salaway et al.,2008; Selwyn, 2007; Stutzman, 2006). Several studies have shown that students are also engaging in Facebook for academic purposes apart from the norm of social connectivity (Bosch, 2009; Madge et al., 2009; Mazman & Usluel, 2010; Tian et al., 2011). Ractham et al., (2012) suggest that Facebook can be used as a tool that helps boost communication and collaboration among students in the learning environment.

Research conducted in the area of Facebook and its use in education highlights that a significant peer-to peer interaction has a positive effect in enhancing a student's informal learning environment (Goodwin et al., 2010; Madge et al., 2009; Selwyn , 2009). Various studies support that Facebook is an instrumental tool for learning and activism (Bosch, 2009). Research has also found that Facebook activities help facilitate a collaborative environment where interaction among students in a virtual aspect is deemed much acceptable when compared to classroom based learning, where some students may perhaps be too shy to speak in a room full of students (Hurt et al., 2012). Similar research (Andrews et al., 2009; Reid, 2011; Ryan & Xenos, 2011) illustrates that students who rarely speak or discuss in classes, quantify this behavior to having different cultural and social backgrounds, or students are introvert in nature compared to other students, find it more comfortable to socialize on networking sites such as Facebook. Selwyn (2009) conducted a study with 909 university students and results showed that students engaged in Facebook activities for reasons such as exchanging academic information, seeking clarification from other students on various assignments, exams and sharing university experience among peers.

Another study conducted by Madge, Meek & Hooley (2009), with 213 university students found that many of the students used Facebook for social reasons, with 10 percent actually using Facebook for academic purposes and less than 1 percent using this medium to contact academic staff. This form of technology was not intended for educational purposes; Facebook is a social networking site that allows for a wide spectrum of communication and marketing activities (Selwyn et al., 2008). However, the manner in which it operates influences the students and can greatly benefit the learning and teaching practices of the new technology savvy educational systems (Hamid et al., 2014). According to Mason (2006), social networking sites have become a channel in the educational sector to assist students with the learning process. Educational institutions such as Florida University uses Facebook as a means of teaching and learning. The University of Michigan uses Facebook to communicate academic information to its students and this creates a collaborative and interactive environment for students and academic staff outside of the normal classroom setting (Boyd et al., 2008; Cassidy, 2006; Schwartz, 2009; Selwyn, 2008).

Key factors and features

Three key factors will be investigated in this research to ascertain and understand the role of Facebook as a tool for higher learning at the University of the South Pacific. The first factor being *knowledge sharing,* second *collaboration and interaction* and third *learner centered activities*. According to Ipe (2003), *knowledge sharing* occurs when as individual's knowledge is portrayed

or shared in a manner that is understood and used by other individuals. Cummings (2004) also highlights knowledge sharing as a process where individuals are facilitated by others to understand concepts, examine problems, and cultivate new ideas and knowledge.

Collaboration and interaction is integral to learning as this "forms a relationship among members of one cohort and this is regarded as an important part in facilitating a learning environment, thus one could argue that Facebook accommodates such an interaction among peers" (Hargittai, 2007, p.291). Chu and Meulemans (2008) mention that students use Facebook as a means to communicate with fellow students in a discussion forum to air out matters relating to course content, assignment and lectures. ***Learning center activities*** encompass online assignments, quizzes, projects, group discussion, open forum discussions that students engage in to activate their intellectual skills, cognitive skills and motor skills (Gagne et al., 1988). To achieve the learning outcomes, these learner centered activities allow students to engage and seek assistance from their peers and lecturers pertaining to matters of that module or course (Handelsman et al., 2004).

The use of Facebook as an educational tool can be well putative and influenced by various underlying features such as students age, gender and prior use of online technology. Studies have shown that with respect to age the younger generation are more inclined to using Facebook in an educational context because they are more familiar with the use of internet, Web 2.0 technology and social media compared to the older generation (Greenhow et al., 2009; Zickhur et al., 2012). This is supported by Liu (2010) and Prensky (2001) who highlighted that students who are digital natives are more prone to accept the new form of learning through Facebook and an education system should consider how the students can learn in a more conducive technology savvy era. With regards to gender and Facebook use, studies have shown that female students are more socially engaged compared to males and this allows them to be more apt to use Facebook as a means to pursue academic matters (Dindia & Allen 1992: Fallows, 2005).

