The Result Using of Google Drive & Weblog and Traditional Method Learning on the Information Technology for Life Subject for Enhancing the System Thinking of Undergraduate Students in Chaiyaphum Rajabhat University

Surin Cortong
Department of Educational Technology and Communication, Chaiyaphum Rajabhat University, Chaiyaphum Province, Thailand 36000.
surintong@gmail.com

Abstract - The research objectives were: 1) to compare the learning achievement by using Google drive and weblog lesson and the traditional method learning on the Information technology for life subject. 2) To study the satisfaction of students after studying the Google drives and weblog lesson. 3) To study the students’ opinions of the systems thinking on the Google and weblog lesson. Population and sample, including 120 undergraduate students who registered to the information technology for life subjects in the semester 2, the academic year 2013, the sample consisted total of 60 undergraduate students of the interdisciplinary for local development branch 1st year, 30 people used as a Control group. And undergraduate students of law, 1st year, 30 people used an experimental group. The samples were selected by specific methods. The tools used in this research were the Google drive and weblog lesson and the traditional method of information technology for life subject, the learning achievement test before and after classes. The questionnaire of learners’ satisfaction toward the Google drive and weblog lesson and the systems thinking test. The researchers conducted experiments with the control group and the experimental group for a period of 16 weeks, 2 days per week, 50 minutes per day, 32 times. The statistics used for analyzing the data were the percentage, arithmetic mean, and standard deviation.

The results showed that the learning achievement test scores after learning, the control group and the experimental group different average posttest scores of the experimental group higher than the control group was at the 0.05 level of statistical significance. The students’ satisfaction after studying the Google drives and weblog lesson were at highest level. The opinions of students on the systems thinking towards the Google drive and weblog lessons were at highest level.

Keywords - Google and Weblog, Systems Thinking, Information Technology for Life

I. INTRODUCTION

The information age, Information, and knowledge through has expanded extensively with a progressive information technology. Combined with the awareness and the importance of education reform, Learning from the traditional emphasis on teacher-centered to focus learners-centered by providing integration and content integration techniques taught, such as traditional teaching lecture.
The demonstration of teaching using innovative technology, educational media, and learning activities to give students the knowledge, skills and experience together even more. The learning process will occur appropriately and applied to the learners according to the aptitude and ability of each student. This is consistent with the National Education Act 1999, Section 65 as the guidelines to encourage the students to use technology to appropriate education where the students have acquired knowledge and skills and also with the pursuit of knowledge continuously throughout their lives. (Office of National Education, 1999) [1] In addition, Section 66 provides the opportunity to encourage students to develop their ability to use technology to education in order to have sufficient knowledge and skills to seek knowledge for themselves continuously throughout life.

Rajabhat University is an institution of higher education for local development that strengthens the intellectual powers of the Earth. Regeneration of the local learning exalted wisdom and renaissance creative to progress steadily and sustainability of people (Rajabhat University Act 2004:2) The mission of the Rajabhat University was an institution of higher education for local development, close contact with the community advantage. "People University" as a complement to the educational opportunities for disadvantaged people who would like to study in higher education in the service area. It was intended to provide such an opportunity. Therefore, disadvantaged people who live in regions with moderate and poor can access to education as expanding opportunities for citizen groups that scattered in all regions (Nichate Sunthornpitak. 1999: 5-6). The use of information technology available today and in the future. Legal and ethical issues related to computer use. And accountability in the use of information technology on society as a whole. Research to promote and enhance the teaching of information technology by Rushda Khamma. (2003) found that the factors of teaching 74% of the opinion that the instructor was either a woman or man, should have experience talkative approach 74% of the lectures, and common practice is #1 and 76.7% of the distance education via the Internet as the final content should teach the course. Practice focuses especially using internet and environmental factors in learning. 89.2% of students rated the class that was ranked last more than 50 people, 71.2% wanted the class into small groups of about 20-30 people, 73% would like to use the computer to practice while learning as conditions and problems of education in higher education.

The following problems arising from the management of higher education, therefore I was interested in studying the classes using Google drives and weblogs learning technology to compare with the traditional method course to promote systems thinking for undergraduate students in Chaiyaphum Rajabhat University and to guide the development of the next instruction to be effective.

