An Analysis of the Attitudes of the Lockerbie College Community towards Moodle

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Definition of Terms

Asynchronous Learning – Teaching occurs at a given time but the information is available to be accessed by students at a time convenient to them.

E-learning – The use of electronic communications technology to facilitate and enable learning.

Independent Samples T-Test – A statistical test used to compare the means of two unrelated groups on the same continuous, dependent variable.

Moodle – This is the acronym for Modular Object-Oriented Dynamic Learning Environment which is a commonly used e-learning platform.

Multiple Regression – Statistical test used to indicate the relationship between three or more variables. This test can explain the extent to which one variable can be explained by one or more of the other variables.

Pearson's Correlation – Statistical test used to analyse the relationship between two variables.

Synchronous Learning – Communication and Interaction occurring in real time but not necessarily face-to-face.

Executive Summary

This report provides a comprehensive analysis and evaluation of the attitudes of teachers and students at Lockerbie College towards Moodle, their e-learning platform. Data for the research project was collected through observation of various classes and interviews with teachers and students of both genders. Statistical tests such as Pearson's Correlation, Independent Samples T-Test and a Multiple Regression were used to analyse the quantitative data whereas the qualitative data was analysed using a thematic analysis.

The results indicate that all participants consider Moodle to be a useful tool which enhances the teaching and learning processes and is relatively easy to use. The adoption of new technology is significantly influenced by perceived advantages, compatibility with existing needs and complexity of use. Essentially, a system which is deemed as easy to use and present its users with advantages while satisfying their needs will be adopted and repeatedly used. It was also found that there was no significant difference in the attitudes towards Moodle either between males and females or students and teachers. However, a few drawbacks were identified which if resolved, would provide Moodle with the opportunity to truly live up to its potential in the classroom. Recommendations discussed include:

- Properly train teachers in using all features of Moodle
- Similarly train students
- Where possible, provide incentives for using Moodle
- Make it mandatory for teachers to use Moodle especially for certain subjects
- Implement a buddy system among teachers and students who have difficulty navigating Moodle

Introduction

In recent years, there have been several technological advances in the educational realm which aim to enhance the quality of the students' life and their classroom experience by way of creating new and innovative ways of carrying out daily academic activities. Research suggests that the most notable of these advances is the introduction of E-learning, which is also referred to as internet-based learning, virtual learning and online education.

E-learning, described simply as the use of technology in learning, has evolved as one of today's fastest moving trends which provides increased access to educational material. Sumak, Hericko, Pusnik and Polancic (2011) indicate that an E-learning system offers services which are required in order to effectively manage aspects of a course through a consistent and single web interface. Such services include course content management, peer assessment, online questionnaires and quizzes and collection and organisation of grades. Comparable uses of E-learning were also recorded by Ong and Lai (2006). Researchers further note that E-learning systems essentially offer students the opportunity to transition from passive to active learners by means of exposure to both synchronous and asynchronous learning resources and activities.

Numerous Higher Education Institutions (HEIs) across the United States and the United Kingdom have been at the forefront with regards to the use of E-learning platforms and have testified that such systems have a positive effect on the learning and development of their students. Similarly sentiments were echoed by education officials in Malaysia (Kamarulzaman, Madun & Ghani, 2011). In contrast, a study by Wang et al. (2009) as cited in Kamarulzaman, Madun & Ghani (2011) found that Higher Education Institutions in China were not entirely on board with the use of E-learning technology primarily because a number of lecturers were not convinced of its alleged benefits to students. Over time, many E-learning platforms have been developed. These range from commercial software such as WebCT and Blackboard to open-source software such as Moodle and Atutor. It should be noted that although these platforms offer varying degrees of flexibility, they actually share parallel features. However, for the purpose of this paper, the focus will be on Moodle.