Numerous studies have been conducted in areas such as Facebook and its social benefits (Ellison et al., 2007; Morris & Millen, 2007; Zhao et al., 2008) student's perceptions of social media use in communication (DeSchryver et al., 2009; Hewitt & Forte, 2006; Special & Li-Barber, 2012), students' attitude towards learning in a digital era Mazer et al (2007), social media tools in higher education (Chen & Bryer, 2012; Liu, 2010; Selwyn, 2012; Silius et al., 2011). However, only a small fraction of these studies linked the use of Facebook to educational tool /apparatus for higher learning and reflected this in the South Pacific learning environment. Our research focuses on the educational context of social media in the South Pacific. The University of the South Pacific is an elite, innovative and technologically savvy institution, that helps educate twelve Pacific Island Country students. It is' the premier regional university in the South Pacific region' (Naz et al., 2015, p. 86). It was established in 1968 and is divided into three faculties: The Faculty of Business and Economics; The Faculty of Science, Technology and Environment, and The Faculty of Arts, Law and Education. "USP is one of the [only] two regional universities in the world…" (Naz, Singh, Narayan, Prasad, & Devi, 2015, p. 87). This research aims to investigate the use of Facebook as an education tool to help enhance the learning environment among the twelve Island states' (Fiji, Cook Islands, Nauru, Kiribati, Marshall Islands, Samoa, Niue, Tuvalu, Solomon Islands, Tonga, Tokelau and Vanuatu) students studying at the university. The finding will colossally add to the limited literature of social media and education development in the South Pacific region. As per this paper's research question and in keeping consistency with the literature reviewed, this paper suggests the following model:
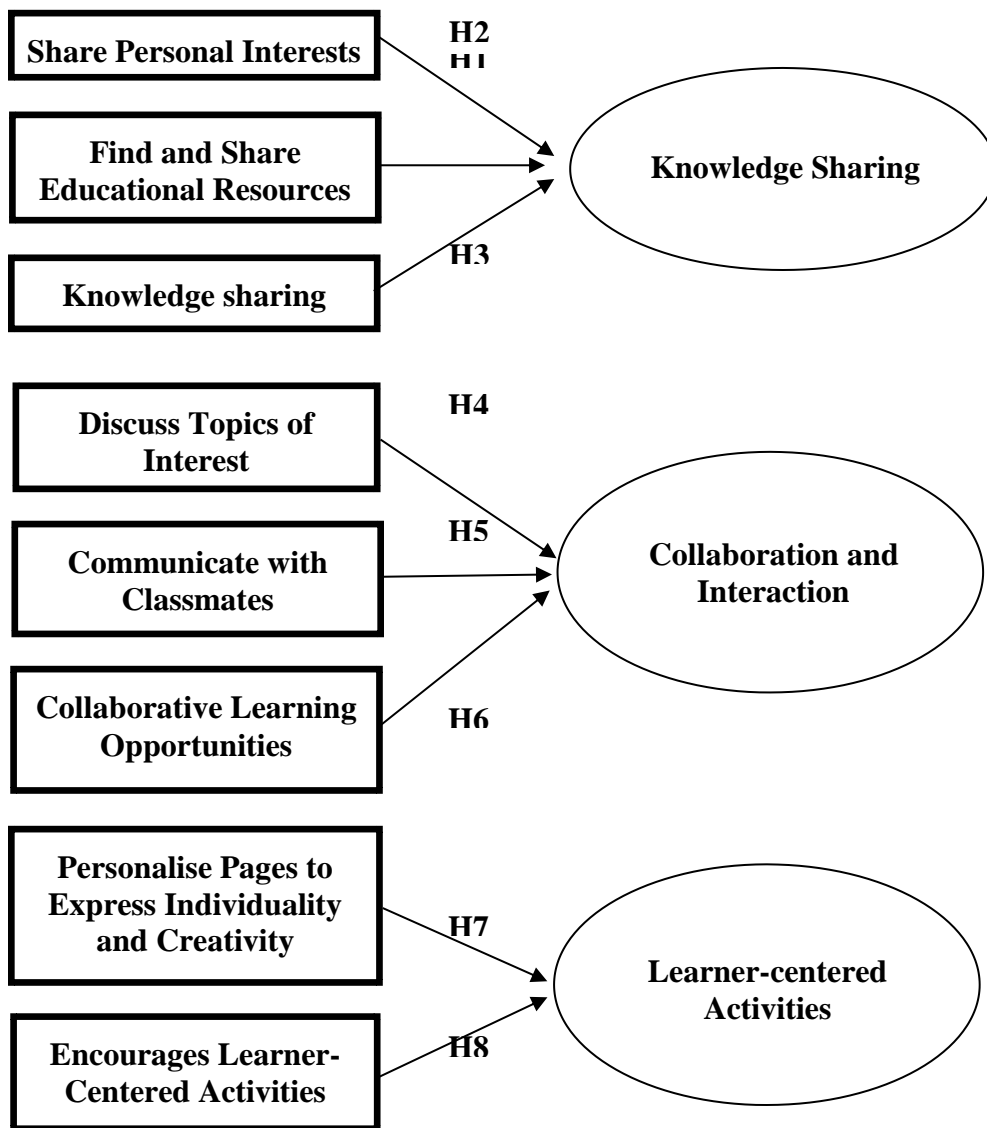
Figure 1: Factors affecting enhanced higher learning prepared by Sharma, Narayan and Greig for this paper.The model is largely adapted from the work by (Barczyk & Duncan, 2013)

