

# A Development of online lessons of Suan Sunandha Rajabhat local wisdom

Chaiwat Waree

**Abstract**— The objectives of this research are: to develop and discover efficiency of online lessons of Suan Sunandha Rajabhat local wisdom to meet with criteria at 80/80 and to study satisfaction level of students by using online lessons of Suan Sunandha Rajabhat local wisdom. The target group herein was 40 students who studied in Academic year of 2013 and interested in online registration. Target group was determined by using purposive sampling. Tools used in this research were 20 items of post-test contained in online lesson, student's satisfaction evaluation form towards online lessons usage. Data analysis was conducted to find efficiency of online lessons as defined by criteria at 86.00 / 87.50 and student's satisfaction level towards online lesson usage of 40 students. The obtained mean was 4.46 and standard deviation was 0.68.

The results showed that the efficiency of online lessons of Suan Sunandha Rajabhat local wisdom was at 86.00 / 87.50 that was higher than defined criteria at 80/80. In addition, Overall satisfaction of students towards online lessons usage was in the highest level with the mean of 4.46 and standard deviation at 0.68. The obtained results were able to be used as guidelines for further development of learning activities management of other courses.

**Keywords**— Online Lessons , e-Learning , Education Technology , Local Wisdom, Higher Education , Instructional Media

## I. INTRODUCTION

CURRENTLY, general people of ASEAN countries, including Thai people, had no feeling of being "ASEAN citizens". From a report of the survey on their opinions regarding attitudes toward ASEAN perception, it was found that most people or less than 65% felt that they were "ASEAN citizens". As one of members who established ASEAN, Thai government emphasizes on preparing readiness of Thailand for driving development of ASEAN Community within 2015 by focusing more on practices and connection for benefits of regional people as shown in Declaration of Cha Am – Hua Hin regarding Action Plan for ASEAN Community during 2009 – 2015. In this declaration, Thailand and other ASEAN members mutually committed to promote ASEAN people to participate

in and gain benefits from this ASEAN assembling as well as process of becoming ASEAN community. Moreover, in the occasion that Thailand held the position of President of ASEAN in 1979, Thai government compelled to realize the ASEAN Charter, revitalize a people-centred ASEAN Community, and reinforce human security for all, etc. These would enable people to achieve becoming ASEAN community before 2015[2].

Thai government emphasized on participating in ASEAN community with the aim to lead Thailand to participate in ASEAN community completely by building readiness and strength on economy, society, culture, politic, and security. These three cores of ASEAN community were important equally and they should be operated continuously and completely. To determine becoming ASEAN community as national agenda, it should cover these three cores in order to become complete ASEAN community with national ASEAN committees as the national mechanism for coordinating and following up over all progress of all cores. In addition, they also had an important function to compel and support government agencies to operate for becoming ASEAN community. Moreover, national action plan for preparing readiness for ASEAN was also made.

Apichai Nutnearng [10] studied on operative documents of University's Courses Establishment and Development and found that utilization of local wisdom and leaning sources of university establishing courses was consistent with local demands in good level at 15.74%, in moderate level at 73.15%, and in low level requiring improvement at 11.11%. Simultaneously, utilization of university, learning sources, and local wisdom was in good level at 13.89%, in moderate level at 71.30, and in low level requiring improvement at 14.81%. University was able to develop and use leaning sources in good level at 19.44%, in moderate level at 70.37%, and in low level requiring improvement at 10.19%. University was able to utilize local wisdom to manage learning in good level at 14.81%, in moderate level at 61.11%, and in low level requiring improvement at 24.08%. From such data, it was found that university remained emphasizing on utilizing local wisdom for managing learning process in low level while local

Dr. Chaiwat Waree is with the faculty of Education of Suan Sunandha Rajabhat University, Thailand(e-mail: chaiwat.wa@ssru.ac.th)

wisdom was necessary for managing instructional process for sustainable development with identity and readiness for exchanging cultures to become ASEAN community proudly while being able to conserve uniqueness of Thailand.

The Office for National Education Standards and Quality Assessment declared the Third Education Criteria for Performance Excellence (2011-2015) consisted of basic indicator, identity indicator, and indicator of supporting measures in order to make university understood meaning, collected data, and prepared readiness on data for the Third Education Criteria for Performance Excellence. As a result, this study would like to provide additional understanding on such issue as follows:

Identity refers to effects on learners according to philosophy, determination, vision, mission, and objectives of establishing university approved by university's committees and its original affiliation. Identity was an indicator caused by the Second Education Criteria for Performance Excellence that inspected whether it was determined with philosophy, determination, vision, and mission of university only. In practical, all universities shall determined these things since they were established. For the Third Education Criteria for Performance Excellence, it evaluated whether the learners possessed characteristics according to matters defined in philosophy, determination, vision, and mission. For example, if university defined it philosophy as "Knowledge and Morality", students or graduates shall have knowledge and public mind. On the other hand, if vocational training school defined its philosophy as "Durable and Willful towards Working", the graduates shall be durable and willful towards work. This shall be considered as achieving its identity and the obtained results must be considered according to scoring system of each educational level. In collecting data on identity, university must determine a criteria for evaluating identity of university that may be a meeting for listening to opinions of university's community or a survey for gaining opinions from internal personnel toward learner's characteristics whether it reflected defined philosophy, determination, vision, and mission. Subsequently, scoring shall be in accordance with effect level on local communication or external agencies as well as acceptance level of community or external agencies. Results obtained from operation would provide good effect to university for further reviewing, consideration, and operation with explicit goals. For graduate study level, university and faculty shall determine identity in the same way therefore it could be said that "One university is one identity" [15].

Section 12 of Article 4, Educational Management Guidelines, of National Education Act B.E. 2542 stated that educational management for formal education, non-formal education, and informal education must emphasize on knowledge, virtue, learning process, and integration as proper of each educational level. In section 30, it stated that university must develop its instructional methods to be effective and promote its instructors to be able to conduct some researches for developing knowledge to suit with learner in each

educational level [11].

Section 65 of National Education Act B.E. 2542 stated to develop personnel on both creators and users of educational technology in order to gain suitable and quality knowledge and abilities on creating and utilizing technology. Section 24 stated to provide learning process in university and related organizations, provide content and activities to be consistent with interest and expertise of learners by considering on individual difference, promoting and supporting instructors to be able to provide environment and instructional media facilitating learners to start learning and gain knowledge as well as able to utilize researches as one part of learning. In addition, instructors and learners may learn together from instructional media and various types of technology sources therefore technology media is currently created for utilizing in instruction of learning groups according to Basic Education Curriculum diversely.

One of the most important prerequisites in base plan for long-term development of all countries is high education level in society what includes e-learning studies. The time is coming when global tasks could be solved only with communication and learning in world level. Ontological engineering have become an efficient methodology for knowledge representation and management in many domains and tasks. Ontology design, approaches and methodologies are very important issues for building ontologies for specific task. This paper presents the application of the ontological engineering methodology in e-Learning domain. There is the development of two web-based ontologies in the area of artificial intelligence technology. The first one is the "Artificial Intelligence in Education" ontology and the second is 'Expert Systems' ontology [ 12 ].

WBI operated on internet system was able to communicate under Multi-user System with borderless. Learners were able to send and receive electronics education data with no limitation on time and place. In addition, learners and instructors were able to communicate to each other and instructors were able to follow-up learner's behaviors and educational record. What made CAI different from WBI was communication because WBI was able to communicate under Multiuser system with borderless. Learners were able to communicate among them, with instructors or experts, and knowledge hub. In addition, they were also able to send and receive electronic education data with no limitation on time and place. There was no border under internet network or it could be called as virtual classroom. It could be said that any activity performed in schools or classrooms was able to be performed in WBI on internet network from starting to graduation of learners [17].

From such reason, the researcher was interested in utilizing innovation and electronic media to convey local wisdom or A Development of online lessons of Suan Sunandha Rajabhat local wisdom for preparing readiness for ASEAN because it was not only motivating learners to be enthusiastic to learn new things but it was also conveying Suan Sunandha Rajabhat

local wisdom to ASEAN community.

## II. RESEARCH OBJECTIVES

To develop online lessons of Suan Sunandha Rajabhat local wisdom to gain efficiency at 80/80 and achieve better level of student's satisfaction.

## III. HYPOTHESIS

Online lessons of Suan Sunandha Rajabhat local wisdom had efficiency level at 80/80 according to standard criteria and student's satisfaction level towards online lessons of Suan Sunandha Rajabhat local wisdom was in high level.

## IV. SCOPE OF RESEARCH

Populations used in this research were students of Suan Sunandha Rajabhat University in all years.

Target group used in this research on online lessons of Suan Sunandha Rajabhat local wisdom was students of Suan Sunandha Rajabhat University in all years obtained by using purposive volunteer sampling.