Moodle, the acronym for Modular Object-Oriented Dynamic Learning Environment, was launched in 1999 as an international development venture designed to sustain the social framework of education (Kamarulzaman, Madun & Ghani, 2011). This platform is compatible with popular operating systems – Windows, Mac and Linux and is most commonly used in conjunction with the traditional teaching method in undergraduate and postgraduate university programmes. Sumak et al. (2011) also affirms that Moodle provides an online channel for continuous and timely communication between students and instructors as well as a means whereby the instructors can easily upload and grade notes and assessments respectively.

However, notwithstanding the aforementioned services of this virtual learning platform, Sumak et al. (2011) vehemently state that the true benefits of this system will not be enjoyed if the intended users fail to use it. This means that before new technology can function at its optimal level, it must first be accepted and adopted by prospective users. It was also suggested that a user's perception, acceptance and use of an online system can be influenced by factors which fall into two main categories – technological features (reliability and advantages) and individual characteristics (gender and experience with technology). Thus, a system developer's biggest challenge is to create a comprehensive and appropriate system which has the capacity to meet the demands and satisfy the needs of all potential users.

Furthermore, Sumak et al. (2011) note that the adoption of an E-learning platform is seen as technology adoption and is best explained using the Technological Acceptance Model (TAM) which was put forward by Davis (1989). This model was put forward with the aim of providing a probable reason for eventual users' behavioural intentions when using technology on the grounds that it explains the causal links between beliefs, attitudes, intentions and actual system usage (Sumak et al., 2011). In essence, the Technological Acceptance Model is a useful theoretical tool in understanding technological acceptance and integration. Its main components are perceived ease of use (PEOU), perceived usefulness (PU) and behavioural intention (BI). Attitude towards the system is also examined within the model. According to Ong and Lai (2006), PEOU is the degree to which a person believes that using a system would require little effort. PEOU is expected to influence PU and BI to use, either directly or indirectly through its effect on perceived usefulness. With reference to PU and BI, this is the extent to which an individual is convinced that using a particular system will enhance his/her performance and the degree to which a person has devised a plan to perform or not perform a specific behaviour in the future, respectively. The researchers also indicate that if usage is reinforced by rewards such as higher wages, bonuses or better grades, perceived usefulness will increase.

Moreover, Ong and Lai (2006) revealed that men saw PU as a strong determinant of BI. Men focus on the usefulness of a new technology and they appeared to be 'pragmatic', considering productivity-related factors when using new technology. This result, along with other findings suggests that usefulness is a major factor in a person's decision to adopt new technology. This result was supported by Aypay, Celik, Aypay and Sever (2012) who also asserted that perceived ease of use exerted significant influence on perceived usefulness, with specific reference to teachers. Furthermore, although perceived ease of use was not considered to be an important determinant of men's behavioural intention to use E-learning, it was actually the most significant determinant of behavioural intention for women. Aypay et al. (2012) note that when technology appears simple to operate, teachers develop positive perceptions towards its usage, which in turn increases the chances of them using it. On the other hand, complex systems reduce perceived usefulness in the eyes of potential users and subsequently hinders technological usage.

In a Turkish study, it was revealed that teachers are still struggling with using computers both in the classroom and in their daily lives. Aypay et al. (2012) further indicate that although computer usage is low among teachers, there are signs of a steady increase as a new generation of teachers with higher computer literacy entering the profession. This is due partially to age-related dynamics as the world remains in transition from convention to digital. It is also critical to mention that technological acceptance by teachers is closely linked to its perceived usefulness in the classroom. Perceived usefulness, together with perceived ease of use, is a major factor in shaping teachers' attitudes towards new technology.

Regarding the adoption of technology, the theory of diffusion which was propounded by Rogers (1995) is among the most common theories used to explain why students adopt of rests new technology. The theory states that there are five attributes of innovation which have an effect on a student's attitude towards an innovation during the adoption process (Kamarulzaman, Madun & Ghani, 2011). They are relative advantage, compatibility, complexity, trialability and observability. Relative advantage connotes any foreseeable benefits which can be derived from adopting a new innovation whereas compatibility refers to whether or not the new system sufficiently meets the existing needs and expectations of potential users. The third attribute, complexity, is the degree to which the system is viewed as challenging to understand and use. However, it must be noted that with reference to Elearning in the context of the classroom, trialability and observability are not relevant.

