THE USE OF CLOUD COMPUTING TECHNOLOGY (CCT) BYSELF-DIRECTED LEARNING TO PROMOTE THE LIFELONG LEARNING SKILLS IN UNDERGRADUATE STUDENTS

KATTAKAMON PISLAE-NGAM

Lecturer,Office of General Education, Valaya Alongkorn Rajabhat University, Thailand.
E-mail: kattakamon@vru.ac.th

Abstract - Education is important for a better quality of life. To be able to live a normal life, being kind, friendly and respect other people. Technologies in the 21st century is very important, to help learning skills both in the classroom, and outside the classroom. The objectives of this research ware 1) to study the learning achievement of students after using Cloud Computing Technology (CCT) by Self-Directed Learning to promote the Lifelong learning skills not less than 80 percent 2) to study the satisfaction of CCT by Self-Directed Learning to promote the Lifelong learning skills. The Samples consisted of 60 students, selected by simple random sampling. The statics for analyzing data ware descriptive statistics consisting of frequencies, percentages, mean standard invitation, and t-test. The research instruments ware CCT the competency assessment after using the CCT by Self-Directed Learning and the satisfaction assessment. The results of this research were as follows: 1) The learning achievement of students after using CCT ware at an average score of 87.76 2) The students' satisfaction toward the use of CCT on Self-Directed Learning to promote the Lifelong learning skills was at the high level. University students have access to many devices which allow them to learn equally. These devices are used in everyday life, they can be used anytime and anywhere.

Keywords - Cloud Computing Technology (CCT), Self-Directed Learning, Lifelong Learning skills

I. INTRODUCTION

Nowadays, the era of information technology is unavoidable. Modern forms of learning have played a large part in the educational field from normal classroom to become an electronic classroom; this is conforming to 21st century learning. Learning through the content or Subject matter should learn from the research of the learner by the instructor and design activities that allow each student to evaluate their own learning progress. Thailand has a policy framework for information technology and Communication or "ICT 2020" based on the vision that "ICT is the motive power for Thai people's knowledge and wisdom in Thai economy, to sustainable growth, to the equality" the Ministry of Education supports teaching and learning by using information and communication technology to enhance the education of Thailand. The purpose is to create manpower of the country by focusing on developing learners with the use of ICT as a tool or an essential component of 21st century instructional learning in a rapidly changing social.

Cloud Computing Technology is a service concept that takes advantage of interconnected IT infrastructure by collaborating computers to work in close proximity in one room or in different parts of the globe. The system is linked on the Internet, simplifies complexity and saves energy and reduces costs. Managing and sharing resources through the network has the advantage of being able to accommodate a wide range of needs because it works through virtual technology (Virtualization) For example Google Classroom, Dropbox etc., the system is not limited in terms of performance and capabilities of the device, so cloud computing is a new innovation that can be uses effectively in the 21st century.

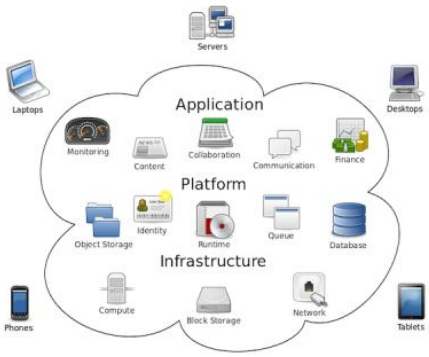

Fig1.Visualizing the workings of Cloud Computing Technology.

Self-learning is a learning process where learners initiate Self-Directed Learning based on their interests, needs and aptitudes; learn to seek the resources of learning, choose how to learn as well as assess the progress of their learning. Self-learning objective is an important feature of effective life. It is essential for the current study to encourage person to have the characteristics of Self-Directed Learning in order to give the person experience and the potential to seek knowledge as a basis for lifelong education. Self-Directed Learning is based on the theory of humanism, which is believed to be independent and human identity as it is said that all human beings are born with good, independent, able to find their own choices, have the potential and develop their unlimited potential and have self-responsibility for themselves. This is a concept that is consistent with the humanistic psychology (Humanistic Psychology)

which is important for an individual learner and the idea that every human being has the potential and the inclination to devote themselves to self-learning. Humans can take responsibility for their own behavior and consider themselves as a Self-Directed Learning learner. To be successful, take a look with a positive self-concept to prepare self-direction learning with own experienced and learning style. This type of study focuses on the learner's (internal) traits that will allow the learner to accept responsibility for his or her thinking and actions, and will focus on external factors that help the learner to be responsible. It can be seen from the continuity in learning and the appropriate learning situation.