II. RESEARCH OBJECTIVES

- To compare the learning achievement by using Google drive & weblog lesson and the traditional method learning on the Information technology for life subject.
- To study the satisfaction of students after studying the Google drives & weblog lesson.
- To study the students’ opinions through the systems thinking on Google drive& weblog lesson.

III. SCOPE OF RESEARCH

The research in this study focused on the Learning outcomes using Google drive & weblogs lesson and traditional method course of information technology for life subject to promote systems thinking for undergraduate students in Chaiyaphum Rajabhat University.

- **Population:** Include undergraduate students who were enrolled for information technology for life in second semester of academic year 2013 at Chaiyaphum Rajabhat
University. 30 students from department of law, 30 students of interdisciplinary for local development programs and 60 people from general science with the total of 120 students.

- **The Samples:** Include undergraduate students, enrollment of information technology for life subject in second semester of academic year 2013 were classified as the control group, the experimental group were program law of 30 students taught by using Google drives & weblogs and the control group taught by using the traditional method. The third group 30 students from general science program selected by purposive sampling used for trying the effectiveness index process.

- **Variables:**
  - The independent variables
  - The Google drives and weblogs lesson
  - The traditional method learning by way of normal class.
  - The dependent variables
  - Learning achievement
  - The satisfaction in learning.
  - The opinion on systems thinking.
  - Duration for data collection within 1 semester.

The contents for Google drives & weblogs lesson consisted of eight lessons: 1) Basic knowledge of ICT; 2) Computer systems; 3) Computer network; 4) Database management; 5) Computer software; 6) Using Microsoft office Word; 7) Using Microsoft office Excel; and 8) Using Google drive & weblog. This research framework is shown in Fig 1.

- **Research Tools:**
  - Lessons on the Google drive & weblog of ICT for Life.
  - Lessons of traditional method of ICT for Life.
  - The learning achievement test before and after classes multiple choices of 50 items.
  - Questionnaires of learner’s satisfaction towards the use of weblogs rating scale 5 levels.
  - The opinion for systems thinking test towards the use of Google drive & weblog rating scale 5 levels.

- **Creating and Find Out the Quality Research Tool.**
  Creating a research tool analysis and design were the less on the Google drive and weblog by the principles of and procedures of Chaiyot Ruangsuwan (2005:149-156), there were 5 states: Analysis state, Design state, Development state, Implementation state, and evaluating state. The design process of computer on the Google drive and weblog using a process designed by Systems thinking as a summary diagram below.

![Fig 1. Research Framework](image)
Fig 2. Research Planning Process

Fig 2. showed research planning process consisted of ADDIE combined with the system thinking process explained as following:

- Analysis state combined with Identify problem state.
- Design combined with Objectives and Constraints state.
- Development combined with state alternative and Selection state.
- Implementation combined with Evaluation and Modification state.

The development state consists of the Google drive & weblog as following:

- Generated content on the topic of the presentation, (Presentation) 8 folders.
- Each folder of 1-8 generated content into the destination table (Spreadsheet) and 8 folders.
- Learning as a motion picture or video to add (Upload) on Google plus on the URL. Https://plus.google.com/u/0/stream/circles/p178ea1a28e2648f0 Upload passed through www.youtube.com programs or creates a group such as a group of ICT for life group 2/2013.
• Creating a quiz at the end of a lesson to all 8 chapters and each chapter 10 items and create a pretest and posttest with the total of 50 items.
• The Google drive & weblog lessons were sent 3 experts to verify on the content, ICT and evaluation part.
• Proceed the Google drive & weblog lessons to the effectiveness test (Try out) (Chai Yong Brahmapong, 1993: 98-100) by the three steps and results of the E1/E2 85.14/87.66.

  - Sent the Google drive & weblog lessons to the experts to determine and verify again. Prior to the experiments with undergraduate students in the field of law, first year in the second semester of academic year 2013, 30 people using the experimental period of 16 hours, compared with students a second group was an interdisciplinary for local development field, first year of 30 people learning by traditional method.

  - Creating a pretest and posttest. To test the learning achievement on the Google blog of technology for life course for undergraduate education of law field branch first year. And undergraduate students of the interdisciplinary of local development field, 30 people.

  - Proceed the Google drive & weblog lesson to treat with undergraduate 30 students in the field of Law and 30 of undergraduate students of interdisciplinary for local development field who were treated by traditional method.

