THE IMPACT OF STUDENTS ATTENTION, PREPARATION AND ATTITUDE ON SATISFACTION WITH ONLINE LEARNING ZONE

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THE IMPACT OF STUDENTS ATTENTION, PREPARATION AND ATTITUDE ON SATISFACTION WITH ONLINE LEARNING ZONE

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DEDICATION

SPECIALLY DEDICATED FOR:

My Parents,
Abdul Ghani Bin Mat Derus
Zaiton Binti Yacoub
For the love, faith, support, prayers, patience, sacrifices and kindness,

My brothers,
Ahmad Muslim Bin Abdul Ghani
Abdul Hakim Bin Abdul Ghani
Akmal Bin Abdul Ghani
For the support, kindness, prayers and faith,

My supervisor,
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For their encouragement, assistance and unending generosity,

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Nur Abidah Binti Ismail
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Nor Syuhada Binti Saiddin
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Judy Anak Akim
For the prayers, wishes, being very supportive, understanding, bring joy and happiness to me and helpful also for the moments of up and down together...

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ABSTRAK

Arus perubahan teknologi telah banyak mengubah hidup pada masa kini. Pendidikan juga tidak terkecuali daripada arus perubahan teknologi. Teknologi kini memainkan peranan yang penting untuk memperkasakan lagi tahap capaian ilmu yang lebih cepat dan mudah. Perubahan-perubahan dalam sistem pendidikan Malaysia mahupun dunia telah mengambil langkah untuk menerajui bidang ilmu menggunakan capaian talian yang dipercayai dapat memberikan manfaat kepada bidang pendidikan secara amnya. Universiti-universiti di Malaysia samada IPTA mahupun IPTS telah menggunakan kemudahgunaan capaian internet untuk memberikan pelajar-pelajar ilmu dan maklumat dengan cara yang lebih berkesan serta boleh dipercayai. Oleh yang demikian, kajian ini mengkaji tahap penerimaan Learning Zone sebagai satu portal yang membantu kepada pembelajaran mahupun pengajaran. Di dalam kajian ini mempunyai tiga instrumen asas iaitu perhatian, penyediaan, sikap pengguna dan kepuasan pengguna. Ini adalah untuk mengkaji adakah perhatian dan penyediaan akan memberi kesan terhadap sikap pengguna untuk mencapai kepuasan. Responden yang terlibat dalam kajian ini terdiri daripada pelajar-pelajar UUM yang mempunyai akses kepada penggunaan Learning Zone. Seramai 349 responden digunakan dalam kajian ini untuk mencapai objektif kajian . Oleh itu, analisis korelasi dan regresi mudah telah digunakan untuk mengkaji samada perhatian dan penyediaan memberi kesan kepada sikap pengguna dan seterusnya mempengaruhi kepuasan pengguna. Secara amnya, analisis korelasi menunjukkan terdapat korelasi yang signifikan dan positif secara kuat antara pembolehubah perhatian terhadap sikap pengguna; penyediaan dan sikap pengguna terhadap kepuasan pengguna.

ABSTRACT

Changes in technologies have changed our lives. Education field was not exempted from the current technological changes. Technology now plays an important role to improve accessibility in seeking knowledge and wisdom much faster and easier. The changes of Malaysia's education system and worldwide generally have taken steps to lead the field in using trusted online access to benefit the education sector. Public and private institutions in Malaysia have been taking advantage from ease of internet access to provide its students with more secure and reliable information more efficiency. Therefore, this study is to examine the level of acceptance using Learning Zone as a portal that helps learning process. In this study, three basic instruments of attention, preparation, attitude and user satisfaction (US) that use as to explain Learning Zone. Furthermore, this study examined whether attention and preparation will have an impact on the attitude to achieve satisfaction. Students of Universiti Utara Malaysia (UUM) which have access of using Learning Zone have been selected to participate in the study. A total of 349 usable data provide by the respondents is being used to achieve the objectives of the study. To empirically establish three objectives, correlation and regression analysis were used to examine whether attention and preparation will have any impact on user satisfaction. Evidently, the correlation analysis shows that there is a significant and strong positive correlation between attention, preparation, and attitude towards user satisfaction.

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LIST OF ABBREVIATIONS

ICT	Information and Communication Technology
IT	Information Technology
LC	Learning Care
LMS	Learning Management System
LZ	Learning Zone
MOODLE	Modular Object-Oriented Dynamic Learning Environment
TRA	Theory of Reasoned Action

CHAPTER 1

INTRODUCTION

1.0 INTRODUCTION TO THE STUDY

This chapter covered the introduction of study which consists of the background of the study, problem statement, research objectives, research questions, scope of the study, significance of the study, and organization of remaining chapters on this research.

1.1 BACKGROUND OF STUDY

Technology is utilized more than ever to deliver instructional material to the learner. It is troublesome to discover a higher instruction course that does not utilize or exploit innovation somehow (Longley, Dennis, Shain & Michael, 1985). Technology also changing at a phenomenal rate and without the correct hardware set up; one stands the danger of being abandoned (de Freitas & Oliver, 2005).

Furthermore, one of the technologies that have been use in the global is internet. The web is the biggest, most effective workstation organizes on the planet. It includes a few million machines with web addresses that are utilized by a large number of individuals around the globe (Kuiper et al., 2005). Internet has become an important element in many aspects in our life routine, including learning process while in the university. With the increasing of internet users day by day, its power has become infinity and unlimited.

Through globalization internet contribute usefulness and ease of use to users around the world in searching for business opportunities, information, weather analysis, news and etc. (Manochehr, 2006). Internets also help people to give more attention and make a preparation before do something. Thus, as increasingly more colleges, universities, elementary and secondary schools, companies and private natives unite with the web; more conceivable outcomes are opened for separation instructors to overcome time and separation to achieve learners. Through the web, all wellsprings of data on diverse subjects are accessible at whatever time and anyplace (Manochehr, 2006).

However, the utilization of Web technology in learning settings has started to change the substance of instruction. The World Wide Web has turned into a valuable instructional medium and has furnished learners with new taking in encounters that were not a while ago conceivable (Passerini and Granger, 2000) . In a Web-nature's turf, at whenever and wherever, 24 hours a day, 7 days a week, students with the assistance of an Internet connection, can accept guideline, form and submit assignments, and make inquiries for their teachers and individual people (Becker and Dwyer, 1994) . They can eagerly take an interest in class discourse from home, office, or any closest computer lab.

However, Information Technology (IT) is in its broadest sense incorporates all parts of processing innovation. Also, IT as a scholastic order is concerned with issues identified with supporting for clients and helping inside an authoritative and societal connection through the choice, creation, requisition, joining and organization of figuring. Information and communication technology (ICT) empower the members especially instructors

and learners to collaborate in area of expertise (Zhang, 2005). The e-learning is also one of the IT, it is in includes employments of system innovations to make, encourage, convey, and encourage taking in, at whatever time and anyplace (Rosenberg, 2001).

Furthermore, educators will plan and give substance and taking in materials. These materials might be customized to the learners' need. The people or the learners will then associate with the course content. The cooperation structures a learning offering environment that enlarge the customary showing and taking in area of expertise. Meanwhile, Learning Zone is a technology that works in the web or as a stand-alone application (Robling et al., 2008) that fall under learning management system (LMS).

Learning Management System (LMS) is one of the Knowledge Management devices that help e-learning (Ronen, Kohen-Vacs & Raz Fogel, 2006). LMS might be utilized to sort out and give access to web taking in administrations where people, educators and directors are the fundamental client (Gaudioso et al., 2009). Learning Zone ((LZ) is created based on Modular Object-Oriented Dynamic Learning Environment (Moodle) using learning management system (LMS). LMS is designed for the purpose of online education (Robling et al., 2008). LMS has widely been used as a means to improve the educational services and also to reduce educational cost (Haruna, 2010).

As internet become so important nowadays, University Utara Malaysia also does not want to miss the opportunity to provide faster and easier learning process methods to its students by creating a portal called Learning Zone (LZ),

previously called Learn Care (LC) to gain competitive advantage among universities in Malaysia. Learning Zone has been operating for many semesters by the time researcher perform the research.

Moreover, the function of Learning Zone is to upgrade UUM's student adapting by giving an online environment to convey materials and support coordinated effort and collaboration both inside and outside the classroom. Learning Zone also hopes to give an extent of purpose to its people to consider content creation and conveyance, communication, joint effort and appraisal (Robling et al. 2008). With LZ, users can immerse themselves with the learning environment to further enhance their learning experience (Menkhoff, Thang, Chay & Wong, 2011). Furthermore, Learning Zone can be access through internal and external network using internet connection anywhere and anytime to perform task such as discussion in the forum, assessment duration, notes and download presentation slides.

An advantage of using Learning Zone is that it gives a professor or lecturer an objective means to track participation. With this technology, all students, even those who do not like to speak up in class, have the ability to get involved, participate, and provide their opinions and answer questions. “When properly used, Learning Zone can make the classroom experience more engaging and enjoyable for students and therefore generate improved attendance levels” (Lincoln, 2008). Nelson and Hauck (2008) noted that with large classes it is nearly impossible to take attendance, conduct in-class activities, and utilize in-class surveys without the use of Learning Zone.

Table 1.1:

Usage for UUM's Learning Zone

Months	Page views	Messages	Users
January 2013	237,000	1	13,300
February 2013	764,000	0	14,800
March 2013	991,000	1	15,200
April 2013	988,000	2	15,600
May 2013	1.03Million	0	15,600
June 2013	663,000	3	15,100
July 2013	74,600	2	6,190
August 2013	92,800	1	5,490
September 2013	1.45Million	8	16,600
October 2013	1.15Million	4	16,200
November 2013	955,000	0	16,100
December 2013	953,000	1	15,600

Source: http://www.learningzone.uum.edu.my

Table 1.1 shows that Learning Zone achieving its peak when the class is on which students access Learning Zone a lot for their study needs while only small amount of students use Learning Zone during semester break for an example at the month of August 2013. From the table we can conclude that UUM student is influenced to use Learning Zone for study needs as the resources from Learning Zone helps them to retrieve information and improve study. As shown above in table 1.1, page views and users of Learning Zone consistently reduce from October 2013 to December 2013. This is an indication of lower satisfaction with Learning Zone.

This paper contributes to the literature by addressing the usefulness and impact of the use of Learning Zone. We believe that there are still no evaluations in measuring attention and preparation towards user satisfaction of Learning Zone.

1.2 PROBLEM STATEMENT

Universities management are always looking for ways to keep their students' attention, encourage better preparation for class, and improve students' attitudes and satisfaction. Whereas for some professors or lecturer these are not areas of concern, from researcher experiences and discussions with other professors and lecturer also with student, these areas come up frequently as concerns for universities (Eastman, J.K, Iyer, & Eastman, K.L, 2011).

UUM Learning Zone is a web-based system that supports the teaching and learning among both students and lecturers. Learning Zone is an online resource that replaces the recent Learning Care management that had been the singular medium of transferring information about educating and learning. Many problems and threat can arise in the process of operating LMS such as information theft, unavailability of services, low productivity, high in maintenance cost and downloading the files, difficult to log in for new user and it's not user friendly, etc. (Haruna, 2010). .

As congruence with the university's objective which is to develop the university's management aspects as a central of excellences and also one of the reference center in answering all queries pertinent to management issues. Learning Zone, is one of the transferring medium of knowledge to students

had provide significant impact on the quality of learning experience of students (Mostafa, 2008). Through verbal questioning, researcher found out some of the students still do not have complete information about the Learning Zone access and some of them did not achieve the satisfying level in using the Learning Zone (Mostafa, 2008) and there are some inherent problems that follows the complaint from students and lecturers. Also, some of the lecturers are not using Learning Zone in their classes. They preferred using email, Facebook and other method compare to using Learning Zone because it easy to access.

Although there are articles discussing the use and benefits of Learning Zone in the classroom and other venues (Eastman, 2007), there have been few business academic articles that have tested the impact of Learning Zone and none that have modelled the educational constructs impacted by the use of Learning Zone. Lincoln (2008) described the use of Learning Zone with large-size principles of marketing class and discussed student feedback on the use of Learning Zone and his recommendation for their use.

Similarly, Nelson and Hauck (2008) addressed the use of Learning Zone in an introduction management information systems course, as did Ghosh and Renna (2009) in economics classes. Paladino (2008) noted that educational technology can induce active learning, improve students' understanding, and assist in forming competencies. Matulich, Papp, and Haytko (2008) stressed the need for continuous improvement and constant innovations to engage students.

Although innovation in the classroom is worthwhile and it is important that professors or lecturer discuss and share their experiences with students, it is also vital that the usefulness and impact of these activities be determined. Toral, Barrero, Martinez- Torres, Gallardo, and Duran (2009) note the need for more scientific analyses to assess learner satisfaction and the factors that impact it.

Because of this, the study is conducted in assuring that factors which contributes to the dissatisfaction that students felt upon usage of Learning Zone could be identify and a solution that had been found can be used to overcome the dissatisfaction so that the student may enjoy a better experience in using Learning Zone that incorporates higher level of user satisfaction in the near future.

In an earlier study, Haruna (2010) had done a research on software architecture evaluation on the new operated Learning Zone while Mostafa (2008) had conducted evaluation of the implementation, use and effect of a computerized management information system in UUM's College of Business. However, Mostafa (2008) scope of study was typically among College of Business students' with different constructs.

Finally, this study has been conducted on a bigger population and examines attention, preparation and attitude that influence the use of Learning Zone towards user satisfaction.

