IMPLEMENTATION OF CIDOS (E-LEARNING) AMONG DIPLOMA IN ACCOUNTANCY STUDENTS IN POLITEKNIK SULTAN ABDUL HALIM MU'ADZAM SHAH, JITRA KEDAH

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ABSTRACT

This study aimed to determine the acceptance of accounting students in Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS) Jitra Kedah on the usage of e-learning in everyday life. This study investigates the effects system of Curriculum Information Document Online System (CIDOS) in the learning environment as well as to determine the level of acceptance and usage of e-learning in the process of learning and education. This study is a pilot study examining the effects of e-learning in tertiary education system at the level diplomas of polytechnin in Malaysia. By using the questionnaire, a total of 100 students of the Diploma in Accountancy were selected. Students are asked to answers four sections of the questionnaire on demographic characteristics, ease of use, use of e-learning and attitudes towards e-learning. Results show that CIDOS is well received among students but the system needs encouragement from the instructors to achieve an effective utilization.

KEYWORDS: *acceptance,e-learning*

1. INTRODUCTION

Demands from modern communities in global knowledge had established standard, timely information and the fastest connecting needed information had unites the needs to have lowered the demand for traditional education. The popularity of e-learning on university and other academic campuses has increasing through time to time and the various of distance learning technologies are fully used for teaching method in every courses in institution. With this change of learning, the duties of lectures and instructors of course also have changing to make this e-learning successful.

E-learning is defined as instruction delivered electronically via the Internet, Intranets or Multimedia platforms such as DVD or CD-ROM (Cappel & Hayen, 2004). Apart from that, e-learning also has been defined as the learning facilitated and supported through the fully usage of information and communication technologies (Jenkins & Hanson, 2003). Both of this definition can described e-learning as a tool of learning process and it is use ICTs such as world wide web, internet, technology system, computer, television and others in order to achieve the learning process. The usage of e-learning or also known as online learning, have increasing. It can be seen from the growing of higher institution whether it is public or private in order to attract the students through full time learning in campus or distance learning. (OUM, 2004).

E-learning has been integrated in many educational programs, and is one of the new learning trends that challenge the banking concept of education (i.e. assumes that the instructor or teacher owns the knowledge and deposits it into the students who attend the class). This study focuses on the individual users' acceptance investigation for the e-learning tool specifically known as CIDOS (Curriculum Information Document Online System) in Politeknik Sultan Abdul Halim Mu'adzam Shah, Jitra Kedah as an effective learning tool. This study is reported based on the data collected from a direct-question survey that was administrated to diploma accounting students in POLIMAS. Hence, this study attempts to address a better understanding of what students perceived in using e-learning. This study can be used to help the Polytechnic institution especially POLIMAS to increase the level of usage towards CIDOS.

However, E-learning is not intended to replace the traditional classroom setting, but to provide new opportunities for interaction and communication between students and instructor or teacher. The issues regarding factors determining the acceptance of the e-learning system is a crucial factor for the institution especially those were trying to implement the e-learning in order to make the system is successful. Effective implementation of an e-learning initiative requires that a number of issues be taken into account, including technological, pedagogical, and individual factors (Masrom, 2007).

2. LITERATURE REVIEW

During the last few decades, the world has undergone significant changes in terms of technological advancements and the exchange of information. Advancements in information and communication technology led to distance learning becoming a focus of global attention (Pye, 1999). Electronic learning (e-learning) has become very popular on university and other academic campuses and with this advancement of instructional technology in education, both the courses and the duties of instructors are changing (Borstorff & Lowe, 2007). A nine-year survey of the research literature in training published by Fletcher and Tobias in 'Training and Retraining', commissioned by the American Psychological Society, and published in 2000, concluded that:

> *'Learners learn more using computer-based instruction than they do with conventional ways of teaching, as measured by higher post-treatment test scores.'*

According to some authors, *e-learning* or *electronic learning* is a concept that associates learning with the application of new technologies to the learning process, namely the internet, intranet, email, satellite broadcasts, audio/video tape, or Compact Disc Read-Only Memory (CD-ROM). It occurs in a range of learning situations: web-based learning, computer-based learning and virtual classrooms (Clark & Mayer, 2003). Harasim et al. (1995) observed that e-learning is a valuable addition to the teaching and learning environment in the face-to face classroom situation. They also noted that e-learning provided a good start for instructors wishing to explore the capacities of new technology in their teaching modes. Both Bates and Harasim et al. claimed that such types of e-learning applications were mostly used in post-secondary education (Bates, 2001: 20, Harasim et al., 1995;78).