The following hypotheses are formulated for this study:

H1: Sharing personal interests through Facebook positively affects knowledge sharing
    H2: Finding and sharing educational resources through Facebook positively affects knowledge sharing

H3: Knowledge sharing through Facebook positively affects knowledge sharing

H4: Discussing topics of interest through Facebook positively affects collaboration and interaction
    H5: Communicating with classmates through Facebook positively affects collaboration and interaction
    H6: Collaborative learning opportunities through Facebook positively affect collaboration and interaction

H7: Personalising pages to express individuality and creativity through Facebook positively affects learner-centered activities

H8: Facebook encouraged learner-centered activities positively affect learner-centered activities

Methodology

Participants

As of Semester 1, 2017 there are 13,428 students enrolled at the University of the South Pacific (University of the South Pacific, 2014). The questionnaires were given randomly to students in the School of Management and Public Administration (SMPA) in the largest campus in Fiji (Laucala campus). SMPA is the largest school in the largest faculty of this university. 300 questionnaires were administered to students enrolled in two core management courses of the School of Management in the Faculty of Business & Economics of USP. The authors of this paper are involved in teaching these core courses and have an easy reach of participants

Procedures

This study was conducted in line with all ethical considerations. The researchers solicited the voluntary consent from the survey participants. Those who gave their voluntary consent were given the questionnaire to complete. They were informed that their participation will not affect their grades in the respective courses. All the survey participants were also informed about the purpose of the study and were made aware of their right to withdraw from the study at any time.

Statistical procedure

Data collected through the use of questionnaires were coded by the researchers. A unique identification number given to each questionnaire helps to keep track and saves time. The Statistical Package for the Social Sciences (SPSS) software was used to create a data file which contained the coded responses to closed questions on the questionnaire for the purpose of analysis. In cases where the data was missing, the spreadsheet was left vacant. Statistical analyses of the data were executed using SPSS Version 23.

Results and discussion

Of of the 300 questionnaires that were administered to students, 251 questionnaires were received. Of these 251 questionnaires, 234 respondents (93.2%) were members of Facebook while 17 respondents (6.8%) were not members. This gives a response rate of 84% and non-response rate of 16%. This response rate was deemed adequate for further analysis to be carried out in line with the recommendation of Fan & Yan (2010) who stated that any response rate of above 80% is adequate for analysis with self-administered questionnaires.

Demographic profile of students

Of the 234 respondents who were members of Facebook, 39.3% were male (n = 92) and 60.7% were female (n = 14). Of the total respondents, 47.8% (n = 215) were enrolled in Face-to-face mode unit, 21.1% (n = 95) were enrolled in the Print mode unit, 15.6% (n = 70) were enrolled in a Blended mode unit and 15.6% (n = 70) were enrolled in Online mode unit. 48% (n = 48) of the respondents were less than 20 years old, 70.5 % (n = 165) were between 21 and 30 years old, and the remaining 9 % (n = 21) represented age groups older than 30 years.

Frequency distribution of students' Facebook usage

Of the 234 respondents, 7.7% (n = 18) stated that they spend less than 10 minutes per day on Facebook, 11.1% (n=26) stated that they spend between 10 to 20 minutes, 17.1% (n = 40) stated that they spend between 20-30 minutes, 21.8% (n=51) stated that they spend between 30 minutes

and 1 hour while the remaining 42.3% (n=99) stated that they spend more than 1 hour on Facebook daily.