In addition, in light of the various dimensions of motivation, the factors which were put forward by Clayton et al. (2010) and Blumberg (2008) are deemed as most appropriate when discussing the adoption of E-learning platforms. The identified factors are engaged learning, learner-instruction match, familiarity, lifestyle fit, personal control and augmented learning.

In summary, E-learning, particularly Moodle is fast becoming a common tool in Higher Education Institutions despite the reservations which exist regarding its assumed benefits to users. The current literature shows that any new technological tool must be accepted and adopted by its potential users before its benefits can be experienced. It is noted however that factors such as perceived ease of use and perceived usefulness play a critical role in whether the system is accepted or rejected. It is also suggested that is it common to observe gender differences in attitudes towards new technology.

Ultimately, this current research project aims to answer the following questions:

- What are the attitudes of students and teachers towards Moodle?
- Which factors affect the adoption or resistance of Moodle?
- What motivates an individual to continuously use Moodle?

And consequently, to provide suggestions to Lockerbie College in relation to the use of Moodle.

Method

Participants

A total of thirty persons participated in the research project- ten teachers and twenty students. This number was selected because it was believed that this sample was representative of the Lockerbie College Community. The percentage of males and females who participated was forty three percent (43%) and fifty seven percent (57%) respectively. This translates into thirteen males and seventeen females. Teachers were drawn from the various departments- Mathematics, English, Foreign Languages, Business Studies and Sciences. Of the ten teachers, three indicated that they have been teaching for less than one year while the remaining seven have been in the profession for more than four years. Students in the fourteen to sixteen age range accounted for fifty percent (50%) of the student sample. The majority of students indicated that they have been using Moodle between three to five days each week for almost two years primarily for Mathematics and English.

Instrument

The instrument which was used for the interviews sought to collect both quantitative and qualitative data. Each interview consisted of two parts. Part one of the interview was based on the Technological Acceptance Model (TAM) which was put forward by Davis (1989) to explain the users' probable behavioural intention (regarding the technological tool) because it highlights the relationship between the beliefs, attitudes, intentions of the users and their actual usage of the system. The main TAM concepts are perceived ease of use, perceived usefulness, attitude towards the system and behavioural intention. Participants were required to response using a six point Likert scale. Part two of the interview instrument was qualitative in nature and was rooted in Rogers' (1995) theory of diffusion of innovation which aims to explain factors which contribute to students' adoption or resistance of new technology. According to this theory, the attributes of innovation which influence a person's attitude towards technology are relative advantage, compatibility, complexity, trialability and observability. Also, as a means of understanding users' motivation to repeatedly use Moodle, the factors which were proposed by Clayton et al. (2010) and Blumberg (2008) were used to guide questions in this qualitative section. These factors are engaged learning, learning-instruction match, familiarity, lifestyle fit and augmented learning. The interview schedule is shown in the Appendix.

Procedure

Observations of various classes and interviews with teachers were the methods used to investigate the research questions. These methods were also chosen on the basis that they provide the researcher with an opportunity to gain a practical insight and understanding of Moodle in the context of the classroom. In addition, interviews would allow participants to freely air their views about Moodle with the assurance of anonymity.

Before the interviews were conducted, informed consent from teachers and the parents/guardians of the students was obtained. Rather than the traditional opt-in format, the opt-out method was preferred for this particular project. An electronic mail was sent to teachers and parents of students informing them of the intended research as well as the procedure to be followed if they wished to exempt themselves or their children from participating. It should be noted that no one objected to participating in the study.

At the start of the interviews, each participant was reminded of the purpose of the research, their rights and the assurance of anonymity. Specifically for student interviews, each person was given a test question to confirm that they understood the response process

for both sections of the interview. Also, questions were reworded as deemed necessary to take into account any language difficulties of the participants. Each interview lasted for no more than fifteen minutes. Interviews took place at Lockerbie College in the café, student lounges and classrooms at the convenience and choice of participants.