1.3 RESEARCH OBJECTIVES

Accordingly, the research has the following objectives. It aims to:

(1) To determine whether attention is positively related to users attitude towards online learning zone

(2) To determine whether preparation is positively related to users attitude towards online learning zone

(3) To determine whether users attitude is positively related to users satisfaction with online learning zone

1.4 RESEARCH QUESTIONS

Research questions are used to ensure that a study conducted to be on its' right track. The research questions of this study are as follows:

1) Is attention positively related to user attitude towards online learning zone?

2) Is preparation positively related to user attitude towards online learning zone?

3) Is user attitude positively related to user satisfaction with online learning zone?

1.5 SCOPE OF STUDY

This research focuses on investigating student satisfaction with Moodle 1.9 online Learning Zone Technology for University Utara Malaysia. It's also, to establish the impact of student's attention and preparation with their attitude toward user satisfaction. The users of the system are limited to the registered students at University Utara Malaysia in 2013 where questionnaire were distributed to respective students for the purpose of analyzing their attitude with online Learning Zone. The selection of the students as the study population is primarily based on their extensive use of online Learning Zone compared with other segment in the e-Learning. The Moodle 1.9 online Learning Zone Technology provides functions for students and lecturers to efficiently collaborate, communicate, find resources, create and manage content and workflow.

1.6 SIGNIFICANCE OF THE STUDY

1.6.1 Significant to the Practitioner

Learning zone technology deprives the student the requester benefit from the expertise of his lecturer unlike the traditional learning students whom take full benefit from their lecturer. Learning zone technology can open a wide range of knowledge for people outside education range in the Malaysia. Using learning zone technology will allow people to participate same as education people as learning zone will help them to improve their selves. Also, Learning Zone can help management of university to improve their technology on e-Learning and make it easier to their students and lecturer.

1.6.2 Significant to the Academician

This research applies the concept of learning zone technology which facilitates the communication between lecturers and their students. In traditional learning the lecturer play an important rule, he/she is the only one how lectures to students, answer the student's answer and provide scientific content. Therefore, he/she is in continues contact with his students. While in learning zone technology he/she is standing on the side as a guide which reduces his communication with the students. In this study also investigate relationship between attentions, preparation and attitude toward user satisfaction.

1.7 LIMITATION OF STUDY

For limitation of this study, the researcher will be achieving the research objectives. There are some limitations discovered in this study:

1) **Problems associated with data collection**

   A percentage of the surveys dispersed and returned can't be utilized since some information may not be finished by respondents. The measures of the questionnaire likewise give a tad bit constraint to this study.

2) **Time constraints**

   The researcher was just given about five month to finish this study. The methodology of gathering information, research, and substance examination isn't possible completely due to the fundamental issue is time demands.

3) Respondent cooperation and data accuracy

A percentage of the respondents did not give a great collaboration to the researcher with a specific end goal to gather information. The exactness of the information gathered through questionnaires was thusly relies on upon the genuineness and truthiness of the responses given by respondents. The genuineness and truthfulness is extremely vital to focus the viability of the information gathered.

4) Lack of information and resources

The data that the researcher gets to this study is lacking. As a result of this, the researcher needs to get more data through other data medium.

1.8 ORGANIZATION OF REMAINING CHAPTERS

This study is organized into five chapters. Chapter one explain the background of the study, problem statement, scope of study, research question, research objectives, significance of the study, limitation of the study and organization to the remaining chapters. The problems that occur through this study were illustrated briefly in this chapter. Besides that, in this chapter also, researcher will discuss about the research questions being developed in this chapter and it is indicated nicely about some question that might be asked for this research, research objectives and significant of the study as respect to identify the relationship between (independent variables) attention, preparation and attitude with (dependent variable) user satisfaction towards Learning

Zone. This step is building the method of reasoning for its model through looking into relevance literature on Theory of Reasoned Action (TRA).

Subsequently, chapter two looked into a percentage of the relevant literature with respect to develop of the proposed model. It reviewed the literature on the issues of attention, preparation and attitudes related to the user satisfaction of Learning Zone services. This part of the chapter discussed about perspectives of the Learning Zone and several approaches. Hypotheses and conceptual framework are also constructed in this chapter.

Furthermore, the method that used in this study was explained in Chapter three namely research methodology. Meanwhile, chapter three explicated about the research methodology, survey instrument, data collection and techniques of data analysis. This chapter also highlighted about the research design, how the research is being done and the way of collecting data. According Davis (1989) research methodology is an archived methodology for administration of activities that holds techniques, definitions and descriptions of systems used to gather, store, investigate and present data as a feature of an examination methodology discipline. Besides that, the measurement of variables, data collection and techniques of data analysis were explained in this chapter.

In chapter four, this study described about the analysis of the data and the findings data, it discussed the results from the data analysis based on questionnaires. This chapter explain the data that was obtained from the respondents of UUM's students as the main users of Learning Zone system. There are reports of the descriptive statistical analysis. The outcomes are condensed in various tables to encourage understanding. According to

Ramayah (2002) the demographic information of the respondents and thereafter continued with results of various analysis and findings of the relationship of variables also explained as a result in this chapter. To simple and quick understanding, researcher demonstrates the outcomes as tables and content. Analysis of information is an approach of surveying, cleaning, changing over, and showing data with the target of highlighting important information, suggesting conclusions, and supporting decision making (Al-Gahtani, 2001).

The last chapter in this research is chapter five that discuss about the findings of the data analysis, conclusion, implications for the managerial and recommendations for future research. This chapter give a brief overview of the introduction, review of the related literature, methodology and findings of the study. It also takes into account the inferences from the findings which come with certain conclusion.

Finally, this chapter also provide the suggestion for future research related to the satisfaction of the users. This study provides identification of factors critical to the Learning Zone effectiveness. This chapter also discussed the results and finding of the study and make comparison among the group of surveys. The chapter ends with recommendation for future research.

1.9 CHAPTER SUMMARY

This chapter presents general view about the outline and direction of the research execution. The factors such as attention, preparation and attitudes can affect to the user satisfaction through Learning Zone system. The Theory of Reasoned Action (TRA) could be used in this research as it measures the variable of perceived attention, preparation and attitudes towards user satisfaction. To improve more about the Learning Zone system, all the variables could be used systematically and in the same time contributed to the high level of effectiveness among the students of University Utara Malaysia. The focus of this part is to characterize the fundamental inquiries concerning exploration region on the components that impacts students' satisfaction about the acceptance level of Learning Zone system.

Next, chapter two will discuss all the literature review that related to this study. The purpose on writing the literature review is to support the necessary of the study. Hence, secondary data such as journals and articles will be used to support the idea and statements of the study. Indeed, literature review is important to show the whole idea of the research studied.

CHAPTER 2

LITERATURE REVIEW

2.0 INTRODUCTION

This part basically introduces more definite varieties of all variables included in this study. It is an overview research pertaining to the attention and preparation and those factors that influence the attitude and user satisfaction with Learning Zone (LZ) in UUM. The definition and Theory of Reasoned Action (TRA) is discussed in this chapter. Furthermore, this chapter also reviewed some of the previous research pertaining to variable such as perceived attention, perceived preparation, and attitude that influence user satisfaction. Finally, this chapter discusses the proposed research framework and hypotheses for this study.

2.1 REVIEW OF RELATED LITERATURE

2.1.1 Technology of E-learning

Internet-based technology or the World Wide Web is the material used in the online learning environment nowadays. Internet technology and computer has become increasingly important in the field of education and give more choice and flexibility teaching and learning. According to Boldt, Gustafon and Johnson (1995), internet is an excellent learning tool to enhance students' learning and experiences. E-learning, which is described as the use of ICT to improve and supports the teaching and learning in education has become increasingly important in tertiary education (OECD, 2005).

E-learning is also a fundamental tool for universities and educational institution to gain a competitive edge (Sanchez & Hueros, 2010). E-learning allows students who are not to be in the classroom and gives them more choice to learn and interact with other students and lecturers. However, the success of e-learning depends on the acceptance and use of the user (Sanchez & Hueros, 2010). In recent years a shift has occurred in higher education, the role of university is no longer as a provider of knowledge, but instead to create an environment that the students can explore, discover and learn with better learning.

To achieve the objectives and standards, technology should be used as a tool and the provision of a platform (Reigluth, 1999). For example, Web-based course management system is the latest technology-based pedagogical tools (Wernet, Olliges & Delicath, 2000). Web-based Course Management System (CMS) is an increasingly important part in the academic system in higher education. Learning management system (LMS), also known as a course management system (CMS) has come a long way since the beginning.

Furthermore, the Learning Systems Architecture Lab at Carnegie Mellon stated "A Learning Management System (LMS) is a software package used to manage one or more courses to one or more learners. A LMS is ordinarily an online-framework that permits learners to verify themselves, register for courses, complete courses and take evaluations (LSAL, 2004). There is several learning management system (LMS) commercially available on the market such as Blackboard, WebCT and Desire@Learn.

There are also many open-source, free LMS, such as MOODLE, Coursework, Atutor and Interact. However, MOODLE is one of the popular LMS nowadays (Suleiman, Umar & Abdu, 2012, Chewe & Chitumbo, 2012). In addition, MOODLE was further chosen due to its social-constructivist nature (MOODLE, 2010).

MOODLE stands for Modular Object Oriented Dynamic Learning Environment. It has been developed by Martin Dougiamas as part of his PhD in Education thesis (Moodle, 2005). MOODLE is a course management system which enables delivery of online education. MOODLE allows instructors to plan and designate activities for the students and also encourage discovery and provide collaborative activities. According to Ahmed Yousif and Raheem (2012) MOODLE is a dream tool for teachers, integrating wide range of resources and assessment strategies and is powerful in content creation.

MOODLE are also different with commercial software, it is open source with no licensing costs and using the PHP code. According to Open Source Initiative (2008), the main reason to use open source software includes the independent to distribute and modify compatibility cross-platform, universal access and active cooperation for design improvement. It is seen as users friendly and easy to manage and technically easy. It adjusts an adaptable particular configuration and one can pick and apply around many accessible augmentations for their variant of Moodle (Unal & Unal, 2011).

Also, Menkoff et al., (2011) directed a study on how effective learning management system mix into an e-learning in module. The studies directed by Menkoff et al., (2011) also look at the level of acceptance for the knowledge management (KM) on a web-based system known as learning management system (LMS). In particularly, the review of fast study appears to indicate that the focus and scope of research are still very limited, as a result little theoretical as well as empirical contribution have been made in this area of study, particularly in the local context.

2.1.2 Learning Zone (LZ)

According to UUM Websites, the e-learning at Universiti Utara Malaysia (UUM) started in 2000 developed jointly by local IT Company and UUM, it comprises of twelve modules that provides UUM's academic community with arrays of innovative strategies and activities to their users. One of the ways is UUM create Learning Zone to helps lecturer and student in teaching and learning at the university and it was made by the college's workstation focus. It began as another online environment for both the instructors and learners for their cooperation particularly where the face-face is not possible.

Learning Zone ((LZ) is created based on Modular Object-Oriented Dynamic Learning Environment (Moodle) and one of learning management system (LMS). According to Haruna (2010) LMS has widely been used as a means to enhance the instructive administrations and additionally to reduce educational cost. LMS likewise upholds numerous sorts of taking in exercises

for both teachers and people inside classrooms and outside the classroom (Haruna, 2010).

With this technology, lecturer obtain instant, specific feedback and students get the chance to express themselves and see what others in the class are thinking (Terreri and Simons, 2005) and to figure out whether more of a chance is required on a particular theme (Cohen, 2005). Learning Zone also hopes can provide a range of functionality to its students to allow for content creation and delivery, communication, collaboration and assessment. Users can engage themselves with the learning environment to further enhance their learning experience through Learning Zone.

Moreover, Learning Zone also can be access through internal and external network using internet connection anywhere and anytime to perform task such as discussion in the forum, assessment duration, notes and presentation slides. UUM's computer department had been made an improvement to enhance the purpose and objective of Learning Zone compare to previous portal called Learn Care. The new features for Learning Zone now are:

1. Assignment module
2. Chat module
3. Choice module
4. Database module
5. SCORM module
6. Survey module
7. Wiki module
8. Web meeting module
9. Forum module
10. Glossary module
11. Lesson module
12. Turnitin module
13. Integration with MyBox
14. How to use Learning Zone

Nowadays, UUM's students can also use Learning Zone to submit their assignment directly to lecturers, downloading notes and presentation slide, log in to Turnitin to check originality of their assignments, discussed problems matters in class and etc. Furthermore, using the forum session, lecturer and student can discuss or communicate about their classes and it's become easier to interact to each other's.

Also, the main objective of Learning Zone is to provide accessibility to students and lecturers in performing tasks for learning and educating. Students will have all the information required and resources regarding to subjects taken during classes. Furthermore, the purpose of Learning Zone is to achieve accessibility for internal and external users to gain competitive advantage among universities in Malaysia. Universiti Utara Malaysia also taking the advantage of globalization through internet to provide secure and reliability sources of information to its students and external users. For future development and improvement of Learning Zone this study is needed to compete with other universities.

2.1.4 Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) a person's intention is a function of two basic determinants, one personal in nature and the other reflecting social influence. The personal is the individual's positive or negative evaluation of performing the behavior. This factor is termed attitude toward the behavior (Ajzen and Fishbein, 1980) and TRA in psychology research are to clarify components influencing the user acceptance of information technology (IT) (Nitish.S, Georg.F, Jonas A.H & Mike C.H.C, 2004).