Frequency distribution of classmates on Facebook

When asked how many of their Facebook friends were taking the same courses at the university as them, 4.3% (n=10) respondents stated that they did not have any friends on Facebook who were taking the same courses as them, 29.9% (n=70) students stated that they had some friends, 26.5% respondents (n=62) stated that they had quite a lot of friends on Facebook, 23.1% (n=54) stated that they had a huge circle of Facebook friends while 16.2% (n=38) stated that all of their friends who were taking the same course as them were their Facebook friends.

Student preference of course instructors present on Facebook

78.6% (n=184) respondents preferred that their course instructors was also present on Facebook while 21.4% (n=50) respondents did not prefer to have their course instructors present on Facebook

Student preference of Facebook as a communication tool

79.1% (n=185) respondents preferred Facebook as a means of communication with students while 20.9% (n=49) did not prefer Facebook as a means of communication with them by the instructors.

Student preference of Facebook as a tool for teaching and learning

72.2% (n=169) of the respondents preferred Facebook to be used as a tool for teaching and learning while 27.8% (n=65) preferred otherwise.

Cronbach's alpha results

		Number of items	Cronbach's Alpha
Research Variables	Knowledge Sharing	3	.699
	Collaboration and Interaction	3	.761
	Learner-centered Activities	2	.721
	Overall	8	.855

Looking at the Cronbach's alpha results of the three variables, it can be said that the internal consistency reliability of the variables used for this study is high and considered very good. All the Cronbach alpha result was more than 0.80. According to Brown (2014), if the score is above 0.80, there is adequate internal consistency reliability. As such, the survey instrument employed was deemed to be reliable.

By running descriptive statistics, mean and standard deviation were calculated for each attitude of students towards Facebook.

According to descriptive statistics, "Facebook allows me to communicate with classmates" purpose of Collaboration and Interaction had a higher score (Mean= 4.39, standard deviation= 0.785) than other statements – making this the most significant purpose. The second statement of "Facebook allows me to hold forums to discuss topics of interest" again of Collaboration and Interaction (Mean= 3.99, standard deviation= 0.896) appears the second most significant purpose. All of the above support the findings of Ractham et al., (2012) who suggest that Facebook helps boost communication and collaboration among students.

Frequency distribution of student attitudes towards Facebook

Knowledge Sharing	SD	D	N	A	SA	M*	SD
H1 Facebook allows me to share my personal interests.	2	7	60	93	72	3.97	0.873
H2 Facebook allows me to find and share educational resources.	5	16	70	101	42	3.68	0.919
H3 Facebook promotes knowledge sharing.	6	9	63	105	51	3.79	0.833
Total	13	32	193	299	165	3.81	0.875
Collaboration and Interaction							
H4 Facebook allows me to hold forums to discuss topics of interest.	2	11	50	96	75	3.99	0.896
H5 Facebook allows me to communicate with classmates.	1	6	20	81	126	4.39	0.785
H6 Facebook provides collaborative learning opportunities.	2	12	74	96	50	3.77	0.873
Total	5	29	144	273	251	4.05	0.851
Learner-centered Activities							
H7 Facebook allows me to personalize pages to express individuality and creativity.	3	7	46	115	63	3.97	0.839
H8 Facebook encourages learner-centered activities (such as, on-line assignments, quizzes, projects, group discussion and open forum discussion.	7	23	65	84	55	3.67	1.035
Total	10	30	111	199	118	3.82	0.937

SD= strongly disagree; D= disagree; N= neither agree nor disagree; A= agree; SA= strongly agree
* $N = 234$

Overall, according to results, attitude statements related to collaboration and interaction had a higher mean score (4.05) than knowledge sharing and learner-centered activities, making Collaboration and Interaction the most significant of the three. As seen in the previous table, the statements related to the educational purpose of Facebook use, were considered closer to "agree".