Web-based training can be applied in university settings in order to deliver instruction to students who are physically unable to attend class, or live in remote locations, or are located internationally (Boose, 2001). Specific studies from Fletcher (1999), Kulik (1994), Willett, Yamashita & Anderson (1983) confirm that learners learn more using computer-based instruction than they do through traditional classroom methods. There is an example of country that supporting ICT as an advantage in education system such as Korea. Korea takes full advantage of ICT in supporting all levels of education and human resource development, and e-learning is considered one of the important alternatives for current knowledge based society (Kim & Santiago, 2005)

Information Communication Technology (ICT) has a central role in maintaining the quality of higher education in Malaysia and it will be a basis for competitive advantage of the universities. In Malaysia, the IT agenda was initially driven by technological and scientific forces and innovations as well as the supply and demand and marketing forces and entrepreneurship (Bajunid, 2002). Formal and informal education programmes are being offered using the e-Learning mode. As an example, two of the country's universities University Tun Abdul Razak (UNITAR) and Open University (OUM) are currently offering all degree programmes via the hybrid and blended mode, respectively. Each incorporates the use of e-Learning. In addition, a growing number of public and private universities throughout the nation are employing e-Learning methodologies either to offer academic programmes via distance or to support the full time on campus learners (OUM, 2004).

The literature related to online learning has expanded considerably in last five years (Song, Singleton, Hill, & Koh, 2004) because e-learning can be cost effective when compared to traditional learning methods, more businesses and universities are using e-learning courses to teach their employees and student (Palatto, 2002). Developers and deliverers of e-learning need more understanding of how students perceive and react to elements of e-learning along with how to most effectively apply an online e-learning approach of how students perceive and react to elements of e-learning along with the most effectively apply an e-learning approach to enhance learning (Koohang & Durante, 2003).

With the increase in the demand for higher education, many institutions in Malaysia have planned for e-Learning. Universities in Malaysia have responded actively to this challenge while guided by the Ministry of Higher Education's strategies to enhance the use of ICT in the e-Learning (Hassan, 2002). This phenomenon also involved all polytechnics across Malaysia. However, there are numerous barriers to the integration of instructional technology into higher education, such as technology infrastructure, faculty effort, technology satisfaction, and graduates competency (Surry, Esminger & Haab, 2005). Consequently, developers and deliverers of e-learning need more understanding of how students perceive and react to elements of e-learning along with how to most effectively apply an e-learning approach to enhance learning (Koohang & Durante, 2003).

Many factors drive the introduction of IT teaching and administrative methods in universities. According to Bates (2000:8), these reasons include: increased student enrolments, the changing needs of learning and training; and the benefits of using new technologies in teaching and learning. The emergence of new universities with the specific task of providing electronic distance education or virtual university options has also pushed older teaching establishments to become more innovative. McCann, Christmass, Nicholson & Stuparich (1998: 2) noted that IT provides important opportunities for the more effective delivery of education and training throughout the educational system, including schools and technical training colleges.

Communications, flexibility, feedback, student and instructor roles, and the quality of course materials have been the focus of many studies on online teaching (Young, 2006). Students are required to take on different roles in their learning in an online environment. They need to be more actively involved while instructors take on more of a facilitative role (Young et. El, 1999). Given this new roles, students' concern about teacher effectiveness in online courses focused on communication, nothing that timely responses from instructors were the most valued interactions (Northrup, 2002). Other researchers discovered that students prefer online courses that provide high-quality materials that offer assignments that are professionally meaningful, and that provide high-quality feedback. The students studied also noted that communication in online courses is a crucial part in online learning. (Tricker, Rangercroft, Long & Gilroy, 2001 ; Spangle, Hodne & Schierling, 2002).