When the necessary data had been collected, the Statistical Package for Social Sciences (SPSS) and a Thematic Analysis as outlined by Braun and Clarke (2006) were used to analyse the quantitative and qualitative data respectively.

Results and Discussion

Attitudes towards Moodle

To answer the research question regarding the attitudes which are held towards Moodle, statistical analyses of the Technological Acceptance Moodle (TAM) were conducted using the Statistical Package for the Social Sciences (SPSS).

• Perceived Ease of Use and Perceived Usefulness

To examine the relationship between perceived usefulness and attitudes towards Moodle as well as between perceived ease of use and attitudes towards Moodle, a Pearson's Correlation was used. The test revealed that while there is a strong positive relationship between perceived usefulness and attitudes (r=.668, n=30,p<.01), there was actually a weak negative between perceived ease of use and attitudes (r=-.016, n=30, p>.05). The first result implies that as perceived usefulness increases, so will positive attitudes towards Moodle. Thus, users are more likely going to view Moodle in a positive light and embrace it only if they are convinced that it is advantageous as they seek to fulfil their duties in the classroom. Generally, teachers and students alike are of the view that Moodle is a useful tool which provides a means whereby additional knowledge can easily be shared even away from the classroom setting. Based on the second result, it is suggested that an individual's attitude towards the new system is not solely influenced by the ease with which they believe it can be used and navigated. This means that although a system is viewed as being relatively easy to use, this does not mean that the users' overall evaluation of it will be positive. It should be further noted that it is widely believed that Moodle is a "modern tool which makes learning more interesting and is by no means a bad idea".

• Attitude towards Moodle and Intention to Use Moodle

To assess the relationship between attitudes towards Moodle and behavioural intention, another Pearson's Correlation was carried out. Based on the results, it was deduced that there is a strong positive relationship between these a person's attitude towards Moodle and their intention to use it (r=.671, n=30, p<.01). This indicates that the likelihood of teachers and students using Moodle is influenced by the attitude which they hold towards it. In essence, persons are more likely going to use this tool if they find favour with it. Also noteworthy is that eighty five percent (85%) of students vehemently stated that they intend to use Moodle the following week to aid with examination preparation. It was also revealed that although most persons had no intention of using Moodle next month (July) due to summer holiday, each teacher and nineteen of the twenty students definitely plan to utilise it during the new academic year. Bases on this finding, it can be deduced that although perceived ease of use and perceived usefulness influence an individual's attitude towards Moodle, the attitude is in fact the best predictor of behavioural intention to use the system.

• Differences in attitudes of students and teachers and males and females

To examine if there is a significant difference in the attitudes of teachers and students towards Moodle, another Independent Samples T-Test was conducted. Results indicate that there is no significant difference in the attitudes held by teachers (m=15.80,SD=3.084) and students (m=13.95, SD=3.818;t(28)=1.327,p>.05). In other words, the attitudes which are held towards Moodle are primarily positive in the context of Lockerbie College where both the teachers and students believe that it enhances the learning environment and is easy to assess and use. In contrast to findings by Aypay et al. (2012) where it is suggested that computer usage and acceptance of new technology was higher among new teachers, this current study revealed that the 'senior' teachers at Lockerbie College as well as their 'junior' counterparts held the same views as it relates to the use of Moodle in the context of the

classroom. Similarly, another Independent Samples T-Test was conducted to investigate if there was a significant difference in the attitudes of males and females towards Moodle. The results denote that there is no significant difference in the attitudes held by males (m=13.46, SD=4.255) and females (m=15.41, SD=2.959;t(28)=-1.482,p>.05).

Adoption of New Technology

To understand what factors account for the adoption of Moodle at Lockerbie College, a thematic analysis in line with Braun and Clarke (2006) of the data was done. The most notable themes are convenience, cost-saving, environment friendly, need satisfaction and ease of use. A sample of the responses can be seen in Table 1.