The TRA sets that individual behaviour is determined by behavioral proposition where behavioral expectation is a capacity of an individual's attitude around the conduct and subjective norms encompassing the execution of the conduct and also utilize the technology is within turn by user attitude towards the innovation. The TRA really clarifies the part of motivational impacts on consumer behavior. It demonstrates how consumer attitudes and notable subjective norms impact behavioral aim. Meanwhile, TRA depict person's behavioral intention as a combination of a three basic determinants; attitude towards the behavior, subjective norm, and perceived behavioral control (Randall and Gibson, 1991).

Also, TRA was specifically designed to predict human behaviors under complete decision control (Ajzen and Fishbein, 1980). This theory assumed that most of individuals' decisions/behaviors reasoned choice is made from among various alternatives. Because of its accuracy in predicting human behaviors and effectiveness in explaining psychological processes in decision-making, the Theory of Reasoned Action (TRA) is widely utilized in comprehending customers' decision-making processes in various contexts. TRA uses two elements, attitudes and social norms (or the expectations of other people), to predict behavioral intent.

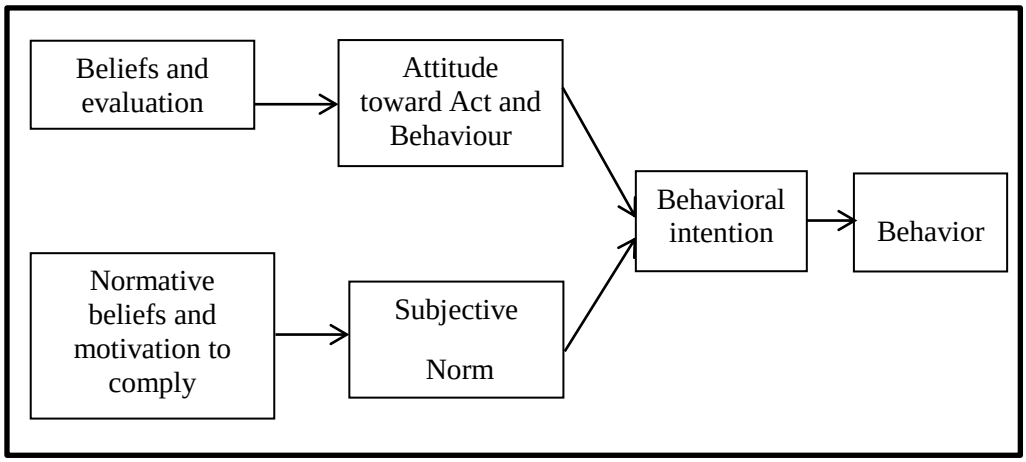
Then again, the TRA has been created to illustrate consumer behavior in customary settings and not particularly to demonstrate innovation acknowledgement or site use. Using TRA is to explicitly illustrate the user acknowledgement of extensive variety of end-user processing innovations and client populaces (Davis et al., 1989). At the end of the day, it states that one conduct and the plan to carry on is a capacity of one's state of attitude at the

conduct and their discernments about the conduct (Maslin, 2007). Along these lines, behaviour is the capacity of both state of attitude and convictions.

Xu, Summers and Belleau (2004) used this TRA to evaluate consumers' perceptions and attitudes toward a controversial product, American alligator leather accessories, as the variables influencing consumers' purchase intention of the product. Ajzen (1991) explained that the eminent determinant of behavior is the intention to act in particular behavior. TRA is exhibited in Figure 2.1 below

Figure 2.1

Theory of Reasoned Action



In TRA, attention refers to the degree to which the user believes that using the technology will improve his or her work performance, while preparation refers to how effortless he or she perceives using the technology will be. Both are considered distinct factors influencing the user's attitude towards using the technology, though preparation is also hypothesized to influence attention and attitude towards using the technology. Finally, such attitude towards Learning Zone determines the act and behaviour to Learning Zone and user satisfaction considered as the behaviour of the user. Figure 2.1 depicts the research model employed in the study.

2.1.3 User Satisfaction with Learning Zone

Alongside taking in adequacy, access, cost viability, and workforce fulfillment, understudy fulfillment has been built by the Sloan Consortium (Sloan-C, 2002) as one of the five pillars of quality online education. These pillars could be used as a structure for instructive organizations to measure and enhance any online system. Online understudies, in the same way as all customers, are fulfilled when they get careful, convenient, and customized backing (Sloan-C, 2002).

One of the best indicators of understudy fulfilment is retention rate. Retention in Web-based courses, now and again reported as low as half, makes scholar fulfilments a key variable in figuring out if an establishment holds scholars who select in resulting Web-based courses (Northrup, 2002). As per Moore & Kearsley, (1996) student is more inclined to drop courses if:

(a) They think the substance is unimportant,

(b) They think the course is excessively troublesome,

c) They get disappointed with finishing the course,

(d) They accept no sentiment on their course work or advancement

(e) They get detached in light of the fact that they have practically zero communication with their educator or different understudies.

In this study, Theory of Reasoned Action (TRA) was used to measure the level of acceptance towards satisfaction in Learning Zone. Attention, preparation and attitude were used to measure level of acceptance and to examine the influence of using Learning Zone to achieve satisfaction among users.

According to Maslin (2007), TRA is used as a basis for theorizing the impacts of such variables on the utilization of e-learning as the requisition and for work related task with the Learning Zone. It also has been utilized as the hypothetical premise for some exact investigations of user technology acceptance (Adams 1992; Mathieson 1991; Davis, Bagozzi & Warshaw 1989). TRA was characterized as an individual's psychological state with respect to his or her voluntary or planned utilization of a specific innovation (Hendrick et al., 1984). Learning Zone also is a contributor to the level of scholar learning and satisfaction in a technology-mediated environment (Ali Sher, 2009).

Therefore, Toral et al. (2009) also offered that satisfaction identifies with perceptions of having the capacity to attain achievement and the inclination of accomplishing coveted conclusions. Moreover they focused on the thought that "learner satisfaction must be investigated through a multidimensional analysis that recognizes a wide mixture of basic measurements to give viable measurements that guide enhancements in instructional configuration" (Toral et al., 2009). Their examination of satisfaction in an electronic instrumentation course discovered satisfaction to be determined by the user interface, convenience, excitement, and inspiration.

Peslak et al. (2007) reviewed information systems literature and found that 30 per cent of technology failed to be implemented successfully for the successful e-learning implementation. Researchers have found various reasons for this failure, including individual learner characteristics, characteristics of the e-learning itself, and organizational support for the use of e-learning. Successful implementation of e-learning is frequently measured by learners' satisfaction (Sachs and Hale, 2003).

When students ask questions of lecturer, they expect that the lecturer will respond. Lack of response by lecturer can create student dissatisfaction with courses and increases the feelings of isolation that often lead to lower satisfaction and retention (Northrup, 2005). Interaction, therefore, is vitally important to student satisfaction and motivation as well as to maintaining student persistence in Web-based learning through Learning Zone (Berge, 1999).

The success of Learning Zone may well rely on the capability of instructive foundations to customize the showing and taking in methodology to give fulfillment and maintenance of understudies (Saba, 1999). However, in this paper TRA is used to study the acceptance of the LMS technology through the Learning Zone.

2.1.5 Relationship between Attention, Preparation and Attitude toward Learning Zone

Attention, preparation and attitude are used to explain Learning Zone. Individuals with diverse sorts of thoughts toward oneself may have distinctive sorts of encounters, discernment, feelings, and inspirations (Markus & Kitayama, 1991). Case in point, individuals considered free accept that they are differentiated from the social connection. They need to be extraordinary and have the capacity to communicate. Then again, individuals considered reliant feel that they are joined with the social setting. They need to fit in with a gathering and advertise others' objectives. They consider that associations with others in particular settings characterize the self. Consequently, they utilize others for social examination and reflected evaluation. For example, attention and preparation can be classifies as a self-concept to express their attitude towards satisfaction through Learning Zone.

The literature recommends that Learning Zone can enhance consideration in a class, yet there has been little exchange of whether it affects the people's readiness for the class. Besides, though Nelson and Hauck (2008) recommend that with enhanced attention scholars are more persuaded, the literature has not tried the effect of an attention on attitude toward Learning Zone.

Then, Learning Zone might be exceptionally helpful in picking up the attention and preparation of learners on the grounds that it provides for them the open door to impart their thoughts in an unnamed way and obliges them to react often to the material being introduced (Eastman, J.K, Iyer, & Eastman, K.L, 2011; Simpson, 2007; Taylor, 2007; Cohen 2005; Terreri & Simons, 2005; Unmuth, 2004).

Lincoln (2008) found that the dominant part of scholars see that Learning Zone help keep their attention. Stone, Escoe, and Schenk (1999) proposed that seeing their reactions on screen in a class expands the scholars' feeling of imperativeness and subsequently their association. Additionally, Nelson and Hauck (2008) prominent that the literature depicted the short attention compass of learners, how scholars' giving reaction enhances attention,, and how scholars' attention identifies with their inspiration to perform in a classroom.

Furthermore, Matulich et al. (2008) recommended that Learning Zone might be useful in tending to the short attention compass of people. Cohen noted that scholars like the moment reaction, as it makes them more mindful of their taking in challenges. Carnaghan and Webb (2005), on the other hand, found that Learning Zone improves not bring about general test evaluations. By which, in this study we investigated the relationship between attention and preparation towards attitude to see the user satisfaction through Learning Zone.

2.1.6 Relationship between Attitude and User Satisfaction toward Learning Zone

Personality factors could be the central explanation behind influencing the relationship between attitude and behavioural intention. A few studies in the state of mind capacity school have showed that identity variety can make essentially distinctive necessities of attitude capacities (Debono & Packer, 1991; Bearden & Rose, 1990; Debono, 1987; Snyder & Debono, 1985). Case in point, Snyder and Debono (1985) utilized identity appraisal to operationalize state of mind capacities. They contended that high seeing toward oneself people, who strive to fit into different social circumstances, ought to have a tendency to structure state of mind that serve the social alteration capacity. Conversely, low checking toward oneself people, who strive to stay genuine to their inward values and properties, will have a tendency to structure disposition that serve the worth expressive capacity.

Furthermore, Toral et al. (2009) are recommends that attitude does impact satisfaction and that both cognitive and emotional measurements need to be viewed as Chen and Williams (2008) offered that the simplicity of utilizing innovation (i.e., how smooth running the engineering is) effects people's mentality to it. Likewise, Savage (2009) proposed that the utilization of information technology, particularly regarding downloading address materials, did not seem to have substantive effect on student execution. The individuals who use computers all the more regularly feel more occupied with their taking in and feel more that computers supported their taking in and connection with staff and scholars' (Khan, 2009).

According to Ajzen (1985), an individual is more likely to undertake a certain behavior if he/she has a positive attitude toward undertaking the behavior. Blackwell et al., (2006) supported that attitude is the evaluation of performing a particular behavior involving the attitude object, such as searching information using internet. Attitude also refers to the degree which a person has favorable or unfavorable evaluation or appraisal of the behavior in questions. The more favorable the attitude with respect to a behavior, the stronger is the individual's intention to perform the behavior under consideration (Azjen, 1991). Therefore, attitude can be considered as an important part of predicting and describing human behavior (Azjen, 1988).

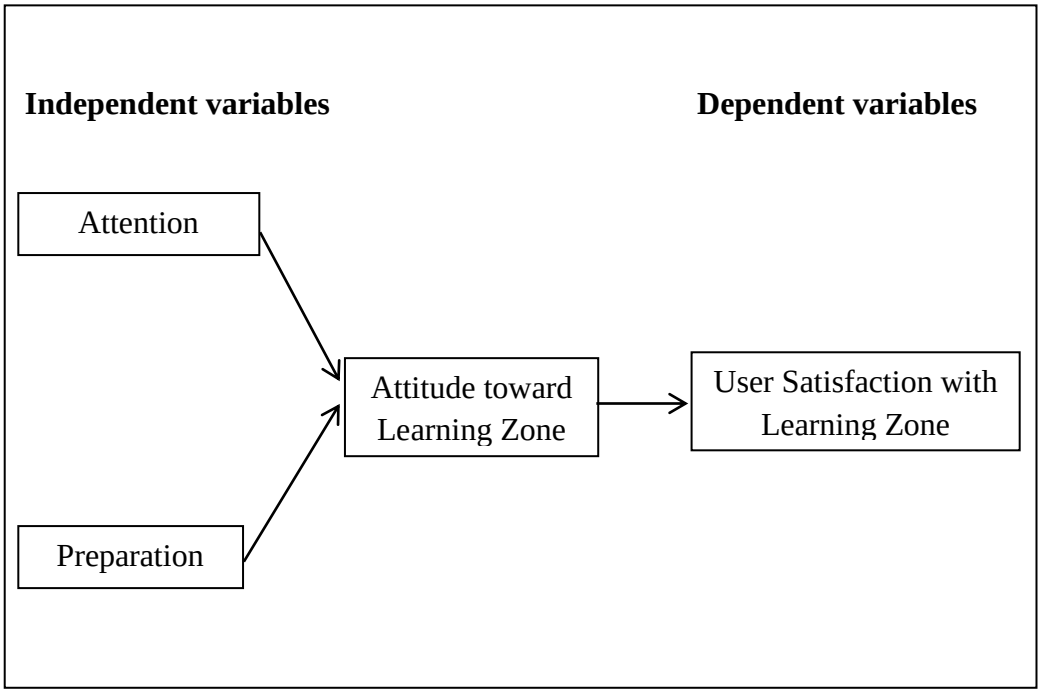
However, learner attitude around the demonstration recently demonstrates the certainty. The attitude at the conduct can eclipse the impact of attitude. At the point when framing behavioral plan, intention around the demonstration won't be the overwhelming precursor. In this paper, we examine what the literature has not measured is the means by which attitude to effect user satisfaction with it.