The evaluation of the students as following:
• Evaluate of the learning achievement pre and posttest.
• Evaluate of the satisfaction of the students on the Google drive & weblog lesson.
• Evaluation of students’ opinion test on the systems thinking of the lesson.

Treatment planning by the two group (Non randomized Control Group Pretest Posttest Design) (Luan Saiyot and Aungkana Saiyot, 2000) as table II:

<table>
<thead>
<tr>
<th>E (R)</th>
<th>O₁</th>
<th>X</th>
<th>O₂</th>
</tr>
</thead>
<tbody>
<tr>
<td>C (R)</td>
<td>O₁</td>
<td></td>
<td>O₂</td>
</tr>
</tbody>
</table>

**Fig 4. Treatment Planning**

- X = Innovation using, R= Random assignment, E=Experimental group C = Control group, O₁= Pretest, O₂=Posttest
3.5 Experimental state.

• Analysis the measurement results in the two groups. Calculation of the mean and compared using t-test statistics by t-independent.
• Summary of the measurement results of the two groups were compared. If the group had better innovation, it showed that the innovation is effective or say that it is a real innovation. 5.5.3) Data collection the tools of the experts.

- Improve the lessons and find out the efficiency.
- Proceed conducted classes on the Google drive & weblog with a 30 students assigned to the experimental group and 30 undergraduate students of inter disciplinary for local develop field were assigned to a control group. The experiment groups were taken in second semester, year 2013 by Planning number 16 hours.
- Performed the pretest using the multiple choices of 50 items.
- Proceed tested the learners learning on the Google drives weblog. The students at the end of the exercise, and recorded score on the students graduating every chapter.

Results of data analysis are follows:
• The creation and performance of lessons on the Google drive weblogs. By the three content expertise as table I.
The Result Using of Google Drive & Weblog and Traditional Method Learning on the Information Technology for Life Subject for Enhancing the System Thinking of Undergraduate Students in Chaiyaphum Rajabhat University

### TABLE I
THE THREE CONTENT EXPERTISE OPINION

<table>
<thead>
<tr>
<th>Assessment items</th>
<th>M</th>
<th>S.D</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Contents and management</td>
<td>4.75</td>
<td>0.44</td>
<td>Highest</td>
</tr>
<tr>
<td>2. Image, Language, Sound</td>
<td>4.47</td>
<td>0.51</td>
<td>High</td>
</tr>
<tr>
<td>3. Contents and management on alphabet and color</td>
<td>4.48</td>
<td>0.55</td>
<td>High</td>
</tr>
<tr>
<td>4. Learning achievement test</td>
<td>4.74</td>
<td>0.41</td>
<td>Highest</td>
</tr>
<tr>
<td>5. Learning management</td>
<td>4.73</td>
<td>0.45</td>
<td>Highest</td>
</tr>
<tr>
<td>6. Manual for using learning lesson</td>
<td>4.46</td>
<td>0.50</td>
<td>High</td>
</tr>
<tr>
<td>Total mean</td>
<td>4.61</td>
<td>0.45</td>
<td>Highest</td>
</tr>
</tbody>
</table>

On the table I, the results of quality lessons on the Google drive & weblogs for three expertise found total mean was at the highest level (M = 4.61, SD = 0.45). The maximum mean was the content and management was at the highest level (M = 4.75, SD = 0.44).

Table II showed that the quality lessons on the Google drive & weblog on technology for life course to promote systems thinking.

### TABLE II
THE EXPERTISE OPINION ON DESIGN LESSON

<table>
<thead>
<tr>
<th>Items</th>
<th>M</th>
<th>SD</th>
<th>Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Part 1: Content</td>
<td>4.53</td>
<td>0.21</td>
<td>Excellent</td>
</tr>
<tr>
<td>2. Introduction</td>
<td>4.55</td>
<td>0.31</td>
<td>Excellent</td>
</tr>
<tr>
<td>3. Contents part</td>
<td>4.45</td>
<td>0.42</td>
<td>Good</td>
</tr>
<tr>
<td>4. Summary part</td>
<td>4.63</td>
<td>0.32</td>
<td>Excellent</td>
</tr>
<tr>
<td>5. Part 2: Graphic and design</td>
<td>4.50</td>
<td>0.42</td>
<td>Excellent</td>
</tr>
<tr>
<td>6. Part 3: Technical</td>
<td>4.48</td>
<td>0.10</td>
<td>Good</td>
</tr>
<tr>
<td>Total mean</td>
<td>4.52</td>
<td>0.30</td>
<td>Excellent</td>
</tr>
</tbody>
</table>