As a result, more extensive studies are done to help identify whether learners or users like to accept the use of e-learning or vice versa. In information systems research, the user's attitude toward using and the actual usage of technology are addressed in the technology acceptance model (Davis, 1989; Davis, Bagozzi & Warshaw, 1989). Therefore, it is necessary to conduct research that deals more extensively with learners' perception of, attitude towards, and intention to use e-learning (Park, 2009).

In particular, the relationship between e-learning within Malaysian institutions and IT strategies has emerged as an important research question. Within the institutions, the concepts discussed here help to inform the subject matter of the survey administered on students. Finally, the literature reviewed here helps to establish the importance of discussing the Malaysian e-learning experience against what is happening in other institutions around the world.

3. RESEARCH METHODOLOGY

3.1 Introduction
The research methodology involved the administration of questionnaire on sample of accounting students diploma in POLIMAS. This section outlines the research instrument, unit of analysis, data collection method and methods of analysis.

3.2 Research Instrument
The primary instrument of the study was a structured questionnaire constructed in English and Malay that contains 20 questions subdivided into four parts. This survey is use to obtain the necessary data to answer the research questions and eventually to achieve research objectives. The questionnaire consists of four parts which are:

Part 1: Demographic Characteristics
Part 2: Ease of use
Part 3: Usefulness of e-learning
Part 4: Attitudes towards e-learning

Part 1 addresses student demographics. Part 2 addresses the ease of use in several contexts while Part 3 addressed the usefulness of e-learning and part 4 investigate the attitude towards e-learning. A Likert Scale was used for part 2, 3 and 4. Part 2 has seven statements regarding the ease of use among students. Part 3 also have seven statements regarding the usefulness of e-learning and part 4 has 7 statements regarding the attitudes towards e-learning. A Likert Scale was used for part 2, 3 and 4 using the level of agreement of respondents and were measured on a (the lowest value of indicates 'strongly agree' and the largest value indicates 'strongly disagree'). See Appendix 1 for the sample of survey.

3.3 Unit of analysis
The unit of analysis for this study was the entire of the accounting students from first year (semester 1-2), second year (semester 3-4) and final year (semester 5-6) at POLIMAS. The sample comprises of a hundred (100)

accounting students. These sample were chosen based on their experience in using CIDOS from first year till final year

3.4 Data Collection Method
The questionnaire were distributed to those sample selected. The questionnaires were collected immediately after they answered the question. The respond percentage is 100%.

3.5 Method of Data Analysis
Descriptive analysis was used to analyze the data collection. It is use to present data in a simple way. The result were reported in four parts which are; Part 1: Demographic Characteristics, Part 2: Ease of use, Part 3: Usefulness of e-learning, Part 4: Attitudes towards e-learning plus the additional behavior that the study usage in other technologies such as, Facebook, blog, e-mail, Twitter, Dropbox and others also the result of the usage of internet in a week.

3.6 Data Collection Procedure
Curriculum Information Document Online System (CIDOS) was established by Department of Polytechnic Education, Ministry of Higher Education. POLIMAS had started implementing the use of CIDOS since 2011. Policies to use CIDOS as an e-learning tool have been issued to all academic leaders, academic and support staff in the Department of polytechnics and institutes under its control from December 2012. The major aim is to facilitate and enhance the learning and teaching experience. Using this system, instructors (or lecturers) are able post course outlines, schedules, announcement and lecturers notes on the system for students. The database in CIDOS has restricted the access to the courses only to those students that enrolled; this is similar to the intranet network. (Masrom, 2007)

The students samples were pick based on the enrollment of the course in CIDOS to this study. The subjects were drawn among the diploma of accountancy students (N=100) that were using CIDOS in theirs course. All of the students were asked to fill out a questionnaire indicating their agreement or disagreement with each of the statement on 5-point Likert-type scale with the ending point being "strongly agree" and "strongly disagree". Measurement items are shown in the appendix 1.