Lifelong Learning is a natural occurrence of human nature only if there is a systematic way to prepare and stimulate systematic learning. Lifelong education is stimulus to motivate learners or humans to respond "Learning" and learning will lead to better life or development "Quality of life", which is the ultimate goal of lifelong education. An important for lifelong education is that education does not end when graduating from school or university because school or university is a one-way education institution. It is only a short time when compared to the rest of life, so education is a way of continuing to learn about human beings. It can be used to support long-term learning from continuing education. If you understand this principle well, we will see the benefits and importance of "Lifelong Learning" which is an important motivation to continue human learning.

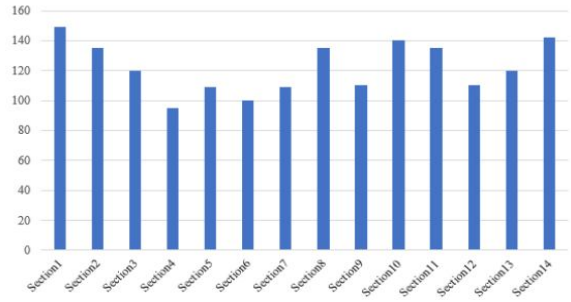

Fig2. Number of student' GE101 Language, Communication and information technology course per classroom.

General education is an integrated course that promotes and develops student's knowledge of language, communication and information technology to research and present their work in various forms. Communication in Multicultural society uses information and communication technology wisely and realize social risks, be aware of ethics in language and technology as well as having 21st Century information literacy skills to be a complete human being.Teaching and learning in general education is an integrated learning model and focus on practical skills in real life. This means that learning will be in line with the 21stcentury learning model. Researchers have recognized the importance of implementing Cloud Computing Technology and used for development of learning management techniques in general education start with the GE101 Language, Communication, and information technology course. To increase the opportunity for communication between instructor and learner and to solve the problem of large number of students, make it accessible equally anywhere and anytime. This is a lifelong learning.

Objectives

1. To study Self-Directed Learning achievement through Cloud Computing Technology over 80 percent
2. To study students' satisfaction on learning management through Cloud Computing Technology.

II. DETAILS EXPERIMENTAL

2.1. Methodology and Sample

1. This research was a pre-experimental design.
2. The samples were undergraduate students. The 60 students enrolled in the first semester of academic year 2016.

2.2 Tools used in research.

1. 30 questions Pretest before learning about "Computer Act 2007 "
2. Lessons on "Computer Act 2007" via Cloud Computing Technology
3. 30 questions Posttest after learning about "Computer Act 2007 "
4. Student Satisfaction Questionnaire, Divided into 2 sections:

1. Part 1 Basic information of students, 3 options questionnaires.
2. Part 2 Satisfaction with Learning through Cloud Computing Technology Rating from 1-5

2.3 Data collection

1. From the Pre-test Post-test quiz.
2. Satisfaction level score from the learner's questionnaire

2.4 Information Analysis

1. Comparing the results before and after score through Cloud Computing Technology
2. Student satisfaction analysis on learning management through Cloud Computing Technology

III. RESULTS AND DISCUSSION

Variable	Mean	S.D.	t	df	Sig
Score	87.76	2.32	3.97	59	0.01

Table 1. The comparison of the mean scores Post-test with the criteria 80 (n = 60) *Significant level at 0.05

Part1 Average Post-test scores the study found that learning through Cloud Computing Technology point average is 87.76Indicate that the student has attained over 80 percent.

From Table1 Students were found to get mean score of the workpieces evaluation was 86.76 percent that higher than the criteria set at 80 percent statistically significant that the research results are based on research hypotheses.

Part2 The Study of Students Satisfaction with Self-Directed Learning through Cloud Computing Technology By calculating the statistical value of the questionnaire.

Description/ Section	Mean	S. D	Level
1. Up-to-date technology and accuracy of data.	4.44	0.55	High
2. Safety and reliability of the data.	3.82	0.84	High
3. Quality of technology.	4.21	0.84	High
4. Efficiency of technology.	4.05	0.70	High
5. The ease of data connection.	4.25	0.44	High
6. Utilization.	4.60	0.89	Very High
Total	4.20	0.18	High

Table 2.Average satisfaction scores of learners towards via Cloud Computing Technology by Self-Directed Learning

From Table2 the level of students' satisfaction using Cloud Computing Technology by Self-Directed Learning was high (Mean = 4.20, SD = 0.18) Moreover, students were most satisfied in Utilization. (Mean=4.60, S.D.=0.89). In contrast, the students were less satisfied with the Safety and reliability of the data. (Mean=3.82 S.D.=0.84).

Based on the study results, it shows that learners can learn through Cloud Computing Technology by themselves. The discuss results are as follows.