In the table II, we found that the total mean was at 4.52 (SD = 0.30) the excellent level Part 1. The lesson content mean value was at 4.55 (SD = 0.21) at the excellent level and was divided into three areas: 1) Introductions mean value was at 4.55 (SD. = 0.42) at the excellent level. 2) Summary part the mean value was at 4.63 (SD. = 0.32) at the excellent level. 2) The graphics and design mean value at 4.50 (SD = 0.42) at excellent level. 3) The technical had the mean value at 4.48 (SD. = 0.10) at the good level.

- The learning achievement pretest for the experimental and the control group as table III.

### TABLE III
THE PRETEST FOR THE EXPERIMENTAL AND THE CONTROL GROUP

<table>
<thead>
<tr>
<th>Group test</th>
<th>Min score</th>
<th>Max score</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>28</td>
<td>46</td>
<td>37.90</td>
<td>6.22</td>
<td>28.78</td>
<td>0.78</td>
</tr>
<tr>
<td>Exp.Gp</td>
<td>29</td>
<td>46</td>
<td>38.33</td>
<td>5.59</td>
<td>2.42</td>
<td>*P&lt;.05</td>
</tr>
</tbody>
</table>

In the table III, the mean scores of pretest and the control group of undergraduate students were found that the lowest score 28 points and the maximum 46 points with the mean at 37.90 (SD. 6.22) the experimental group. Students of law with the lowest score 29 points and the maximum 46 points with the mean of 38.33 (SD.5.59) t-value equals to 0.28 when p.value equals to 0.78, which the p-value is greater than 0.05 indicates that the assumptions it. The mean scores pretest of the control group and the experimental group had no difference.

The comparison of learning achievement postest scores of the control group and experimental test (Independent) as table IV.
In table IV, we found that the mean scores posttest of the control group of 30 undergraduate students were found the lowest score 35 points and the maximum 48 points with the mean at 42.77 (SD. 3.89) the experimental group. Students of law the lowest score 46 points and the maximum 49 points with mean value at 47.50 (SD= 0.98) t.value equal to 6.64 and p value = 0.00 can be seen that the p. value was less than 0.05. It is hypothesized that the mean posttest scores on after learning between the control group and the experimental group difference were significant at the 0.05 level.

<table>
<thead>
<tr>
<th>Group</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>S.D</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control Group</td>
<td>35</td>
<td>48</td>
<td>42.77</td>
<td>3.89</td>
<td>6.64</td>
<td>0.00**</td>
</tr>
<tr>
<td>Exp Gp.</td>
<td>46</td>
<td>46</td>
<td>47.50</td>
<td>0.98</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The instructional technology and communication studies. drives on Google & weblogs. There were also various other forms of technology. Application of optimal design can be used in teaching social media, or lessons on a network drive, such as lessons on Google drive weblogs.

- Suggestions for teaching.
  - The social media or lessons on the network such as Google drive & weblog tutorials on this blog. To build a portfolio of learners. The self-knowledge through materials, technology for creating conditions of learning. teachers must have the more time to build interactive lesson over computer network on the web and encourage learners to curiosity and search for self-knowledge.
  - Teaching on social media, or lessons on a network drive, such as lessons on Google & weblogs. Teachers should be prepared and the students are ready. And learning to be flexible with the timing. Knowledge, self-potential.
  - Navigating the class should be on social media or lessons on a network drive, such as lessons on Google drive & weblogs applied to other subjects. That depends on the nature of the material itself. To the thought process of the students to construct knowledge for themselves.

- Recommendations for research next time.
  - The Development blog on Google drive should take into account the different level of intelligence of the students.
- Should drive through development on Google weblogs courses that have through which people learn or I do not understand from studying normal. Students will learn to supplement lesson online through social media.

- Lessons on Google drives weblogs. Should be used in a course where the instructor wants the students to practice their skills. Prior to the actual practice. And subjects at risk of harm in the practice.

REFERENCES

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

[14] Srisarakham, S. (2011). “The role of social media (Social Media) to change the media”. Dhurakij Pundit University News. This research report has received research funded from the University research center.