Theme	Statements
Convenience	"information is in one place"
	"access anywhere and anytime"
	"easier than copying from the board"
	"use notes from year to year"
	"organization of notes"
Cost Saving & Environment Friendly	"no need to buy books"
	"reduces the need to photocopy"
	"no need to print"
Meets Expectations	"when you log in the notes are there"
	"it is convenient"
	"if you are absent you can access the notes
	and homework"
Ease of Use	"layout is user-friendly"
	"classes are there when you log in"
	"all you need is your user name, password
	and internet"

Table 1: Factors which contribute to the adoption of Moodle

• Convenience

Many respondents indicated that Moodle scores high as it relates to convenience primarily because they have "unlimited access to supplementary material such as videos." This material is greatly appreciated by students as it often adds to and further clarifies a specific topic which was covered in class and when preparing for examinations and homework, they are confident that all the necessary information will be available on the system. It was also highlighted that accessing Moodle is possible at school and at home at any time once they remember the log in information.

• Cost Saving and Environment Friendly

Each participant stated that Moodle not only saves money but also preserves the environment. In their view, it is far cheaper to download notes from Moodle than to purchase text books yearly. They also pointed out that uploading notes, homework and tests to Moodle reduces the need to photocopy material thereby saving paper and by extension, the environment. However, it was interesting to note that although the teachers echoed identical sentiments, they were quick to mention that if the material is uploaded to Moodle, there is no definite guarantee that the students will willingly utilise it.

Meets Expectations

The data further showed that this e-learning platform meets the expectations and satisfies the students' needs meaning that if students are absent or miss a point in class, they can access the information after class or from home at their convenience. On the flip side, a number of students expressed disappointment that "some of their teachers do not use Moodle as was initially planned which means that if they miss a class, they must seek the assistance of a classmate."

• Ease of Use

There was the general consensus that Moodle is relatively easy to use and is userfriendly despite posing a few challenges in the initial stages. The lay-out allows users to easily move between courses on the site and communicate with tutors if they have a query outside of regular class time. These views support earlier mentioned findings by Kamarulzaman, Madun & Ghani (2011) and Apay et al. (2012) that if potential users are convinced that using new technology will benefit them and is easy to understand and use, the probability of them adopting and using it will significantly increase. In this case, students find it easy to use, useful for homework and revision while it allows teachers to reuse notes from year to year and to provide additional material for the students. Thus, it is highly likely that both parties will readily embrace the system and use it repeatedly.

Motivation to Repeatedly Use Moodle

Having examined the factors which promote the adoption of new technology, another thematic analysis based on the work of Braun and Clarke (2006) was done to investigate why users repeatedly use the new system after it was accepted. The major themes, based on the data are enhancement of classroom experience, convenience and need satisfaction. Ease of use, which is a contributing factor in the adoption process, is also influential in the decision to repeatedly use Moodle. A sample of the responses can be seen in Table 2.

Theme	Statements
Enhances Classroom Experience	"feel more up to date with Moodle"
	"understand better when I watch videos"
	"videos add to what was said in class"
Convenience	" can create worksheets and upload them
	before class"
	"students can access material from home"
Need Satisfaction	" students who cannot purchase books can
	still access notes and homework"
	"notes available for exam preparation"

Table 2: Motivation to repeatedly use Moodle

• Enhances Classroom Experience

All participants are of the view that the technology enhances the classroom experience. It was mentioned that students' understanding of the topics was significantly increased through watching videos and answering quizzes which the teachers upload to Moodle. Students who were not exposed to E-learning platforms prior to attending Lockerbie College reported that they enjoy using Moodle and feel more advanced than their peers at other institutions who only use books. Teachers echoed this latter sentiment while maintaining that "this is a technological era and if technology can be effective in the classroom, then it ought to be embraced."

• Convenience

Regarding the convenience of using Moodle, a number of teachers are pleased that they can create lesson plans and worksheets and upload them to the system so that the students are able to view them before class and have access to them during, and after class. Also, the fact that they are able to access the system at home means that they can easily upload additional material at any time. Likewise, this unlimited access benefits students who may need to download homework or complete an online assignment. However, the only challenge which is likely to face Moodle users is a slow internet connection both at school and at home which they more often than not are unable to control.