1. The results of statistical analysis of the test scores after the post test was found that the students scored higher than the set criteria of 80 percent, which took only one hour to learn and students have never been through self-study through Cloud Computing Technology. It attracted the students because it is different from the original method which just read from the textbook.

2. Student Satisfied with Learning through Cloud Computing Technology. It was found that the students had good levels of satisfaction since learning through the Internet. Learners learn different types of lessons both animated voices, case studies and news. There are interactive feedbacks on the cloud to exchange each other's knowledge and students can access from nearby communication devices, such as phones, portable computers, or tablets, making it easy to access the classroom which corresponds to the research of Assistant Professor Prachuab Permsuwan (2013). The research studied the factors affecting the adoption of cloud computing by those working in information technology. The survey results showed that users of Cloud Computing Technology are satisfied with the ease of use, easy access, and data security. Moreover, the users have the flexibility to learn because it's convenient and unlimited time of studies.

CONCLUSIONS

Summary of research shows that the use of Cloud Computing Technology to Self-Directed Learning about Computer Act2007 encourage students to have lifelong learning by bringing the content of the lesson to practical application. Learners also participate in activities to seek knowledge as well as linked in daily life. Therefore, this research is to achieve the intended purpose of education in all expects. Here are the following suggestions.

1. Training before the actual use, training should be conducted before use because it is a computer program. Therefore, the user should have basic knowledge before the actual us.
2. General Education classes have no instruction in computer lab. It solves the problem by using student equipment and using wireless Internet and found the problem of instability. It is a barrier to learn. In the future, should be arranged in computer lab.
3. This type of learning management can be applied as a teaching technique to other subjects or work related to resource sharing.

The results of the research can be seen that learners have the flexibility to learn, convenient and easily access in all devices whether it is a cell phone or portable computing devices. Students enjoyed learning and understand the content faster. Students can study anywhere, anytime, with an Internet connection and able to review the lesson anytime. The instructor can develop teaching techniques that are up-to-date and appropriate for the 21st Century. The researcher aims to bring the knowledge gained from the lesson to practical use rather than the measurement score because knowledge gained from self-learning should be continuous and lifelong knowledge.

ACKNOWLEDGMENTS

Many thanks to all for support throughout the period of this research. Especially Asst. Prof Dr.Arthima Panth any an on, Head of Office General Education for her invaluable help and constant encouragement throughout the course of this research. Finally, I am deeply thankful to my family for supported to me every time and inspiration today Iam successful in my career and also in life.

REFERENCES

[1] Baumeister, Roy F. and Kathleen D.Vohs (editors). "Handbook of Self-Regulation" (Research, Theory, Applications). New York: The Guilford Press.2004.

[2] Chaicharean, S. Education Technology: Principles of action theory. Department of Technology Education, Faculty of Education. Khon Kean University,Vol.5,pp108-119.2008.

[3] Knowles, M. “Self – directed Learning. A Guide for Learners and Teachers” 1975.

[4] Chuangprakhon S. “The Information Technology for Support Online Learning in Music and Life Course Mahasarakham University”. Mahasakam Research Journal. Mahasakam University, Vol.1, pp 7-8,2016.

[5] Hiemstra, R. “Self-directed learning”. In T. Husen and T. N. Postlethwaite. The International Encyclopedia of Education (second edition). Oxford: Pergamon Press.1994.

[6] Hmelo, C.E. and Lin, Xiaodong. Becoming Self-Directed Learners : Strategy Development in Problem-Based Learning. Mahwah, New Jersey : Lawrence Erlbaum Associates.2002.

[7] Onkham, P. “The Development of Instructional packages by Learning Center on Watercooler woodblock paint making for Pratomsuksa Five Students”. Silapakorn University, Nakorn Pathom.2012.

[8] Panich, W. “21st Century Learning”. Bangkok Sodsri-Saritwong Foundation.2013.

[9] Supachan, S. Comparison of academic achievement by teaching the use of teaching Materials and teaching the E-Book analysis of business data. Rajabhat Lampang University.Yanasangvorn Journal. Vol.1,pp5-10, 2013.

[10] Teainthong, M.”Computer Educational and Innovation (Cloud Computing Technology)”, Bangkok: Care next Interoperation. 2014.

[11] Chaiyan, C. “The using media online via Google Classroom. Retrieved Jan 10, 2017, from http://www.eng.rmutk.ac.th/engweb/km

[12] Faculty of Science,Khon Kean University “Cloud Computing”, Retrieved Jan 20, 2017, from http://sc2.kku.ac.th/office/sci-it/index.php/29-cloud-computing

★★★