2.2 RESEARCH MODEL / FRAMEWORK

The model in this study is developed from extant research and is showing in figure 1.0. In order to perform the study, TRA concept was used as proposed by (Eastman, J.K, Iyer, & Eastman, K.L, 2011). The variance in the dependent variable is user satisfaction with Moodle 1.9 Online Learning Zone, is explained by three variables: attention, preparation and attitude.

Figure 2.2:

Research Framework



2.3 HYPOTHESES

Alongside with the reason for the study means to focus the components that prompt user satisfaction in Learning Zone, which is important to create hypothesis. Subsequently, from the above set of hypothetical schema, the accompanying theories were made with a specific end goal to see whether there is a distinction and relationship between the variables.

H_1.. Perceived attention is positively related to user attitude

H_2.. Perceived preparation is positively related on user attitude

H_3.. Users attitude is positively related users satisfaction

2.4 CHAPTER SUMMARY

This part exhibited a review of literature that concentrates on attention and preparation, attitude and user satisfaction. The study will measure the influence of the attention and preparation, attitude and satisfaction of UUM's Learning Zone users. Research Framework and hypotheses were produced focused around the literature review.

In chapter three, methodology of the research will be discussed on the research design, sampling, and method of data collection, validity, reliability, and finally the factor analysis, correlation and regression.

CHAPTER 3

RESEARCH METHODOLOGY

3.0 INTRODUCTION

Research Methodology discusses the ways in which the research studies are composed and the strategies by which information are analyzed. Basically, research gives the data that empowers supervisors to settle on choices to amend the recognized issues (Sekaran and Bougie, 2013). Therefore, this chapter will discuss the research methodological issues such as research design, research setting, and research methodology, sampling design, data collection, research measurements and data analysis.

3.1 RESEARCH DESIGN

A research design is an expert arranges that indicates the routines and methodology for gathering and dissecting the required data. It gives a structure to activity in the study (Zikmund et. al, 2010). This study was conducted in order to examine the effect of attention, preparation that influences user's attitude and satisfaction with Learning Zone. Therefore, this study investigated correlations between attention, preparation and attitude as independent variables and user satisfaction as dependent variables. This cross-sectional study tried all speculations that identified with research questions. This study was headed in a non-contrived setting imitating Sekaran and Bougie (2013) who states that 'relationship studies are always headed in non-contrived setting. The population, sample, sampling technique, measurement and data collection and analysis will be examined in the following segment appropriately.

3.1.1 Type of Study

A quantitative methodology is embraced in which a model is created, and hypotheses are expressed, to analyze the relationship between attentions, preparations are influences by attitude on user satisfaction. A survey method was chosen in this study because it is the most regular system for producing primary data. The study utilized questionnaire as the real instrument for getting the information.

Questionnaire method of data collection is chosen as the fundamental system to gather information in light of the fact that it could act naturally-directed and is easy to score and utilization. The questionnaire is adapted from several studies. Upon completion of the data gathering, the data are being analyzed using statistical analysis. Objectives and hypotheses of the study determined in the initial stages will be tested using the analysis. Structural equation modelling is used to test the expressed hypotheses and model. The respondent in this study were students from the Universiti Utara Malaysia (UUM) located in the northern region of Malaysia.

3.1.2 Time Horizon

Cross-sectional survey methods are used to conduct this research as specify by Sekaran and Bougie (2013). It is helpful and relatively fast. To conduct a research on one-shot studies where results can be projected on the whole population (Zikmund, 1997); it provided the sampling technique is done randomly (Cooper & Schindler, 2011). In a random sample, the way of the population is characterized and all parts have an equivalent possibility of being chosen (Marshall, 1996).

3.1.3 Population

Characterizing the applicable population for the study is the primary step in the sampling procedure. The population is a gathering of potential respondents to whom the outcomes of a study could be summed up (Salkind 2000). Also, Sekaran (2009) defines population as 'the whole gathering of individuals, occasions or things of premium that the researcher wishes to researches'.

The population for the study was the students from every country in the world including Malaysia from Universiti Utara Malaysia (UUM). These universities are located in Kedah. The student were user of Learning Zone for interactions with others person such as lecturer and others. Total of the student in Universiti Utara Malaysia on 6 October 2013 from UPK, Universiti Utara Malaysia is 23550 students. The population definition was based on the assumption that student who are using Learning Zone.

Table 3.1:

Number of Student undergraduate and postgraduate in Universiti Utara Malaysia on 06/10/2013

NO.	COUNTRY	UNDERGRADUATE	POSGRADUATE
1.	Afrika Selatan	0	4
2.	Algeria	1	22
3.	America	0	1
4.	Arab Saudi	24	67
5.	Australia	1	0
6.	Bangladesh	14	15
7.	Brunei	1	0
8.	Chad	9	1

9.	Chilli	0	1
10.	China	144	21
11.	Djibouti	2	0
12.	Eritrea	2	1
13.	Filipina	1	7
14.	India	0	10
15.	Indonesia	215	285
16.	Iran	1	4
17.	Iraq	0	156
18.	Jerman	2	0
19.	Jordan	0	128
20.	Kanada	1	1
21.	Kenya	2	0
22.	Libya	1	73
23.	Luar Negara	6	0
24.	Malaysia	16715	4878
25.	Maldives	0	2
26.	Mesir	1	4
27.	Nigeria	29	167
28.	Oman	0	4
29.	Pakistan	0	52
30.	Palestin	0	17
31.	Republik Czech	0	1
32.	Somalia	107	27
33.	Sri Lanka	0	7
34.	Sudan	6	4
35.	Syria	3	6
36.	Tanzania	0	3
37.	Thailand	57	82
38.	UAE	0	1

39.	Uzbekistan	18	3
40.	Vietnam	0	1
41.	Yaman	21	81
42.	Zimbabwe	2	1
43.	(blank)	10	3
	Grand Total	**17398**	**6152**

Table 3.2:
Total of Student Universiti Utara Malaysia on 06/10/2013

No.	Type of Student	Total
1.	Postgraduate	6152
2.	Undergraduate	17298
	Grand Total	**23550**

3.1.4 Sample Size

In a research study, it is extremely critical to select a fitting sample size. As indicated by Roscoe (1975), the dependable guidelines for deciding sample size are as follows:

1) Sample size larger than 30 and less than 500 are appropriate
2) In multivariate research, the sample size should be several times (preferably 10 times or more) as larger as the number of variables in the study.

In this study, the population comprises of all student in Universiti Utara Malaysia (UUM) as customer of Learning Zone in Universiti Utara Malaysia. Total of the Universiti Utara Malaysia student on 06/10/2013 is 23550 students. A questionnaire was developed and distributed to a 500 students in Universiti Utara Malaysia which constitute the sample size.

3.1.5 Sampling Design

This part delivers the aspect of sampling techniques from population used to illustrate the research design. Population refers to the whole gathering of individuals, occasions, or things of interest that turn into the subject of a research (Sekaran and Bougie, 2013). Sample is the subset of a population (Zikmund et. al., 2010). The reason of sampling is to estimate an unknown characteristic of a population. The sampling procedure that was used in this study is convenience sampling. This is a non- probability sampling that is very useful when there is large population with difficulty of random sampling. It is cheaper and very convenience for both the researcher and respondents. For this study with 23,550 populations, the researcher deem it fit to use convenience sampling because of time constraint, difficulties in locating respondent etc.

3.2 DATA COLLECTION AND PROCEDURE

3.2.1 Primary Data

According to Sekaran (2003), primary data is characterized as information that accumulated for research from the genuine circumstance where the occasions are happening. In this study, information will be gathered using questionnaire. This study are include questionnaire method because of the analyst recognizes what is obliged and how to measure the variables of enthusiasm, as has been clarified by Sekaran (2003).

Data collection stage is crucial for any research because the research project is no better than the data collected in the field (Zikmund et. al, 2010). Data collection in this study was conducted by distributing a self-administered questionnaire to all respondents (fill in by the respondent rather than by an

interviewer). The questionnaire was designed based on prior literature that were reviewed, and then distributed to the 500 respondents.

Primary data collection methodology was completed utilizing a very organized questionnaire that was created particularly for the research purposes. The research instruments were measured on Seven-point Likert-type scales ranging from 7 – strongly agree to 1 – strongly disagree (Malhotra, 2004; Sekaran, 2003; Churchill, 2001). All research scales were drawn from the available literature review (i.e. attention, preparation and attitude and user satisfaction) that provides very rich empirical materials to measure this research constructs.

3.2.2 Secondary Data

In this study, the secondary data is the external information and sources that are taken from printed materials, or as such, promptly accessible information, such books, journals, articles, detailed analysis and electronic materials, in the same way as web, and others. Correspondingly, information must be gained to acknowledge or reject any theory that has been created some time recently. Subsequently, the researcher will utilize the overview exploration sort. With a specific aim to finish this study, two sorts of information in particular essential and optional information will be accumulated as the sources. These sorts of information incorporate all the different sorts of data that the analyst may utilize or longed to use as a part of this study. The secondary data also been use to gather information for literature review.

3.3 MEASUREMENT/ INSTRUMENTATION

3.3.1 Questionnaire Measurement

Survey data can be gathered in several ways. For example, through the use of questionnaires, interviews and also telephone surveys. In this study, questionnaire set are used to gather all the relevant data that helps to determine the degree of user performance through attention and preparation. It also examines the effect of attitude between attention and preparation and user satisfaction.

After an extensive review of the literature, the questionnaires were expressed in English language. For an effective data collection mechanism when the researcher wants to measure the variables of interest, the length of questionnaire relatively short to avoid transient mood states such as boredom and fatigue (Lindel & Whitney, 2001). This relative length of questionnaire likewise encouraged the respondents to finish the review between 10 to 15 minutes.

In this study, the length of questionnaire was kept short as designate by Horst (1968) and Oppenheim (1986). The questionnaire was not exceeding 20 words, or exceeds one full line in print. The final version of questionnaire contains of 5 pages including cover with 28 items distributed into five sub-dimensions namely as:

1. Demographic Characteristics (D1-D5)
2. Attention (A1-A5)
3. Preparation (P1-P5)
4. Attitude (A1-A6)
5. User Satisfaction (US1-US7)

Table 3.3:
Operationalization of Theoretical Constructs

Variables	Question	Item Number (in Questionnaire)	Authors
Attention	Pay more attention to what is going on in lecture when conceptual questions will be presented	AT1	Eastman,J.K et al., 2011
	Review class materials in a fun way	AT2	
	Participate in the class	AT3	
	Respond with e-Learning.	AT4	
	Increase my performance in learning	AT5	Maslin M. (2007)
Preparation	In the learning process	P1	
	To encourage working harder (eg. answer questions in class)	P2	Eastman,J.K et al., 2011
	To easily gather material needed for the course	P3	
	Prepare for exams	P4	
	To spend time on particular chapter for exam	P5	
Attitude	I thought this course did focus too much on using learning zone	AD1	Eastman,J.K et al., 2011
	Overall I thought, the advantages of using response learning zone outweighed the disadvantages in this course	AD2	
	I think this course should continue to use Learning Zone	AD3	
	I think other lecturer/professors should use Learning Zone in their courses	AD4	
	I am willing to use learning zone	AD5	Maslin M. (2007)
	I will recommend others to use Learning zone	AD6	

User Satisfaction	My experience at using the Learning Zone was good	US1	Eastman,J.K et al., 2011
	My first time using Learning Zone worked out well	US2	
	I am happy when lecturers actively used Learning Zone	US3	
	I am confident it was the right thing to use Learning Zone	US4	
	Learning Zone provides up-to-date information	US5	Maslin M. (2007)
	Learning Zone is user-friendly	US6	
	I am satisfied in using Learning Zone	US7	

3.3.2 Research Instrument

This research instrument was created through rules that gave by interactive program research literature (Eastman, J.K et al., 2011) and focused around past observational research of consideration and arrangement and user satisfaction. The research instrument was guided using pilot study to reveal limit of learner to appreciate it and to test its suitability for the research purposes. This pilot study wills insightful for testing research instrument which incited makes minor progressions. The instrument was for the most part passed on to all scholars in Universiti Utara Malaysia and the research objectives were illustrated. This research respondent was addressing the research questionnaire. Research primary information accumulation methodology will last around two-month period throughout 2013.

3.3.3 Accuracy of Measures

Reliability and validity are two main concerns regarding the quality and the precision of the measures used by the researcher in order to get an insight into the area of study in which the researcher is interested. Reliability has three main meanings: stability; internal reliability; and inter-observer consistency, for validity, it can be categorised into five types: face validity; concurrent validity; predictive validity; construct and convergent validity (Bryman, 2007)

1) Reliability

The reliability analysis is intended to test the solid of the instrument by the score of Cronbach's coefficient alpha. Cronbach's alpha is figured regarding the normal between-connections around the things measuring the idea. The coefficients hold a worth of 0 to 1. Sekaran (2003), likewise showed that the reliabilities short of what 0.6 are acknowledged to be poor, those in the extent of 0.6 to 0.8 are satisfactory, and those in excess of 0.8 are recognized to be great.

2) Validity

Validity is characterized as the degree to which any measuring instrument measures what it is expected to measure (Bryman, 2007). Validity also used to improve existing scales, and to evaluate the reliability of scales already in use. Multivariate procedures like factor analysis can be useful in establishing construct validity (Zikmund et. al., 2010).