Student attitude according to demographics

		Gender		Age		Country of Origin		Time Spent on Facebook	
		F	*p*	*F*	*p*	*F*	*p*	*F*	*P*
	Knowledge Sharing								
KA	Facebook allows me to share my personal interests.	1.135	.341	1.683	.155	1.268	.283	8.484	.004**
KB	Facebook allows me to find and share educational resources.	.293	.883	.428	.788	.667	.615	2.629	.035*
KC	Facebook promotes knowledge sharing.	.686	.602	1.057	.379	.823	.511	1.911	.110
	Collaboration and Interaction								
CA	Facebook allows me to hold forums to discuss topics of interest.	1.153	.333	.614	.653	2.497	.044*	.312	.870
CB	Facebook allows me to communicate with classmates.	.540	.707	.894	.468	.974	.423	4.284	.002**
CC	Facebook provides collaborative learning opportunities.	1.587	.179	1.518	.198	3.469	.009**	1.711	.148
	Learner-centered Activities								
LA	Facebook allows me to personalize pages to express individuality and creativity.	.818	.515	1.864	.118	1.990	.097	1.157	.331
LB	Facebook encourages learner-centered activities (such as, on-line assignments, quizzes, projects, group discussion and open forum discussion.	.805	.523	.724	.576	1.157	.331	.048	.996

∗p < 0.05; ∗∗p < 0.01

Unusually, our study did not find gender a significant factor; there were no significant differences, unlike prior studies such as that of Dindia & Allen (1992) and Fallows (2005) who claimed that female students were more socially engaged in using Facebook. This maybe because of the increasing popularity of Facebook over the years when compared to the past decade. The current situation may not reflect accurately at decade old findings. Also, our research focused on students of a particular discipline – management, when compared to other studies such as, Barczyk & Duncan, 2013; Madge et al. 2008, 2017 and Selwyn, 2009 which included students of different disciplines. Management studies is equally popular among males as well as females, unlike some male dominated courses like IT and engineering. Despite a larger percentage of our survey respondents were females. We thus suggest that future research test this factor in specific disciplines.

Our study also did not find the age factor significant as there were no significant differences, unlike previous studies (such as Greenhow et al., 2009; Liu, 2010; Prensky, 2001; Zickhur et al., 2012) that highlighted the younger generation or the digital natives as more likely to use Facebook than the older generation. However, it should be noted that in our research, a mere 9 percent were above the age of 30 while the majority were between 21-30 years of age and the latter age group is more comfortable with technology – this being a limitation in our study when testing the age factor. Age was not the key focus of our study though. In light of this, we suggest that this factor be again looked into by future researchers, focusing on different age brackets including a higher percentage of above 30 aged survey participants.

As for country of origin, according to ANOVA results, there were significant differences only for CA (Facebook allows me to hold forums to discuss topics of interest) and CC (Facebook provides collaborative learning opportunities), the rest were insignificant. Inclusion of this factor is one of the key contributions of this study since a study on this factor is largely absent in the subject matter. And, the significance of the mentioned two purposes - new finding, warrants further research. Potential research can test this factor in different disciplines, different faculties or even an entire university.

For time spent on Facebook, according to ANOVA results, there were significant differences only for KA (Facebook allows me to share my personal interests), KB (Facebook allows me to find and share educational resources) and CB (Facebook allows me to communicate with classmates), the rest being insignificant. Future research can also continue to test this factor since over the years, as universities embrace social media, time spent on Facebook may differ.

Concluding remarks and direction for future research

This research focused on the educational context of social media in a South Pacific regional university – USP. The research was conducted in the largest campus of Laucala campus and respondents were drawn from two of the largest second year courses in the discipline of management, which is the largest school in the university and is part of the largest faculty also.

The contribution of this research is as follows. First, it adds to the existing body of limited literature on Facebook as a learning tool in Higher Educational Institutes, and broadly on the use of social media in education. Second, we contribute towards the current limited research done in smaller south pacific countries. USP is a unique case, given its ownership of twelve member countries involving students of diverse backgrounds. USP is only two of such universities in the world (Naz R. , et al., 2015). Third, we contribute by adding an under-researched factor of 'country of origin'. While our study did not find gender and age significant factors, we presume that the importance of these factors may vary over the years, and as such call for researchers to continue to test these factors.

Overall, we also contribute by focusing on a set discipline while majority studies have focused on university-wide students enrolled in different courses. It is important to also test how factors vary and impact on specific disciplines. Given this, we call for more research in comparisons between disciplines and also more research on specific disciplines.

University management, social media research scholars as well as academics who use social media for their courses will benefit from this paper's findings. The study; however, should not be taken to exemplify the entire scenario of Facebook usage in higher education elsewhere. Nonetheless, it is envisaged that this study will inspire scholars to further scrutinize the subject matter with larger scale studies and in the manner suggested above.

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