The sample is also collect in three phase of levels of studies in POLIMAS first year students (semester 1 & 2) second year students (semester 3 & 4) and final year students (semester 5 & 6) see Table 1. The questionnaire also carried out based on the age and gender to see the potential control purposes in data analysis. The response on the questionnaire were received by 100% (N=100), this is shown that the entire questionnaire that have been received were fully answered by the students. The descriptive analyses are carried out to see the subjects that shown the computer-user, most of the students use less than 5 hours (51%) a week on the Internet (Table 2). The result shown that two-thirds (69%) of the respondents are female, another 31% is male (Table 3). This is because of the accounting course were denominations by female rather than male students. All the respondents age are between 21-23 years old (Table 4), this is been considered from the students enrollment in diploma study from the SPM level in school.

TABLE 1: SAMPLE SELECTION PROCESS (DIPLOMA OF ACCOUNTANCY STUDENTS)

	Total students sample
First year students (semester 1 & 2)	34
Second year students (semester 3 & 4)	34
Final year students (semester 5 & 6)	33

TABLE 2: HOURLY INTERNET USAGE IN A WEEK

	Frequency	Percent	Valid Percent	Cumulative Percent
no time	9	9.0	9.0	9.0
>5	51	51.0	51.0	60.0
5-9	21	21.0	21.0	81.0
10-14	11	11.0	11.0	92.0
<15	8	8.0	8.0	100.0
Total	100	100.0	100.0	

TABLE 3: GENDER

	Frequency	Percent	Valid Percent	Cumulative Percent
Male	31	31.0	31.0	31.0
Female	69	69.0	69.0	100.0
Total	100	100.0	100.0	

TABLE 3: AGE

	Frequency	Percent	Valid Percent	Cumulative Percent
18>20	39	39.0	39.0	39.0
21>23	61	61.0	61.0	100.0
Total	100	100.0	100.0	

3.7 Measures

The study was carried out by examine the measurement validity in terms of reliability and construct validity. The analysis of reliability was conducted to ensure the internal validity and consistency of the items use for each variable. Based on the research by Hair et al. (1998) the by using Cronbach Alpha, the value of measurement can be identified based on 0.6 to 0.7 were deemed the lower limit of acceptability. The Table 2 below shows the result of reliability of the measurement scales. All of the measurement show the score were 0.8, this can be evaluate as very good (Nunnaly, 1978). This can be concluding that the questionnaires that have been distributed are a reliable instrument.

TABLE 4: CRONBACH'S ALPHA (RELIABILITY)

Scale	Cronbach's alpha
Perceived ease of use	0.85
Perceived usefulness	0.85
Attitudes toward using	0.89

Next, the factor analysis was carried out to identify the validity of measures adopted in this study. By using varimax rotation the analysis principal factor was performed to assess the underlying structure for eight teen item in the questionnaire. Those factor are perceived ease of use, perceived usefulness and attitudes towards e-learning. After the rotation, the first factor shown 35.45% of the variance, the second is shown 29.46% and the third factor shown 21.05%. Table 3 below show the items and factor loadings for the rotated factor, with loadings less than 0.60 omitted to improve clarity. All of the factors that have been stated are 0.6 and above, means that there are showing good convergent (Chesney, 2006).

TABLE 6: FACTOR LOADINGS FOR THE ROTATED FACTORS

Scale item	1	2	3
EASE1	0.86		
EASE2	0.85		
EASE3	0.81		
EASE7	0.79		
USE2		0.85	
USE3		0.77	
USE5		0.64	
USE6		0.84	
ATT1			0.90
ATT4			0.90
% of variance explained	33.56	27.73	18.77
Cumulative percentages	33.56	61.30	79.74

Principal axis factoring was used varimax rotation and Kaiser normalization, N=100 Rotation converged in six iterations

Factor 1 = perceived ease of use; Factor 2 = perceived usefulness; Factor 3 = Attitude toward usings

4. FINDINGS

4.1 Introduction
This study presents the results and findings from the data analysis of hundred completed questionnaires collected from survey conducted to achieve the objective of the factor of perceive ease of use in CIDOS Student responses are documented in tables, and each table reports valid percentages of replies by category. Each table represents one complete section of the survey with each question/statement in the order as presented on the survey. Section 4.2 discusses some results from statistical analysis by using descriptive analysis.

4.2 Descriptive Analysis

To this end, students were given seven factor ease of use in CIDOS and asked whether they considered each to be in defining the factor in the perceive ease of use.