Test of validity can be identified with the degree of correlation between the test and a measure. In terms of accuracy and precision, reliability is similar to precision, while validity is similar to accuracy. In this research, there are several types of distinguishing validity are been using as mentioned by Bryman (2007) which is content validity and construct validity.

a) Content Validity

Content validity concentrates on the adequacy and representativeness of a set of items to obtain the idea of an intended concept. Content validity can be achieved if an instrument has content that more appropriate or scale items represent the main concept being measured.

b) Construct Validity

Construct validity helps encourage the researcher to deduce hypotheses from a theory that is relevant to the concept. According to Bernard (1995), when the researcher could gather that unit of investigation utilized has a complex quality and supports predictions that are made by hypothesis can make the instrument has high construct validity.

3.4 DATA ANALYSIS TECHNIQUE

The data collected were processed using the Statistical Package for the Social Sciences (SPSS/PC+ 19.0) for Windows or SPSS. Information was examined utilizing a few statistical methods, for example, illustrative facts and inferential detail. Descriptive statistics provide simple summaries about the sample and the measures such as the demographic profiles of sample were obtained through the completed questionnaire returned (Zikmund et. al., 2010). Inferential facts is the methodology of applying factual systems keeping in mind the end goal to reach determinations from sample to a whole population. It is used to generalize from sample to a population. At that point, by utilizing the SPSS software, all the research inquiries will experience certain investigates, such as the Descriptive analysis, Reliability analysis, Factor Analysis, Correlation analysis and Regression analysis.

3.4.1 Descriptive Analysis

In the study, the descriptive analysis were used to analyse demographic drivers such as gender, age, and education level, experiences in learning zone and hours using learning zone. It includes of analysing the frequencies and variability of the sample.

3.4.2 Reliability analysis

Reliability means consistency. It is the degree to which an instrument will give comparable outcomes for the same people at diverse times. Reliability can undertake qualities of 0 to 1.0, comprehensive. The technique for checking Reliability is Test-retest Reliability. The estimation of test-retest Reliability is direct. The same test is administrated on two events to the same people under the same conditions. This yields two scores for every individual and the relationship between these two sets of scores is the test-retest reliability coefficient. In the event that the test is solid, there will be a high positive acquaintanceship between the scores.

3.4.3 Factor Analysis

According to Pinsonneault and Kraemer (1993), Factor Analysis is functioning to reduce data in order to explain the total variance of total variable on why some of them are correlated to each other. Kaise-Meyer-Olkin (KMO) and Barlett's test were used as adequacy and sphericity measurements. The exploratory Factor Analysis was used to explain the relationship among variables and their effect in Factor Analysis.

3.4.4 Correlation Analysis

Zikmund et. al. (2010) demonstrated that correlation is utilized to know the relationship of one variable to an alternate. Pearson's item minute correlation coefficient, rho (r) is the measure of acquaintanceship between two variables. When all is said in done, r > 0 demonstrates positive relationship, r < 0 shows negative relationship while r = 0 demonstrates no relationship (or that the variables are autonomous and not related). Here r = +1.0 portrays an impeccable positive connection and r = -1.0 depicts an immaculate negative relationship. Closer the coefficients are to +1.0 and –1.0; the more excellent is the quality of the relationship between the variables. As a dependable guideline, the accompanying rules indicate the quality of relationship for certain worth of r.

Table 3.4:
Strength of relationship for Coefficient correlation (r)

Value of r	Strong of relationship
-1.0 to -0.5 or 1.0 to 0.5	Strong
-0.5 to -0.3 or 0.3 to 0.5	Moderate
-0.3 to -0.1 or 0.1 to 0.3	Weak
-0.1 to 0.1	None of very weak

In this study, correlation analysis was conducted for variables such as marketing, marketing capabilities and customer performance. This analysis is used to test the hypotheses established in the initial phase of this study.

3.4.5 Regression Analysis

In this paper, simple linear regression is use as a method of analysis with using SPSS as a parametric method. Simple linear regression attempts to model the relationship between two or more explanatory variables and a response variable by fitting a linear equation to observed data. Every value of the independent variable x is associated with a value of the dependent variable y. The population regression line for p explanatory variables x1, x2, ..., xp.

This method analysis used for all hypotheses, in term to indicate the determinant factors based on attention, preparation and attitude toward Learning Zone that influence user satisfaction to accept Learning Zone services. In this research, the authors want to use it for: all hypotheses. The analytic approach provides a stringent test for the impact of permission in based user satisfaction towards Learning Zone on factors of attention, preparation and users attitude.

3.5 CHAPTER SUMMARY

In this chapter, a few important methodological issues have been discussed. For instance, there were components that required to be offered regard for in the research design such as type of study, unit of analysis, sampling design, data collection methods and so forth (Sekaran and Bougie, 2013). This study hopefully addressed and measures up to the hallmarks of scientific research issues such as purposiveness, testability and parsimony (Sekaran and Bougie, 2013). Research design, research setting, research methodology, sampling design, data collection, research measurement and measures and data analysis were given special care. This part likewise gives details of the questionnaire. It has examines improvement of the questionnaire, formation of the information set and inquiry reason. Furthermore it has adjusted.

CHAPTER 4

DATA ANALYSIS AND FINDINGS

4.0 INTRODUCTION

This chapter describes the findings of this study. Data were analysed using several statistical methods such as descriptive statistics and inferential statistics. Descriptive statistics are related to frequency, mean, mode, median, standard deviation, variance and others. Inferential statistics tackles reliability, factor analysis, correlation and regression. The collected data are processed by using the software SPSS of version 20.0 and represented in the tables. Data were analysed by using several methods such as:

- Descriptive Statistics;

  Mean and Standard Deviation
- Reliability Test
- Factor Analysis
- Correlation
- Regression

The results gathered from the descriptive statistical analysis in this study included those who involve in using UUM's Learning Zone, including attitude and level of acceptance among respondents. Meanwhile, the results for inferential analysis present hypotheses testing using regression analysis.

4.1 SAMPLE OF THE STUDY

The data for this study was collected among UUM's students. A total of 500 questionnaires were distributed to the students in UUM and 378 questionnaires were useable while another not collected. Therefore, the response rate is 75.6% which is consider very high and good for the study. The proportion of response rate is shown at table 4.1.

Table 4.1:
Response Rate

	Total	**Percentage**
Questionnaire distributed	500	100.0
Collected questionnaire	378	75.6
Usable Questionnaires	378	75.6
Uncollected Questionnaires	122	24.4

4.2 DATA SCREENING AND CLEANING ANALYSIS

4.2.1 Overview

To establish the assumption of psychometric properties before applying necessary data analysis techniques; this study employed a series of data screening approach among which includes; detection and treatment of missing data and outliers. According to Byrne (2010) the data distribution and the selected sample size have a direct impact on whatever choice of data analysis techniques and tests that is chosen.

4.2.2 Missing Data

Several studies have established that missing data is an issue of major concern to many researchers and has the capability of negatively affecting the results of any empirical research (Cavana et al., 2001). Thirty five returned questionnaire surveys (7% of questionnaire surveys) had missing data. The treatment of this missing data is very crucial because SPSS the statistical instrument for analyzing the data will not run if there is any missing value. Hair et al (2010) argued that it is better for researchers to delete the case respondent if the missing data is more that 50% and the study does not have any sample size problems. Alternative to this is the general treatment of missing data through SPSS by replacing missing values with mean or median of nearby points or via linear interpolation.

For this research, the thirty five missing questionnaires were replaced with the median of nearby values since they are all minor omissions. As observed in this study that the most common item of missing data was the demographic variables such as how often respondent using Learning Zone to prepare for any course before entering the classes and how many hours respondent open Learning Zone for any course in a week. These items mainly referred to the size of the respondent's. Based on the need to protect their identity this research concluded that the missing data might be intentional simply for administrative purposes.

4.2.3 Checking for Outliers

Statistical evidence has established outliers as any observations which are numerically distant if compared to the rest of the dataset (Bryne, 2010). In line with this are several existing literatures that have been conducted on the different methods of detecting outliers within a given research, among which includes classifying data points based on an observed (Mahalanobis) distance from the research expected values (Hair et al., 2010; Hau & Marsh, 2004). Part of the constructive arguments in favor of outlier treatments based on Mahalanobis distance is that it serves as an effective means of detecting outliers through the settings of some predetermined threshold that will assist in defining whether a point could be categorized as outlier or not (Gerrit et al., 2002).

4.3 DEMOGRAPHIC DATA

Demographic is the characteristics of human populations and population segments, and use especially to identify user satisfaction. Demographic data were analysed using descriptive statistics. As mentioned in the research design in methodology chapter, this study employed the questionnaire approach as a method of data collection. In this study, descriptive study was used as a method to organize, display, describe and explain about tables, graphs and summary of measurement (Johnson & Christensen, 2004). Other than that, frequency analysis also used in this study to analyse about the demographic data of the respondents such as gender, age, education level, how often users using learning zone and how many hour users open learning zone.

4.3.1 Gender of Respondents

The result of gender of respondents is shown in the Table 4.2; it shows that 115 respondents (30.4%) are male while 263 respondents (69.6%) are female. The majority of respondents are female. (Please refer to Appendix 3 (a)).

Table 4.2:
Gender of Respondents

Gender	Frequency	Percentage
Male	115	30.4
Female	263	69.6
Total	**378**	**100.0**

4.3.2 Age of Respondents

From total of respondents, 180 respondents are from range 21-25 years old or 47.6%. It is followed by 94 respondents from range 26-30 years old or 24.9%. Meanwhile, 51 respondents are from 31-35 years old or 13.5%. Lastly, 53 respondents are more than 35 years old or 14.0%. It is shown in Table 4.3. (Please refer to Appendix 3 (b)).

Table 4.3:
Age of Respondents

Age	Frequency	Percentage
21-25	180	47.6
26-30	94	24.9
31-35	51	13.5
More than 35	53	14.0
Total	**378**	**100**

4.3.3 Education Level of Respondents

Table 4.4 shows level of education of respondents. It shows that 170 respondents (45%) are Bachelor Degree's student. On the other hand, 141 respondents or 37.3% are Master's student. Another 67 respondents or 17.7% are Ph.D student. (Please refer to Appendix 3 (c)).

Table 4.4:
Education Level of Respondents

Education Level	Frequency	Percentage
Bachelor Degree	170	45.0
Master Degree	141	37.3
Ph.D Degree	67	17.7
Total	**378**	**100**

4.3.4 Level of Respondent Using Learning Zone

The respondents are shown in table 4.5. Out of all respondents 139 respondents (36.8%) claim that they are often on using learning zone. Apart from that, 116 respondents (30.7%) which claimed that they are using learning zone sometimes and only 29 (7.7%) respondent claimed that he/she is never using learning zone, and 54 respondents (14.3%) claimed themselves using learning zone very often. Lastly, 40 respondents (10.6%) claimed they are using learning zone rarely. (Please refer to Appendix 3 (d))

Table 4.5:
Level of Respondent Using Learning Zone

Level of respondent using Learning Zone	Frequency	Percentage
Never	29	7.7
Rarely	40	10.6
Sometimes	116	30.7
Often	139	36.8
Very Often	54	14.3
Total	378	100

4.3.5 Level of Respondent Open Learning Zone

The respondents are shown in table 4.5. Out of all respondents 216 respondents (57.1%) claim that they are open Learning Zone 0-2 hours in a week. Apart from that, 78 respondents (20.6%) which claimed that they are open Learning Zone above 2-4 hours in a week and only 43 (11.4%) respondent claimed that he/she is open Learning Zone above 4-6 hours in a week, and 21 respondents (5.6%) claimed themselves open Learning Zone above 6-8 hours in a week. Lastly, only 20 respondents (5.3%) claimed they are open Learning Zone more than 8 hours in a week. (Please refer to Appendix 3 (e))

Table 4.6:
Level of Respondent Open Learning Zone

Level of Respondent Open Learning Zone	Frequency	Percentage
0-2hours	216	57.1
Above 2-4hours	78	20.6
Above 4-6hours	43	11.4
Above 6-8hours	21	5.6
More than 8hours	20	5.3
Total	**378**	**100**

Table 4.7:
Respondents Background

Characteristics of Respondents	Frequency	Percentage (%)
Gender		
Male	115	30.4
Female	263	69.6
Age		
21-25	180	47.6
26-30	94	24.9
31-35	51	13.5
More than 35	53	14.0
Education Level		
Bachelor Degree	170	45.0
Master Degree	141	37.3
PhD Degree	67	17.7
Level of respondent Using Learning Zone		
Never	29	7.7
Rarely	40	10.6
Sometimes	116	30.7
Often	139	36.8
Very Often	54	14.3
Level of Respondent Open Learning Zone		
0-2hours	216	57.1
Above 2-4hours	78	20.6
Above 4-6hours	43	11.4
Above 6-8hours	21	5.6
More than 8hours	20	5.3

N=378 (Number of respondents)

4.4 DESCRIPTIVE STATISTICS FOR EACH VARIABLE

Descriptive statistics are portraying what the information shows. Essentially, this is the strategies used to compose, show, portray and clarify a set of information with utilization of tables, diagram and rundown measures (Johnson & Christense, 2004; Norusis, 1999). As indicated by Coakes and Steed (2007) unmistakable facts are utilized to depict, inspect and abridge the fundamental characteristics of gathered information quantitatively.

