

An Exploratory Study on the Readiness of Students towards E-Learning

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Abstract - The objective of this paper is to conduct an exploratory study on whether students are ready for E-Learning as a means of educational instruction in the classroom at the university level. This research employed quantitative method where discrete and continuous probabilities were used for hypothesis testing. The proposed model consisted of 3 independent variables, namely openness to change (X1), access to technology (X2), and economic resources (X3). We tested one dependent variable, namely readiness of students (Y) independently and against the 3 independent variables. The data for our research came from 100 surveys of undergraduate students studying Business English, Marketing, Communication Arts, Computer Graphics & Multimedia and International Tourism Management at a private university in Thailand. The findings show that about 52% students are ready to accept E-Learning as a teaching method. Empirical testing shows that $T < 1.64$. This paper identifies key factors as to why E-Learning is receptive to more than half of the students surveyed at the private university. However, the results also show that the other half of students surveyed are not ready for E-Learning. Therefore, in this paper, culture is proposed as a significant factor influencing E-Learning readiness. Also, the paper proposes key points and policy guidelines that universities in Thailand, the government, Ministry of Education etc. can consider to provide instruction on E-Learning and make E-Learning receptive in the higher education

classroom.

Keywords - Education, E-Learning, Economic Resource, Culture, Openness, Readiness, Higher Education, Learning Methods

I. INTRODUCTION

The emergence of E-Learning or the process of learning enabled by the use of software and internet has made it a significant factor for organizations, schools and universities to be up-to-date and competitive in today's environment everywhere from the US, Asia and Southeast Asia [1]. Thailand has gradually embraced E-Learning with support from the government through government approved initiatives, such as establishing Internet services for all schools and postsecondary institutions and developing an E-Learning portal called Thailand Cyber University [2-3]. Several universities utilize E-Learning and related technologies in their programs / curriculum such as learning management systems [4]. In addition, most universities in Thailand are utilizing E-Learning as a supplementary learning tool to improve the in-class instruction [5]. Students in this study, for example, are mainly learning in the traditional classroom structure which is supplemented with E-Learning. A few Thai universities, such as Sukhotai Thammairat University, The College of Internet Distance Learning (CIDE) at Assumption University and Rhamkhamhaeng University are providing E-Learning programs and degrees [6]. These aforementioned research studies have shown that universities and

institutions of higher learning in Thailand have a level of E-Learning readiness to embrace such technology to enhance the learning experience for students. This paper focuses on the readiness of students to adopt E-Learning as method of learning. We aim to test a hypothesis of whether students are ready to embrace E-Learning is by focusing on 3 key factors - access to technology, openness to change and economic resources - which may have a direct impact on the E-Learning readiness of students.

II. LITERATURE REVIEW

The popularity of E-Learning and with more and more organizations and universities deciding to join and expand E-Learning interventions, it has become pertinent to assess their readiness to utilize technology for successful implementation and to match learning strategies with the local needs. E-Learning readiness may be defined as the readiness of an organization intending to adopt E-Learning or as the “mental” or physical preparedness for that organization for some E-Learning experience or action [7]. Several research studies on E-Learning Readiness have been done. For example, a study was conducted on the E-Learning readiness of Thailand’s higher education compared to the US [2]. The study illustrates that E-Learning readiness in Thailand is below the level of E-Learning readiness in the US based on five key factors: 1) policy; 2) technology; 3) financial; 4) human resources; and 5) infrastructure in comparison to the USA based on the study. Another significant study explored the acceptance and readiness for E-Learning Readiness of undergraduate students at a public university in the northeast of Thailand [9]. The findings from this study showed that Thai students have a slightly positive perception towards E-Learning. Finally, one other study by surveyed students in three public universities in Thailand and the research results found that the student’s acceptance of E-Learning was above average [10]. The students from this study were students who were young students and with technology skills.

III. DATA

The population in this study consisted of undergraduate students in 5 random courses of 5 different majors comprising Business English, Marketing, Communication Arts, Computer Graphic and Multimedia and International Tourism Management at a private university’s international program in Thailand. Each course came from a different major. The justification for selecting students from 5 majors is to maintain objectivity and potential sampling bias. By so doing as a result, we could compare the data to see student’s readiness towards E-Learning. The students were 2nd, 3rd, and 4th year students. The sample size was $n = 100$. From Appendix (1) of the 100 students surveyed, 63 were female and 37. The make-up of the surveyed subjects was 64 Thai students and 36 Non-Thai.