Need Satisfaction

For students who are unable to purchase text books, they can access the topics and homework assignments on Moodle to avoid being disadvantaged. Thus, in a class where the teacher uses Moodle, there is no excuse for students to miss assignments. Also, Moodle enables students to be organised, meaning that all notes for each course will be on the system

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in its designated location. This is particularly helpful at exam time because all of the necessary material would be accessible. Notably, Maths teachers fervently stated that although videos and online worksheets are extremely useful in simplifying and reinforcing certain concepts respectively, the value of face to face interaction for this subject cannot be denied. This view was also expressed by other science teachers. One teacher, while noting that Moodle satisfies needs as it relates to organisation and access to material, believes it is still important to write in class. Interestingly, while teachers primarily used Moodle at home, the students mainly used it in class to view work sheets and at home to download homework assignments.

Conclusion and Recommendations

Based on the results of this project, it is evident that E-learning platforms, specifically Moodle are useful tools from which many benefits can be experienced. In an era where students are exposed to the internet at an early age, it is expected that they will be comfortable with, and embrace technology which is deemed to be advantageous to them. In essence, new technological tools must be marketed in such a manner that potential users are convinced of these alleged benefits and the ease with which they can navigate these systems. Thus, students will most likely use Moodle if they find it helpful in the context of the classroom, meaning that the e-learning platform must offer all the necessary services that a modern student needs in his or her learning process.

In Summary, the major findings of the research project were:

- Users are more likely going to view Moodle in a positive light and embrace it only if they are convinced that it is advantageous as they seek to fulfil their duties in the classroom. Teachers and students alike are of the view that Moodle is a useful tool which provides a means whereby additional knowledge can easily be shared even away from the classroom setting.
- Although a system is viewed as being relatively easy to use, this does not mean that the users' overall evaluation of it will be positive. Persons are more likely going to use this tool (Moodle) if they find favour with it.
- Although perceived ease of use and perceived usefulness influence an individual's attitude towards Moodle, the attitude is in fact the best predictor of behavioural intention to use the system.

- Both the teachers and students believe that Moodle enhances the learning environment and is easy to assess and use.
- There was no significant difference in the attitudes held by males and females.
- The information on Moodle often adds to and further clarifies a specific topic which was covered in class and when preparing for examinations and homework. Students are confident that all the necessary information will be available on the system.
- Accessing Moodle is possible at school and at home at any time once they remember the log in information.
- It is cheaper to download notes from Moodle than to purchase text books yearly and using Moodle reduces the need to photocopy material thereby saving paper.
- If the material is uploaded to Moodle, there is no definite guarantee that the students will willingly utilise it.
- If students are absent or miss a point in class, they can access the information after class or from home at their convenience. However, a number of students expressed disappointment that "some of their teachers do not use Moodle as was initially planned which means that if they miss a class, they must seek the assistance of a classmate."
- The lay-out allows users to easily move between courses on the site and communicate with tutors if they have a query outside of regular class time.
- Students find Moodle useful for homework and revision while it allows teachers to reuse notes from year to year and to provide additional material for the students.

- Students' understanding of the topics was significantly increased through watching videos and answering quizzes which the teachers upload to Moodle. Students who were not exposed to E-learning platforms prior to attending Lockerbie College reported that they enjoy using Moodle and feel more advanced than their peers at other institutions who only use books.
- Teachers are able to create lesson plans and worksheets and upload them to the system so that the students are able to view them before class and have access to them during, and after class. Also, the fact that they are able to access the system at home means that they can easily upload additional material at any time.
- The only challenge which is likely to face Moodle users is a slow internet connection both at school and at home which they more often than not are unable to control.
- Moodle enables students to be organised, meaning that all notes for each course will be on the system in its designated location.
- The students mainly used it in class to view work sheets and at home to download homework assignments.