Respondents were asked to show their perceptions and agreement towards the statement in the surveys, utilizing the Seven Point Likert-Scale answers. The scale were ranged' between l=strongly disagree; to 7=strongly agree. In view of their score for every statement, researcher had discovered the average score (mean) for every variables. This quality was then arranged to the accompanying classifications to demonstrate their level of perceptions towards all variables:

- 1.00 to 2.25 = Low
- 2.26 to 3.75 = Moderate
- 3.76 to 5.00 = High

4.4.1 Attention

Table 4.7 represented mean and standard deviation scores of Independent Variable "Attention". Table 4.7 shows the respondents opinion on online Learning Zone in Universiti Utara Malaysia. The highest mean obtained is 4.82 where the respondent believed, Learning Zone helps them to increase their performance in learning. The respondents also believed that Learning Zone helps them to pay more attention to what is going on in lecture when conceptual questions will be presented (second highest mean = 4.72) and Learning Zone helps them to participate in the class (mean = 4.67). Also, Learning Zone helps them to respond with e-Learning (mean = 4.58). Whereas the lowest mean is Learning Zone helps them to review class materials in a fun way (mean = 4.47). (Please refer to Appendix 4 (a)).

Table 4.8:

Mean and Standard Deviation Score for Respondent Opinion of Attention Item

	Mean	**Std. Deviation**
In my opinion, Learning Zone helps me to increase my performance in learning	4.8280	1.51020
In my opinion, Learning Zone helps me to pay more attention to what is going on in lecture when conceptual questions will be presented	4.7222	1.59727
In my opinion, Learning Zone helps me to participate in the class	4.6772	1.56607
In my opinion, Learning Zone helps me to respond with e-Learning	4.5899	1.54288
In my opinion, Learning Zone helps me to review class materials in a fun way	4.4788	1.46065

4.4.2 Preparation

Table 4.9 represented mean and standard deviation scores of Independent Variable “Preparation”. Table 4.9 shows the respondents opinion on online Learning Zone in Universiti Utara Malaysia. The highest score for this variable fall at the item three, Learning Zone helps them to easily gather material needed for the course with the (mean=5.11). This shows that most of the respondents believed that Learning Zone can help them to get any material that they are needed for the course easily. Item one shows Learning Zone helps them in the learning process is the second highest mean (4.83). As for item two and four share the same mean, item two shows Learning Zone helps them to encourage working harder, for example answer questions in class (mean=4.76) and for item four is a Learning Zone helps them prepare for exams (mean=4.76).

Whereby item five is the lowest score is Learning Zone helps them to spend time on particular chapter for exam” (mean=4.75). It is shown in Table 4.9. (Please refer to Appendix 4 (b)).

Table 4.9:

Mean and Standard Deviation Score for Respondent Opinion of Preparation Item

	Mean	Std. Deviation
In my opinion, Learning Zone helps me to easily gather material needed for the course	5.1164	1.50585
In my opinion, Learning Zone helps me in the learning process	4.8360	1.58560
In my opinion, Learning Zone helps me to encourage working harder (eg. answer questions in class)	4.7619	1.49497
In my opinion, Learning Zone helps me prepare for exams	4.7619	1.61604
In my opinion, Learning Zone helps me to spend time on particular chapter for exam	4.7566	1.45636

4.4.3 Attitude

Refer to Table 4.10, the respondents gave the highest response on the item four and five is they are think other lecturer/professors should use Learning Zone in their courses with a mean of 5.42 and item five is they are willing to use learning zone score (mean=5.42). It is found that respondents do believe that lecturer/professors should use Learning Zone in their courses. Apart from that, item six is they are willing to use learning zone, (mean=5.30), item three is they are think this course should continue to use Learning Zone, (mean=5.15), item two is overall they are thought, the advantages of using response learning zone outweighed the disadvantages in this course, (mean=4.55). The lowest score is item one is they are thought this course did focus too much on using learning zone (mean=4.25).

All items scored high value of mean and this shows that all respondents hold positive attitude towards online Learning Zone. (Please refer to Appendix 4 (c)).

Table 4.10:
Mean and Standard Deviation Score for Respondent Opinion of Attitude Item

	Mean	**Std. Deviation**
I think other lecturer/professors should use Learning Zone in their courses	5.4259	1.34739
I am willing to use learning zone	5.4259	1.48237
I will recommend others to use Learning zone	5.3016	1.49235
I think this course should continue to use Learning Zone	5.1587	1.43144
Overall I thought, the advantages of using response learning zone outweighed the disadvantages in this course	4.5582	1.35406
I thought this course did focus too much on using learning zone	4.2593	1.50383

4.4.4 User Satisfaction

Table 4.11 shows the mean and standard deviation of dependent variable User Satisfaction. According to the result, it indicates that most of the respondents in this study are satisfied using Leaning Zone. The highest score in this dimension is item seven, they are satisfied in using Learning Zone with the score of (mean=5.23). On the contrary, item two is they are first time using Learning Zone worked out well, holds the lowest mean value with (mean=4.86).

For item three is they are happy when lecturers actively used Learning Zone, (mean=5.21), item four is they are confident it was the right thing to use Learning Zone which has the score of (mean=5.17). Meanwhile for item six and five is Learning Zone is user-friendly, scored (mean=5.14) and Learning Zone provides up-to-date information has scored the value of (mean=5.07). For the last item, one is they are experience at using the Learning Zone was good, (mean=4.89). (Please refer to Appendix 4 (d)).

Table 4.11:
Mean and Standard Deviation Score for Respondent Opinion of User Satisfaction Item

	Mean	**Std. Deviation**
I am satisfied in using Learning Zone	5.2302	1.54763
I am happy when lecturers actively used Learning Zone	5.2169	1.51229
I am confident it was the right thing to use Learning Zone	5.1772	1.39640
Learning Zone is user-friendly	5.1429	1.51936
Learning Zone provides up-to-date information	5.0741	1.47654
My experience at using the Learning Zone was good	4.8968	1.41513
My first time using Learning Zone worked out well	4.8677	1.33846

4.5 RELIABILITY TEST

Reliability is a degree to which measure of a concepts stable (Bryman, 2007). According to Cavana, et al., (2001), reliability measure is established by testing both consistency and stability. Consistency indicates how well items measuring a concept hang together as a set. Cronbach 's alpha is a reliability coefficient that indicates how well the items in a set are positively correlated to one another (Sekaran, 2009). Cronbach's alpha is computed in terms of the average intercorrelations among the items measuring the concept. The closer Cronbach's alpha is to 1, the higher the internal consistency reliability (Sekaran, 2009).

Then, reliability test must be done to see the degree of reliability on each item, dimension and variable. The degree of reliability is measured by the value of Cronbach's alpha. Hair, Black et al., (2006) detailed the degree of reliability through Cronbach's alpha where above 0.6 is normal, above 0.7 is above normal, 0.8 is good and above 0.9 is excellent. According to Sekaran (2009), 0.6 is the value that usually used in the study of social science. In this paper, the number of 29 respondents already took away because respondent never use Learning Zone, the actual number that has been used for the analysis is 349 respondent. The reliability result for this study as shown in Table 4.12. (Please refer to Appendix 5).

Table 4.12:
Reliability Result

Construct	Number Of items	Cronbach 's alpha
Attention	5	0.939
Preparation	5	0.946
Attitude	6	0.895
User Satisfaction	7	0.933

4.6 FACTOR ANALYSIS

Factor Analysis is a technique used to narrow data from a large scale of variable to a factor set that explain clearly important information only for certain variable (Coakes & Steed, 2007). According to Coakes & Steed (2007), minimum sample size of 100 is acceptable while sample size that bigger than 200 is the best. So, examination can be made in this study as the usable data sets was 78, exceeding 200 which is best for analysis. The testing of validity can be done in few ways and one of them is through construct validity. We can examine it through factor analysis.

Factor analysis must fullfill the condition to validate the analysis through the value of Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Barlett's test of Sphericity. KMO have to be in the range of 0.6 and Barlett 's test of sphericity must be significant (Pallant, 2005).

Next, looking at the comunalities and the value at Rotated Component Matrix will show the amount of factors towards a variable and items that correlate with each other. If the value is < 0.5, the item must be eliminated in the variable that been analysed.

4.6.1 Factor Analysis for Attention

Below is the factor analysis result for attention. Table 4.13 refers to factor analysis on attention. (Please refer to Appendix 6 (a)).

Table 4.13:
Factor Analysis on Attention

Variable: Attention	**Factor Loading**
Item	**1**
In my opinion, Learning Zone helps me to pay more attention to what is going on in lecture when conceptual questions will be presented	0.912
In my opinion, Learning Zone helps me to review class materials in a fun way	0.891
In my opinion, Learning Zone helps me to participate in the class	0.888
In my opinion, Learning Zone helps me to respond with e-Learning	0.885
In my opinion, Learning Zone helps me to increase my performance in learning	0.906
KMO Measure of Sampling Adequacy	0.891
Barlett 's test of sphericity	1503.04
Significant	0.000

From the result, KMO is 0.891 and the value of Barlett's test of sphericity is 1503.04 indicates significant. So, the minimum requirement for both indicators had been fulfilled and factor analysis for variable attention can be analysed for the next step. Result from the analysis only shows one factor.

4.6.2 Factor Analysis for Preparation

Table 4.14 shows the result of factor analysis towards preparation. The result is shown below:

Table 4.14:
Factor Analysis on Preparation

Variable: Preparation	**Factor Loading**
Item	**1**
In my opinion, Learning Zone helps me in the learning process	0.907
In my opinion, Learning Zone helps me to encourage working harder (eg. answer questions in class)	0.892
In my opinion, Learning Zone helps me to easily gather material needed for the course	0.901
In my opinion, Learning Zone helps me prepare for exams	0.917
In my opinion, Learning Zone helps me to spend time on particular chapter for exam	0.921
KMO Measure of Sampling Adequacy	0.891
Barlett 's test of sphericity	1659.89
Significant	0.000

From the result, KMO is 0.891 and the value of Barlett's test of sphericity is 1659.89 indicates significant. So, the minimum requirement for both indicators had been fulfilled and factor analysis for variable preparation can be analysed for the next step. Result from the analysis only shows one factor. (Please refer to Appendix 6 (b)).

4.6.3 Factor Analysis for Attitude

Table 4.15 shows the result of factor analysis towards attitude. The result is shown below:

Table 4.15:
Factor Analysis on Attitude

Variable: Preparation	**Factor Loading**
Item	**1**
I thought this course did focus too much on using learning zone	0.757
Overall I thought, the advantages of using response learning zone outweighed the disadvantages in this course	0.686
I think this course should continue to use Learning Zone	0.911
I think other lecturer/professors should use Learning Zone in their courses	0.920
I am willing to use learning zone	0.909
I will recommend others to use Learning zone	0.905
KMO Measure of Sampling Adequacy	0.860
Barlett 's test of sphericity	1777.42
Significant	0.000

From the result, KMO is 0.860 and the value of Barlett's test of sphericity is 1777.42 indicates significant. So, the minimum requirement for both indicators had been fulfilled and factor analysis for variable attitude can be analysed for the next step. (Please refer to Appendix 6 (c)).

4.6.4 Factor Analysis for User Satisfaction

Table 4.16 shows the result of factor analysis towards user satisfaction. The result is shown below:

Table 4.16:
Factor Analysis on User Satisfaction

Variable: Preparation	**Factor Loading**
Item	**1**
My experience at using the Learning Zone was good	0.844
My first time using Learning Zone worked out well	0.734
I am happy when lecturers actively used Learning Zone	0.849
I am confident it was the right thing to use Learning Zone	0.882
Learning Zone provides up-to-date information	0.849
Learning Zone is user-friendly	0.860
I am satisfied in using Learning Zone	0.891
KMO Measure of Sampling Adequacy	0.882
Barlett 's test of sphericity	2086.45
Significant	0.000

From the result, KMO is 0.882 and the value of Barlett's test of sphericity is 2086.45 indicates significant. So, the minimum requirement for both indicators had been fulfilled and factor analysis for variable user satisfaction can be analysed for the next step. Result from the analysis only shows one factors. (Please refer to Appendix 6 (d)).

4.7 CORRELATION

The correlation analysis is to determine the relationship between Attention, Preparation, and Attitude towards user satisfaction in using Learning Zone. In this study, we also tried to measure the hypotheses for all variables that have been showed and listed in table 4.17.

Table 4.17:
To measure the hypotheses

Variables	Research Objectives	Research Questions	Hypotheses
Attention	To determine the relationship between attention and users attitude towards online learning zone	What is the relationship between attention and users attitude towards online learning zone?	H1: Perceived attention has a significant effect on user attitude
Preparation	To determine the relationship between preparation and users attitude towards online learning zone	What is the relationship between preparation and users attitude towards online learning zone?	H2 : Perceived preparation has a significant effect on user attitude
Attitude	To determine the relationship between users attitude and satisfaction with online learning zone	What is the relationship between user's attitude and satisfaction with online learning zone?	H3 : Users attitude is significantly related to users satisfaction

The result of the correlation analysis is used in testing all variables for independent and dependent variables and come out with three hypotheses that been discussed in the following sections.

The coefficient of the correlation is ranged between -1 and +1 and such value shows the strength of relationship which has been categorized in to high, low or moderate depending on value of the correlation coefficient.

The level of significance can be either 0.05 or 0.10 for lower and higher coefficient respectively. The correlation is derived by assessing the variations in one variable as another variable also varies (Sekaran, 2009).

4.7.1 Attention and Attitude

Table 4.18*:*
Correlation between Attention and User Attitude

		Attention
Attitude	Pearson Correlation	0.703
	Sig. (1-tailed)	0.000
	N	349

As shown in the table 4.18, there is positive relationship between attention and user attitude (r=0.703, p=0.000). This is because the p value, 0.000 is less than alpha value, 0.05 and the r = 0.703 shows that attention and attitude are in strong positive relationship.