The instrument used in this study was a scaled survey. The survey solicited quantitative, ordinal and nominal data. The rationale for collecting this mixture of data is to allow us the benefit of continuous and discrete probability analysis in hypothesis testing. Our survey was divided into 5 sections: Section 1 focused on demographic information on the population survey, Section 2 focused on the readiness of students towards E-Learning, Section 3 focused on openness to change, Section 4 focused access to technology, and Section 5 focused on economic resources.

IV. RESEARCH METHODOLOGY

This research paper proposes a model of the readiness of students towards E-Learning by focusing on three significant factors, access to technology, openness to change and economic resources. We tested this model to answer the question of whether students are ready to adopt E-Learning as a learning method. The selection of the model for this paper was accomplished by examining the data distribution and the skewness. The model for our research paper comprises the dependent variable Y is defined as readiness towards E-Learning. The independent variables comprise: X1 (openness to change), X2 (Access to Technology), and

X3 (Economic Resources) as shown in Table I.

V. FINDINGS AND DISCUSSION

Preliminary data test of the data from our research shows the descriptive statistic and inferential statistics of the dependent and independent variables to have no error in data in Appendix (2) and Appendix (3). The rationale for this preliminary data test is to verify the correctness of data boundaries and inferential statistics. The distribution and randomness test of the dependent variable Y and independent variables X1, X2, and X3 reveals that the skewness of all the variables is less than 0, Kurtosis is less than 3 and the randomness L is greater than 1.37 and less than 2.63 in Appendix (4). In conducting multiple regression modeling for two independent variables, we have three models: Y:X1X2, Y:X1X3, and Y:X2:X3 in Appendix (6). From Appendix (6), the adj. R² for Y:X1X2, Y:X1X3, and Y:X2:X3 are 0.64, 0.63, and 0.62 respectively. The multiple regression model is only 64%. From the multiple regression modeling for three independent variables the adj. R² is 0.18.

A. Key Issues Facing E-Learning in Thailand

There are several significant factors in Thailand as to why Thais have not widely accepted and integrated E-Learning into the higher education classroom. A significant factor is that the majority of Thai teachers and instructors are old. For example, 60-75% of in-service teachers under the OBEC (Office of Basic Education Commission) are over 45 years of age [11]. As a result, of this older age demographic, many instructors are sensitive towards and resistant to change. Also, resistance is still found among the late adopters and the conservative group of teachers (so-called "laggards") [11].

Besides having older instructors in Thailand, a research study revealed problems in E-Learning development in Thai higher educational institutes that they still have problems with instructors, students and technical staff [12-13]. These problems include reluctance of instructors and students to use E-Learning, insufficient technical staff to help instructors

utilize E-Learning and problems with infrastructure, hardware and software that is related to the development of E-Learning in Thai universities.

One other key issue that faces Thailand on the implementation of E-Learning in the classroom is accreditation and quality assurance, which make Thai educational institutions reluctant to use E-Learning for example offering online distance programs. Educational institutions of higher learner to ensure national and international creditability and recognition must receive accreditation and quality assurance from numerous educational bodies including The Ministry of Education, The Office of Higher Education Commission and The Office for National Education Standards and Quality / ONESQA. However, the accreditation process requires meeting established standards and key objectives, requires financial support as well as time, effort and cooperation on the part of various stakeholders of the educational institution.

Other challenges that have delayed the usage of E-Learning in Thailand involve access. Many schools in Thailand still have very limited access to the Internet and are using outdated computer systems. A research study, for example, found that students at a school had limited access to computers and the quality of Internet connection being inconsistent especially at home [14].

Another research study assessed the E-Learning connectivity of public secondary schools inside and outside Bangkok and found that only 70.6% of schools outside the city had the infrastructure and equipment ready for E-Learning while all schools in the Bangkok area reported that they were ready [15].

One other key issue hindering the readiness of students to utilize E-Learning is the Thai culture and society in general. The Thai cultural value of collectivism and respect for authority also creates barriers to the adopting of E-Learning. The collectivistic value influences the habit of group work and collaboration [16]. In the Thai there is also, a respect-for-authority mentality nurtures passive learners who are used to receiving information from teachers

and ask very few questions [17]. The Thai culture is characterized by a sharp contrast between the learning mentality of online education and E-Learning which depends on the learner's self-motivation and self-regulation and the Thai learning environment that fosters learning through use of memory and repetition. As a result, E-Learning requires the active involvement and authority of teachers to engage the readiness of students to embrace E-Learning in the higher education classroom.