TABLE 5: PERCEIVE EASE OF USE

	Percentage					Mean	Std.
	1	2	3	4	5	(rank)	Deviation
1. I'm always alert on news and information by my lecturers through CIDOS	16	37	38	8	1	2.4100	.88871
2. CIDOS help me to communicate with friends and lecturer in an instant	17	41	30	11	1	2.3800	.92965
3. My lecturers have used a whole of CIDOS in my learning process and it was clear and understandable	20	44	27	7	2	2.2700	.93046
4. My lecturers always update their assessment such as notes and exercises using CIDOS	24	40	28	7	1	2.2100	.92436
5. CIDOS is easy to access	21	52	21	5	1	2.1300	.83672
6. CIDOS is easy to use	21	55	20	5	0	2.1000	.77198
7. It is easy to sharing documents through CIDOS	27	39	31	3	0	2.1000	.83485

1=strongly disagree, 2=disagree, 3=neutral, 4=agree, 5=strongly agree

Table 4.1 present factors that influence perceives of use in CIDOS. We can see that the lowest mean between seven factor in CIDOS is the students agree that it was easy to sharing documents through CIDOS 66% (mean = 2.1) followed by the agreement factor is that CIDOS is easy to use 77% (mean = 2.1). The third factor that shows one of the highest student responses is CIDOS is easy to access 73% (mean=2.13). In respect with the finding from Masrom et al 2007, one of the factors which are e-learning is easy to use in Universiti Teknologi Malaysia is one of the top three finding in his research. Another interesting finding in the table shows that the factor of CIDOS help me to communicate with friends and lecturer in an instant shows the highest disagreement among all factors 12%, this is the similar to finding on the use on other technologies as a tool in e-learning system. The student is more interested in communicating with their friends in social network rather than using CIDOS.

In conclusion with the factors of the highest mean, it can be seen that CIDOS is easy to access and easy to use. There is might be of the wireless facility that is provided by POLIMAS to the students and they were able to access CIDOS at anywhere and anytime in the college. Following with the easy to sharing documents through CIDOS there is only a slight reduction in percentage. This can be concluding that most of the students are comfortable to share the documents though CIDOS. However the result show the highest percentage in disagreement is they did not like to communicate with friends and lecturers through CIDOS, this is because not the entire student is frequently on-line in CIDOS.

5. DISCUSSION AND CONCLUSION

The objectives of this study is to study the factor of perceive ease of use toward CIDOS in accounting student environment in POLIMAS. E-learning can be defined as a tool that will help to boost the learning process in different ways. There are many advantages when the institutions are decided to adopt an e-learning system including the variety of teaching method, less expensive, if there any urgent announcement the lecturer and the learners can be updated easily and e-learning can work at anytime and anywhere of location. Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS) is one of the institutions that receive the policies from the Department of Higher Education to implement the CIDOS starting Decembers 2012. By using e-learning, there would be an increase on the perception in the public about this higher institution and make it as one of the preferred skill institutions in the country.

The contribution of this study find that the using of CIDOS is friendly user and the entire sample is alert about the existence of the e-learning in POLIMAS. Based on the finding, the lecturers also have an important role to encouraged students to use CIDOS. By the encouragement of using, the students or learners will be more supportive in using the system. The additional contribution on this study is, now most of the students are likely to use social network to communicate and sharing their documents with their friends such as Facebook, Twitter and e-mail. This can be solving by redirecting them to focus on using the CIDOS while surfing the internet.

As the other advantages, the use of e-learning also can increase the computerization skills among lecturers and students. The result shows that all the factors that were discussed is positively support the implementation of e-learning even though it does not fully functioning in POLIMAS. There should be an aggressive and extensive way to increase the usage of CIDOS. It does not tend to replace the traditional face to face learning, but the use CIDOS hopefully can increase the students' performance in their learning process. POLIMAS should also increase the technology facilities in order to increase the percentage of students using the CIDOS

As a recommendation there are the factors that should be considered in future study. First, the sample of data can be collected with other population of student; such as from the point of view of an engineering students. This is to give more accurate data about the finding. Second, this study should increase the sample and population of the data. And, it is recommended using Technology Acceptance Model 3 (TAM 3) as a model to evaluate the e-learning system respectively.

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