4.7.2 Preparation and Attitude

Table 4.19*:*
Correlation between Preparation and User Attitude

		Preparation
Attitude	Pearson Correlation	0.788
	Sig. (1-tailed)	0.000
	N	349

As shown in Table 4.19, there is a positive relationship between preparation and user attitude at $r = 0.788$ when $p = 0.000$. This is because the p value, 0.000 is less than alpha value and the r value more than 0.05 it shows that there is strong positive relationship between preparation and attitude.

Table 4.20*:*
Results of Correlation Analysis

	Attention (IV1)	**Preparation (IV2)**	**Attitude (MV)**	**User Satisfaction (DV)**
Attention (IV1)	1	0.834**	0.703**	0.782**
Preparation (IV2)	0.834**	1	0.788**	0.825**
Attitude (MV)	0.703**	0.788**	1	0.809**
User Satisfaction (DV)	0.782**	0.825**	0.809**	1

**. Correlation is significant at the 0.01 level (1-tailed).

Overall, table 4.20 shows all variables are significant to each other. All variables have strong positive relation with user satisfaction. (Please refer to Appendix 7).

4.8 REGRESSION ANALYSIS

This study used regression analysis which is linear regression. The purpose of regression analysis is to measure direction and strength of the relationship between independent variable and dependent variable. Linear regression is an analysis to examine an independent variable with dependent variable. This technique has the ability to identify which independent variable has more predictive power towards dependent variable (Sekaran & Bougie, 2013).

At first, linear regression method is use to see the influence of attention and preparation towards attitude; and attitude towards user satisfaction. The results are: (Please refer to Appendix 8).

4.8.1 Attention and Preparation Towards Attitude

Table 4.21
Model Summary and Anova between Attention and Preparation toward Attitude

Model 1 (a)	r	r^2	Adjusted r^2	Std. Error of the Estimate	r^2 Change	Anova	
						F	Sig
Preparation Attention	0.793	0.628	0.626	0.71316	0.628	292.177	0.000

a. Predictors: (Constant), Preparation, Attention
b. Dependent Variable: Attitude

According to table 4.21 at model 1 (a), r = 0.793 and r^2 = 0.628. Value of r^2 as coefficient determinant which means 62.8% of attitude can be explained by attention and preparation and the remaining percentage is affected by other factors.

Table 4.22:
Coefficient Statistic Attention and Preparation towards Attitude

Model 1(b)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.719	0.143		12.028	0.000
Attention	0.128	0.050	0.151	2.543	0.011
Preparation	0.557	0.050	0.662	11.157	0.000

a. Dependent Variable: Attitudes

As seen in table 4.22, model 1 (b) show that the equation of regression = 1.719+ 0.151ATT + 0.662P. Constant here means that without Attention and Preparation, Attitude is 1.719. A beta value of Attention and Preparation is 0.151 and 0.662 as obtained in Table 4.22 means that a 1% change or increase in attention and preparation will lead to 0.151 % and 0.662% change or increase in user attitude of learning zone.

Besides that results of coefficients at model 1 (b) also shows that t = 2.543, 11.15 and $p < 0.05$. The observation shows that attention and preparation absolutely significant and effect towards user attitude. In other words attention and preparation affect as much as 62.8% towards user attitude. So, Hypotheses H_1 and H_2 are accepted and failed to rejects. Therefore, we can proceed to Step 2.

4.8.2 Attitude Towards User Satisfaction

Table 4.23
Model Summary and Anova between Attitudes toward User Satisfaction

Model 2 (a)	r	r^2	Adjusted r^2	Std. Error of the Estimate	r^2 Change	Anova	
						F	Sig
Attitude	0.809	0.655	0.654	0.72194	0.655	658.930	0.000

a. Predictors: (Constant), Attitude
b. Dependent Variable: User Satisfaction

According to table 4.23 at model 2 (a), r = 0.809 and r^2 = 0.655. Value of r^2 as coefficient determinant which means 65.5% of user satisfaction can be explained by attitude and the remaining percentage is affected by other factors.

Table 4.24*:*
Coefficient Statistic Attitude towards User Satisfaction

Model 2 (b)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.818	0.171		4.781	0.000
Attitudes	0.852	0.033	0.809	25.670	0.000

a. Dependent Variable: User Satisfaction

As seen in table 4.24, model 2 (b) show that the equation of regression = 0.818 + 0.809Attitude. Constant here means that without Attitude, User Satisfaction is 0.818. A beta value of 0.809 as obtained in Table 4.24 means that a 1% change or increase in attitude will lead to 0.809% change or increase in user satisfaction of learning zone.

Besides that results of coefficients at model 2 (b) also shows that t = 25.67 and $p < 0.05$. The observation shows that attitude absolutely significant and effect towards user satisfaction. In other words attitude affect as much as 65.5% towards user satisfaction. So, Hypotheses H_3 are accepted and failed to rejects.

Table 4.25*:*
Summarize of the hypotheses result

Hypothesis		Result
H_1	Perceived attention has a significant effect on user attitude	Accept
H_2	Perceived preparation has a significant effect on user attitude	Accept
H_3	Users attitude is significantly related to users satisfaction	Accept

To summarize the results of hypothesis testing, we illustrated it in Table 4.25. Overall, all hypotheses are accepted to answer the research question and research objectives.

4.9 CHAPTER SUMMARY

This part had exposed the research findings between independent variable and dependent variable for the study. The findings will be discuss in chapter 5 to explain and help researcher to understand the phenomena that is happening during research process that will lead to discussion for improvement in the future.

CHAPTER 5

DISCUSSION, RECOMMENDATION AND CONCLUSION

5.0 INTRODUCTION

This chapter shows discourse on research finding as exhibited in past section. All things that had been dissected in exploration discovering will be introduced in this part to highlight the effect of attention and preparation and influences of attitude towards user satisfaction. This part additionally gives review of the introduction, survey of related literature review, methodology and findings of the study. Finally, the deductions from the discoveries will be talked about in this section and essential suggestion for future research had likewise been recommended.

5.1 DISCUSSION

This study was conducted in Universiti Utara Malaysia and the population for the research is approximately 23,550 students on 06/10/2013 that have access to Learning Zone. 378 respondents had participated in the survey to represent the population and only 378 questionnaires were useable for the research among 500 questionnaire are distributed. The two objectives are to measure level of acceptance and satisfaction using Learning Zone among UUM's students.

Furthermore, this study also recognized which dimension under the needs factors that have the highest influence (dominant factors) towards user satisfaction of Learning Zone. Questionnaire had been developed based on TRA for data collection. The questionnaire was design to collect answers about level of acceptance and satisfaction when using Learning Zone. This was done by using the questionnaire that containing two sections: Section (A) asked about demographic characteristics of the respondents and Section (B, C, D and E) asked about independent variables and dependent variables such as preparation, attention, attitudes and user satisfaction.

In general, applied theory for this study is Theory of Reasoned Action (TRA) created by Fishbein and Ajzen (1975) which can be used for predicting factors influencing user satisfaction and explains Learning Zone. The primary goal of this study is to explore the relationship between elements impacting the user satisfaction. Based on the analysis above, out of three dimensions, all of them are supported with the hypothesis testing.

Then, collected data were analysed by using Statistical Package for Social Science (SPSS) version 20.0. The independent variables are attention, preparation and attitude towards user satisfaction. Correlation and simple regressions were analysed to achieve both objectives of the research.

5.2 DISCUSSION OF FINDING

Objective 1: To examine whether attention and preparation influence user's attitude towards Learning Zone.

The result of the findings shows that there is significant relationship between attention and preparation towards user attitude. Thus, we accept H_1 and H_2 and the study had finally achieved its objectives to answer the research questions and research objectives. A research by J. K. Eastman et al. (2011) also had a positive relationship between attentions towards user attitude on Interactive Technology however there was not a positive relationship between learners' preparation and their attitudes to Interactive Technology. These effects are additionally like those are discovered by Lincoln (2008) and Ghosh and Renna (2009). In the event the students see that they give careful consideration because of the utilization of Learning Zone, they are less averse to have an inspirational mentality to Interactive Technology.

Furthermore, students saw that Learning Zone helped them take in the material, get ready for exams, and work harder. Truth be told, the relationship between preparation and attitude was positive and significant. Along these lines, it may be that learners ascribe their additional exertion to themselves instead of to the technology or that what they like about Learning Zone is that it is amusing to use in class and not that it improves their taking in. Additionally, the way that student cooperation influenced their evaluation may have affected their state of attitudes.

In this study, we can see the result of learning zone is a best way to embrace helpful provision on E-learning, and this may recommend that people have a tendency to concentrate on the convenience of the technology itself and make them more attention and preparation during the class (Maslin, 2007).

Objective 2: To examine whether attitude influence user's satisfaction towards using UUM's Learning Zone.

From the findings in chapter four, results show that there is influence on attitude towards user satisfaction. Although we accept H_3, regressions analysis shows that attitude achieved its objectives to answer the research questions and research objectives. The study verified the students' acceptance of E-learning technology through Learning Zone. Students who have a positive attitude towards e-learning will easily accepted e-learning (Research Institute of Bangkok University, 2002). On the whole, students have a positive view towards MOODLE or Learning Zone. Overall, scholars like and are satisfied by Learning Zone. This is like the discoveries by Lincoln (2008). Moreover, in this research expands this line of research, as researcher model discovered a positive relationship between likings Learning Zone and being satisfied with it. Somehow, TRA appears to be served to demonstrate and articulate attitude and expectation of student.

5.3 RECOMMENDATIONS FOR FUTURE RESEARCH

Results of this study confirmed that the three elements of TRA significantly explained the acceptance level and satisfaction among UUM's students. However, to what extent the attention, preparation and attitude can be stable over time to achieve satisfaction in using Learning Zone?

Due to time constraint and cost, only 500 students were selected in the study to represent the population of UUM students. It is suggested that in the future researcher should select more respondents to participate in the study for data accuracy and reliability. Furthermore, the experience of using Learning Zone should be counted as new user may find it difficult to use and indirectly affect the satisfaction level. So, for the next questionnaire, researcher can separated into new users and existing users for comparison.

The study only measures the level of acceptance and satisfaction from the student's perspective. In UUM, lecturers also use Learning Zone. Therefore, researcher suggests that in the future this kind of study may have included lecturers as respondents in order to measure the level of acceptance and satisfaction of Learning Zone in a bigger context.

Another else, Learning Zone enable teacher to interact with students with more effective. However, effort to make implementation a success require lecturer be trained, have good network facility and access to technology, technical and administrative support. In the future, UUM members should frequently attend 'hands-on' workshop on implementing e-learning in their classroom to improve their knowledge about e-learning.

A huge commitment of this study to the literature is the improvement and organization of showed dependable and substantial measures that might be utilized as a part of future studies to measure the effect of Learning Zone. Hence, researcher plans to help the literature by starting examination and measuring the effect of this e-learning tool.

5.4 CONCLUSION

Researcher analyzed student recognitions of their attention and preparation for class through the application of Learning Zone. Also, researcher measured student attitudes and satisfaction with the application of Learning Zone. Generally speaking, students' attention, preparation, attitude, and satisfaction with Learning Zone were honestly high. In testing the relationship between these three develops, there was a positive relationship between attention and attitudes toward Learning Zone and between attitudes and satisfaction with Learning Zone. There are additionally a positive relationship between learners' preparation and their attitudes toward Learning Zone. Along these lines, all hypotheses were supported. Researcher gave measures of these builds and showed the reliability and validity of the measures to encourage extra research on the effect of Learning Zone in the classroom.

This study also represents research in examining TRA in E-learning technology within the academic setting. Data were collected from UUM's students' who have access to Learning Zone. The contribution of the study will be in the preeminent in educational context as previous study was being done in organizational group. The study also reveals that attention and preparation may lead attitude on Learning Zone technology. Administrator should focus on how the technology can improve the usage of E-learning tool and help increase in efficiency and effectiveness of knowledge transformation.

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APPENDICES

Appendix 1: Letter of Application

Universiti Utara Malaysia

Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman, Malaysia
Tel : (604) 928 5656/5657
Fax: (604) 928 5220
Website: www.oyagsb.uum.edu.my

KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/K-14
01 October 2013

TO WHOM IT MAY CONCERN

Dear Sir/Madam

DATA COLLECTION

COURSE : DISSERTATION
COURSE CODE : BPMZ 69912
LECTURER : DR. ALIYU OLAYEMI ABDULLATEEF

This is to certify that the following is a postgraduate student from the OYA Graduate School of Business, Universiti Utara Malaysia. She is pursuing the above mentioned course which requires her to undertake an academic study and prepare an assignment. The details are as follows:

NO.	NAME	MATRIC NO.
1.	Anisah Binti Abdul Ghani	812338

In this regard, I hope that you could kindly provide assistance and cooperation for her to successfully complete the assignment given. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"SCHOLARSHIP, VIRTUE, SERVICE"

Yours faithfully

KARTINI BINTI DATO' TAJUL URUS
Assistant Registrar
on behalf of
Dean
Othman Yeop Abdullah Graduate School of Business

c.c - Student's File (812338)

The Eminent Management University

Appendix 2: Questionnaire

SURVEY QUESTIONNAIRE

THE IMPACT OF STUDENTS ATTENTION, PREPARATION AND ATTITUDE ON SATISFACTION WITH ONLINE LEARNING ZONE

Dear Participant,

I am a postgraduate student at College of Business, Universiti Utara Malaysia. Please be informed that you have been selected to participant in this research that is designed to examine UUM students' attention, preparation and attitude towards online learning zone. This questionnaire is partial requirement in completing a project paper for Master of Science (Management). It will take no longer than 10 minutes to complete the questionnaire.