These findings can be used by Lockerbie College to show that the institution provides students with an experience which is not available at other private educational institutions, specifically as it relates to the use of technological tools. Also, through using a mixed and differentiated approach to teaching, students are afforded the opportunity to gain a better understanding of topics which are illustrated in videos which are posted online. The use of technology further demonstrates that there is the recognition and acceptance that today's society is digital and tools such as Moodle can be effectively incorporated in the classroom.

Finally, when probed for suggestions on what they think should be done to increase Moodle usage and allow users to better experience its benefits, three broad points where put forward. There is the general consensus that teacher-student training is definitely required primarily because many person remain unsure about the various features and possibilities which are available to them. Secondly, senior students believed that it should be mandatory for teacher to use the system because they enjoy, and perform better in the courses where it is currently being utilised. There should be a buddy system in place for teachers or students who are unsure about navigating Moodle. Also, if possible, an incentive should be provided at the end of term. Although unsure of what criteria would be used, the students think that beyond doubt this would motivate them and their peers to use the system more often than they do at the moment.

References

Apay, Ayse; Celik, Halil; Aypay, Ahmet and Sever Mustafa . (2012). Technology acceptance

in education: a study of pre-service teachers

in Turkey. *The Turkish Online Journal of Educational Technology*, vol.11 pp.264-272.

- Braun, V. and Clarke, V. (2006) Using thematic analysis in psychology. Qualitative Research in Psychology, 3 (2). pp. 77-101. ISSN 1478-0887
- Kamarulzaman, Yusniza; Maduz, Azian & Ghani, Farinda. (2011). Attitude towards

Elearning among students: Evidence from a Malaysian Public University. *British Journal of Arts and Social Sciences*. 2046-9578, vol 3 no 2.

Ong, C & Lai, J. (2006). Gender differences in perceptions and relationships among

dominants of e-learning acceptance. *Computers in Human Behavior*, vol. 22, pp. 816 829.

Sumak, Bostjan; Hericko, Marjan; Pusnik, Maja and Polancic, Gregor. (2011). Factors

affecting acceptance and use of Moodle: An empirical study based on TAM. Faculty of Electrical Engineering and Computer Science. Informatica 35, 91-100.

Appendix Data Collection Instrument

Gender	
Age	
Moodle Experience	
Number of courses where Moodle is used	
Frequency of Moodle use	

Strongly Agree/Agree/Somewhat Agree/Somewhat Disagree/Disagree/Strongly Disagree

Perceived Usefulness

- 1. I find Moodle useful for learning
- 2. Using Moodle enables me to complete tasks more quickly
- 3. Using Moodle for learning increases my ability to produce high quality work
- 4. If I use Moodle, I will increase my chances of getting knowledge

Perceived Ease of Use

- 1. My interaction with Moodle is clearer and understandable
- 2. It is easy to become skilful at using the system
- 3. I think that Moodle is easy to use
- 4. Learning to operate Moodle is easy for me

Attitude toward Using Technology

- 1. Using Moodle is a bad idea
- 2. Moodle makes learning more interesting
- 3. Working with Moodle is fun
- 4. I like working with Moodle

Behavioural Intention

- 1. I intend to use Moodle next week
- 2. I predict that I would use Moodle next month
- 3. I plan to use Moodle next term

Why do persons adopt/resist new technology?

1. Are there any advantages/benefits of using Moodle?

- 2. Does Moodle meet your expectations?
- 3. Would you say that Moodle is easy to understand and use?

Why do persons repeatedly use Moodle?

- 1. Does Moodle encourage more teacher-student interaction/communication?
- 2. Does Moodle cater to the needs of both teachers and students?
- 3. Is it difficult/easy to access and navigate Moodle?
- 4. Given your schedule/daily routine, how convenient is Moodle?
- 5. Would you say that Moodle enhances the teaching and learning experience?
- 6. Do you only use Moodle in the classroom or do you use it at home as well?
- 7. Why do you (mainly) use it? Homework assignments/revision/to download notes