It must be pointed out that in Thailand a strict adherence to fixed and traditional curriculum is highly valued and activities rely heavily on textbooks and workbooks (Dowling 1996). As a result, printed materials of the traditional curriculum take precedence over the new emerging technologies such as E-Learning.

VI. CONCLUSION

According to our research results, E-Learning tends to be accepted by Thai people only 60% when the ideal rate should be 80% or higher. Our research shows that there's a potential for success as some students have readiness for E-Learning and are using E-Learning in the classroom. This means there still is a large group of students who have potential to be ready for E-Learning in the classroom. In reference to the aforementioned key issues facing Thailand, there are other important issues that are opportunities for improvement and should be undertaken to increase the readiness of Thai students towards E-Learning.

- Universities and other institutions of higher learning should embrace and begin to use new technologies in the curriculum or programs for example hybrid learning which for example may include a combination of traditional classroom learning and E-Learning.

- Universities should provide more training and support for instructors who are generally older and need to be updated on the use of the latest technology available to enable students to be ready for E-Learning. As a result, the generation gap in technology between instructors and students will be reduced.

- Universities and corresponding, university stakeholders should provide and maintain the infrastructure that is related to or supports technology to nurture the readiness of students with E-Learning.

- The instructor should act as a facilitator to guide and motivate the students to embrace E-Learning and cultivate an atmosphere of openness and readiness in order to utilize the knowledge.

These issues can be the basis for more policy guidelines that universities should follow. This research is a contribution as it highlights the importance of making sure students are ready to embrace E-Learning in the classroom learning environment for schools and institutions of higher learning. A university maybe ready to utilize E-Learning with the latest resources and equipment, but the success of a university's ability to adopt E-Learning and its' effectiveness in the end depends on the students.

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(Arranged in the order of citation in the same fashion as the case of Footnotes.)

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APPENDIX

**APPENDIX 1
DEMOGRAPHIC INFORMATION**

Gender	Male	Female
	37	63
Nationality	Thai	Non Thai
	64	37

**APPENDIX 2
DESCRIPTIVE STATISTICS OF DEPENDENT
AND INDEPENDENT VARIABLES**

V	Mean	STD	n	Median	Max	Min
Y	2.05	0.52	100	2.00	3.00	0.60
X1	2.21	0.44	100	2.20	3.00	1.00
X2	2.41	0.41	100	2.40	3.00	1.40
X3	2.34	0.41	100	2.40	3.00	1.40

V= Variable

**APPENDIX 3
INFERENCE STATISTICS OF DEPENDENT
AND INDEPENDENT VARIABLES**

V	μ	σ	n	SE
Y	1.94	0.56	101.00	0.06
X1	2.11	0.49	101.00	0.05
X2	2.31	0.47	101.00	0.05
X3	2.24	0.47	101.00	0.05

V= Variable

**APPENDIX 4
DISTRIBUTION AND RANDOMNESS TEST**

V	Skew	Kurtosis	Random*	n
Y	(0.36)	(0.10)	101.00	100.00
X1	(0.05)	(0.54)	101.00	100.00
X2	(0.20)	(0.77)	101.00	100.00
X3	(0.09)	(0.71)	101.00	100.00

V= Variable

*1.37 < L < 2.63

**APPENDIX 5
INDEPENDENT TEST BY COVARIANCE**

Pair	Covar	Corr	S	Slope	n	T
Y	-	-		-	100.00	-
X1	-	-	0.44	-	100.00	-
X2	-	-	0.41	-	100.00	-
X3	-	-	0.41	-	100.00	-
(X1,X2)	0.09	0.44	-	0.52	-	4.92
(X1,X3)	0.13	0.65	-	0.76	-	8.41
(X2,X3)	0.08	0.49	-	0.49	-	5.59

**APPENDIX 6
MULTIPLE REGRESSION MODELING
FOR TWO INDEPENDENT VARIABLES**

Variable	(Y:X1X2)	(Y:X1X3)	(Y:X2X3)
Intercept	(0.12)	(0.08)	0.40
b1	0.66	0.65	0.23
b2	0.31	0.32	0.31
F(obs)	26.66	27.68	29.42
F*	1.84	1.84	1.84
R ²	0.65	0.64	0.62
Adj R ²	0.64	0.63	0.62