Your cooperation to answer this questionnaire honestly is needed in order to produce a reliable research report. All information given in this questionnaire will be kept **STRICTLY** and **CONFIDENTIAL** for academic purpose only.

Thank you very much for your time and cooperation.

Anisah Binti Abdul Ghani
MSc Management
College of Business (COB)
Universiti Utara Malaysia

SECTION A: DEMOGRAPHICS

Please tick (x) your answer on the following question and gives appropriate answers for the questions below.

1) Gender

   ___ Male ___ Female

2) Age

   ___ 21-25 ___ 26-30 ___ 31-35 ___ More than 35

3) Educational Level

   ___ Bachelor degree

   ___ Master degree

   ___ PhD degree

4) How often do you use learning zone to prepare for any course before entering the classes?

   ___ Never

   ___ Rarely

   ___ Sometimes

   ___ Often

   ___ Very Often

5) How many hours do you open learning zone for any course in a week?

   ___ 0-2 hours

   ___ Above 2 - 4 hours

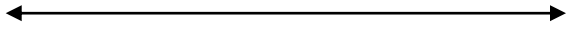
   ___ Above 4 - 6 hours

   ___ Above 6 - 8 hours

   ___ More than 8 hours

SECTION B: ATTENTION

Instruction: Please circle (O) the number that represents your most appropriate answer.



7 6 5 4 3 2 1

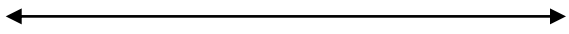
Strongly Agree **Strongly Disagree**

ATTENTION

In my opinion, Learning Zone helps me to…

1	Pay more attention to what is going on in lecture when conceptual questions will be presented	1	2	3	4	5	6	7
2	Review class materials in a fun way	1	2	3	4	5	6	7
3	Participate in the class	1	2	3	4	5	6	7
4	Respond with *e-Learning*.	1	2	3	4	5	6	7
5	Increase my performance in learning	1	2	3	4	5	6	7

Section C: PREPARATION



7 6 5 4 3 2 1

Strongly Agree **Strongly Disagree**

PREPARATION

In my opinion, Learning Zone helps me…

1	In the learning process	1	2	3	4	5	6	7
2	To encourage working harder (eg. answer questions in class)	1	2	3	4	5	6	7
3	To easily gather material needed for the course	1	2	3	4	5	6	7
4	Prepare for exams	1	2	3	4	5	6	7
5	To spend time on particular chapter for exam	1	2	3	4	5	6	7

SECTION D: ATTITUDES

Instruction: Please circle (O) the number that represents your most appropriate answer

7 6 5 4 3 2 1

Strongly Agree **Strongly Disagree**

ATTITUDES

1	I thought this course did focus too much on using learning zone	1	2	3	4	5	6	7
2	Overall I thought, the advantages of using response learning zone outweighed the disadvantages in this course	1	2	3	4	5	6	7
3	I think this course should continue to use Learning Zone	1	2	3	4	5	6	7
4	I think other lecturer/professors should use Learning Zone in their courses	1	2	3	4	5	6	7
5	I am willing to use learning zone	1	2	3	4	5	6	7
6	I will recommend others to use Learning zone	1	2	3	4	5	6	7

SECTION E: USER SATISFACTION

Instruction: Please circle (O) the number that represents your most appropriate answer.

USER SATISFACTION

1.	My experience at using the Learning Zone was good	1	2	3	4	5	6	7
2.	My first time using Learning Zone worked out well	1	2	3	4	5	6	7
3.	I am happy when lecturers actively used Learning Zone	1	2	3	4	5	6	7
4.	I am confident it was the right thing to use Learning Zone	1	2	3	4	5	6	7
5.	Learning Zone provides up-to-date information	1	2	3	4	5	6	7
6.	Learning Zone is user-friendly	1	2	3	4	5	6	7
7.	I am satisfied in using Learning Zone	1	2	3	4	5	6	7

Thank you for your cooperation

Appendix 3: Frequencies Analysis

a) Statistics

		Gender	Age	Education Level	How often do you use learning zone to prepare for any course before entering the classes?	How many hours do you open learning zone for any course in a week?
N	Valid	378	378	378	378	378
	Missing	0	0	0	0	0
Mean		1.6958	1.9392	1.7275	3.3942	1.8122
Skewness		-.854	.790	.488	-.526	1.399
Std. Error of Skewness		.125	.125	.125	.125	.125
Kurtosis		-1.277	-.744	-1.058	-.244	.996
Std. Error of Kurtosis		.250	.250	.250	.250	.250

b) Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	115	30.4	30.4	30.4
	female	263	69.6	69.6	100.0
	Total	378	100.0	100.0	

c) Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	21-25	180	47.6	47.6	47.6
	26-30	94	24.9	24.9	72.5
	31-35	51	13.5	13.5	86.0
	More than 35	53	14.0	14.0	100.0
	Total	378	100.0	100.0	

d) EducationLevel

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor Degree	170	45.0	45.0	45.0
	Master Degree	141	37.3	37.3	82.3
	PhD Degree	67	17.7	17.7	100.0
	Total	378	100.0	100.0	

e) How often do you use learning zone to prepare for any course before entering the classes?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	never	29	7.7	7.7	7.7
	rarely	40	10.6	10.6	18.3
	somestimes	116	30.7	30.7	48.9
	often	139	36.8	36.8	85.7
	very often	54	14.3	14.3	100.0
	Total	378	100.0	100.0	

f) How many hours do you open learning zone for any course in a week?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0-2hours	216	57.1	57.1	57.1
	Above 2-4hours	78	20.6	20.6	77.8
	Above 4-6hours	43	11.4	11.4	89.2
	Above 6-8hours	21	5.6	5.6	94.7
	More than 8hours	20	5.3	5.3	100.0
	Total	378	100.0	100.0	

Appendix 4: Descriptive Analysis

a) Attention

	N	Minimum	Maximum	Mean	Std. Deviation
In my opinion, Learning Zone helps me to increase my performance in learning	378	1.00	7.00	4.8280	1.51020
In my opinion, Learning Zone helps me to pay more attention to what is going on in lecture when conceptual questions will be presented	378	1.00	7.00	4.7222	1.59727
In my opinion, Learning Zone helps me to participate in the class	378	1.00	7.00	4.6772	1.56607
In my opinion, Learning Zone helps me to respond with e-Learning	378	1.00	7.00	4.5899	1.54288
In my opinion, Learning Zone helps me to review class materials in a fun way	378	1.00	7.00	4.4788	1.46065
Valid N (listwise)	378				

b) Preparation

	N	Minimum	Maximum	Mean	Std. Deviation
In my opinion, Learning Zone helps me to easily gather material needed for the course	378	1.00	7.00	5.1164	1.50585
In my opinion, Learning Zone helps me in the learning process	378	1.00	7.00	4.8360	1.58560
In my opinion, Learning Zone helps me to encourage working harder (eg. answer questions in class)	378	1.00	7.00	4.7619	1.49497
In my opinion, Learning Zone helps me prepare for exams	378	1.00	7.00	4.7619	1.61604
In my opinion, Learning Zone helps me to spend time on particular chapter for exam	378	1.00	7.00	4.7566	1.45636
Valid N (listwise)	378				

c) Attitude

	N	Minimum	Maximum	Mean	Std. Deviation
I think other lecturer/professors should use Learning Zone in their courses	378	1.00	7.00	5.4259	1.34739
I am willing to use learning zone	378	1.00	7.00	5.4259	1.48237
I will recommend others to use Learning zone	378	1.00	7.00	5.3016	1.49235
I think this course should continue to use Learning Zone	378	1.00	7.00	5.1587	1.43144
Overall I thought, the advantages of using response learning zone outweighed the disadvantages in this course	378	1.00	7.00	4.5582	1.35406
I thought this course did focus too much on using learning zone	378	1.00	7.00	4.2593	1.50383
Valid N (listwise)	378				

d) User Satisfaction

	N	Minimum	Maximum	Mean	Std. Deviation
I am satisfied in using Learning Zone	378	1.00	7.00	5.2302	1.54763
I am happy when lecturers actively used Learning Zone	378	1.00	7.00	5.2169	1.51229
I am confident it was the right thing to use Learning Zone	378	1.00	7.00	5.1772	1.39640
Learning Zone is user-friendly	378	1.00	7.00	5.1429	1.51936
Learning Zone provides up-to-date information	378	1.00	7.00	5.0741	1.47654
My experience at using the Learning Zone was good	378	1.00	7.00	4.8968	1.41513
My first time using Learning Zone worked out well	378	1.00	7.00	4.8677	1.33846
Valid N (listwise)	378				

Appendix 5: Reliability Analysis

Reliability Statistics (Attention)

Cronbach's Alpha	N of Items
.939	5

Reliability Statistics (Preparation)

Cronbach's Alpha	N of Items
. 946	5

Reliability Statistics (Attitude)

Cronbach's Alpha	N of Items
. 895	6

Reliability Statistics (User Satisfaction)

Cronbach's Alpha	N of Items
. 933	7

Appendix 6: Factor Analysis

a) Attention

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.891
Bartlett's Test of Sphericity	Approx. Chi-Square	1503.044
	df	10
	Sig.	.000

Component Matrix[a]

	Component
	1
In my opinion, Learning Zone helps me to pay more attention to what is going on in lecture when conceptual questions will be presented	.912
In my opinion, Learning Zone helps me to review class materials in a fun way	.891
In my opinion, Learning Zone helps me to participate in the class	.888
In my opinion, Learning Zone helps me to respond with e-Learning	.885
In my opinion, Learning Zone helps me to increase my performance in learning	.906

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

b) Preparation

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.891
Bartlett's Test of Sphericity	Approx. Chi-Square	1659.893
	df	10
	Sig.	.000

Component Matrix[a]

	Component
	1
In my opinion, Learning Zone helps me in the learning process	.907
In my opinion, Learning Zone helps me to encourage working harder (eg. answer questions in class)	.892
In my opinion, Learning Zone helps me to easily gather material needed for the course	.901
In my opinion, Learning Zone helps me prepare for exams	.917
In my opinion, Learning Zone helps me to spend time on particular chapter for exam	.921

Extraction Method: Principal Component Analysis.
a.1 components extracted.

c) Attitude

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.860
Bartlett's Test of Sphericity	Approx. Chi-Square	1777.426
	df	15
	Sig.	.000

Component Matrix[a]

	Component	
	1	2
I thought this course did focus too much on using learning zone	.519	.757
Overall I thought, the advantages of using response learning zone outweighed the disadvantages in this course	.686	.541
I think this course should continue to use Learning Zone	.911	-.107
I think other lecturer/professors should use Learning Zone in their courses	.920	-.243
I am willing to use learning zone	.909	-.295
I will recommend others to use Learning zone	.905	-.176

Extraction Method: Principal Component Analysis.
a. 2 components extracted.

d) User Satisfaction

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Sphericity	Approx. Chi-Square	2086.450
	df	21
	Sig.	.000

Component Matrix[a]

	Component
	1
My experience at using the Learning Zone was good	.844
My first time using Learning Zone worked out well	.734
I am happy when lecturers actively used Learning Zone	.849
I am confident it was the right thing to use Learning Zone	.882
Learning Zone provides up-to-date information	.849
Learning Zone is user-friendly	.860
I am satisfied in using Learning Zone	.891

Extraction Method: Principal Component Analysis.
a. 1 components extracted.

Appendix 7: Correlation Analysis

Correlations

		Attention	Preparation	Attitudes	User Satisfaction
Attention	Pearson Correlation	1	.834**	.703**	.782**
	Sig. (1-tailed)		.000	.000	.000
	N	349	349	349	349
Preparation	Pearson Correlation	.834**	1	.788**	.825**
	Sig. (1-tailed)	.000		.000	.000
	N	349	349	349	349
Attitudes	Pearson Correlation	.703**	.788**	1	.809**
	Sig. (1-tailed)	.000	.000		.000
	N	349	349	349	349
User Satisfaction	Pearson Correlation	.782**	.825**	.809**	1
	Sig. (1-tailed)	.000	.000	.000	
	N	349	349	349	349

**. Correlation is significant at the 0.01 level (1-tailed).

Appendix 8: Regression Analysis

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.793[a]	.628	.626	.71316	.628	292.177	2	346	.000

a. Predictors: (Constant), Preparation, Attention

b. Dependent Variable: Attitudes

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	297.199	2	148.599	292.177	.000[b]
	Residual	175.973	346	.509		
	Total	473.172	348			

a. Dependent Variable: Attitudes

b. Predictors: (Constant), Preparation, Attention

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.719	.143		12.028	.000
	Attention	.128	.050	.151	2.543	.011
	Preparation	.557	.050	.662	11.157	.000

a. Dependent Variable: Attitudes

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
2	.809[a]	.655	.654	.72194	.655	658.930	1	347	.000

a. Predictors: (Constant), Attitudes

b. Dependent Variable: User Satisfaction

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	343.437	1	343.437	658.930	.000[b]
	Residual	180.858	347	.521		
	Total	524.294	348			

a. Dependent Variable: User Satisfaction

b. Predictors: (Constant), Attitudes

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2	(Constant)	.818	.171		4.781	.000
	Attitudes	.852	.033	.809	25.670	.000

a. Dependent Variable: User Satisfaction