## V. DEFINITIONS

- 1) Online Suan Sunandha Rajabhat Local Wisdom Lesson means a web-based lesson promoting local wisdom knowledge of Suan Sunandha Rajabhat in the online and bilingual form including English and Thai toward ASEAN of students and anyone interested. Its contents are ordered in ascending order and ordered from easy ones to difficult ones plus with practice and its answers in order to enable the learners to know their results immediately. The learners will be able to learn by themselves upon their personal abilities.
- 2) Efficiency of web-based lesson means capabilities of the web-based lesson in building the learning achievement of the sample students from Faculty of Education, Suan Sunandha Rajabhat University in order to enable them to obtain learning according to determined criteria of 80 / 80.
  - o The former 80 means efficiency of processes evaluated from the student's scores obtained from doing practices of each lesson during the class that is averagely 80%.
  - o The latter 80 means efficiency of the result evaluated from the scores of students for their post-test that is averagely 80%".
- 3) Satisfaction of students means the feeling of students toward learning by using Online Suan Sunandha Rajabhat Local Wisdom Lesson in order to go towards ASEAN. This satisfaction was measured by using 10 items of Satisfaction Questionnaire upon the likert's 5 rating scales.

## VI. EXPECTED BENEFITS

- 1) Obtain guidelines for learning management in online lessons of Suan Sunandha Rajabhat local wisdom;
- 2) Utilize online lesson for remedial teaching that students

were able to learn by themselves;

- 3) Instructors had online lessons of Suan Sunandha Rajabhat local wisdom in learning management process that was able to be used in instructional process;
- 4) Learners were interested in lessons and gained more achievement on learning management process;
- 5) Knowledge obtained from this research would be beneficial to instructors or anyone interested in developing online lessons for other contents.

## VII. CONCEPTUAL FRAMEWORK

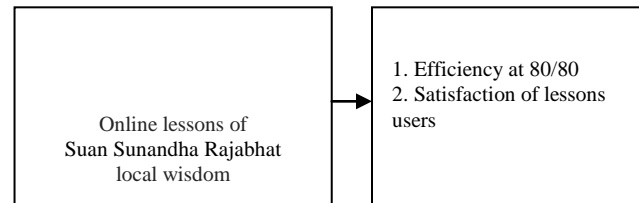


Fig. 1 Conceptual framework

## VIII. RELATED PAPERS AND RESEARCHES

For this development and utilization in developing Online Suan Sunandha Local Wisdom Lesson, the researcher studied related papers and researches as follows:

### A. Online Lesson

Definition of Web - Based Instruction (WBI) : Currently, computer and internet technologies are developed rapidly and becoming the important tools for changing instructional format, training, and knowledge transfer by developing traditional CAI to be Web-based Instruction. As a result, development of instructional media was very famous and it could be disseminated more rapidly and broadly than CAI media due to the following issues:

- o Properties of web document that can present data in the form of message, slide, motion, sound, video, and they can build the links to positions demanded by the developer.
- o Services in internet network contributing communication channels between the learners and the instructors in 7 x 24 system with no limitation on place of learning.

As a result, Web-based Instruction means the combination of properties of hypermedia with properties of internet and worldwide web for designing web-based instruction promoting and supporting learning at anytime and anywhere. It is designed to allow the learners and instructors to have interaction via computer networks that can be linked one another.

Properties of WBI : WBI is the instructional media development system applying the properties and resources of worldwide web and properties of Hyper media for managing environment promoting and supporting instruction with no limited boundary at different time and distance of the learners

that can be the whole or partial process of the instruction:

- Properties of worldwide web network means providing some opportunities to the learners for interacting with the instructors or other learners for their learning with no necessity on being at the same time or place, for example, the learners make an appointment and open the discussion via various famous programs of Synchronous Conferencing System such as MSN, YahooMessenger. Otherwise, the learners are able to learn upon the topics and participate in any discussion at anytime upon their convenience via several programs of Asynchronous Conferencing System such as e-Mail or Webboard. This type of interaction is possible for interaction between individual and individual, learner and his/her group, or group and group.
- Properties of Hyper Media in web-based instruction means self-support for learning abilities, i.e., the learners are able to select the contents of presented lessons in the form of Hyper Media that is the techniques helping to link main content with other related contents. The format of this linking can be linking messages to related contents or linking messages to image or sound. As a result, such linking is providing some opportunities to the learners for controlling learning by themselves by selecting the order of lesson's contents upon their demands. In addition, they are also able to learn upon their own proper time and convenience.

Characteristics of Web-Based Instruction (WBI) : Web-based Instruction must rely on the roles of internet mainly and the utilization of internet in the form of web-based instruction is divided into 3 methods as follows:

- 1) Presentation – It is in the form of website consisted of graphic messages that can be presented properly in the form of media including:
  - Presentation in the form of one-way communication such as message.
  - Presentation in the form of two-way communication (such as graphic message) that is sometimes in the form of PDF file that can be loaded by the learners.
  - Presentation in the form of multimedia including message, graphic image, motion, sound and film or video (but its speed must not be equal to video tape).
- 2) Communication – Communication is necessary for everyday use and that's the important feature of internet. There are several formats of internet communication including:
  - One-way communication – visiting web pages
  - Two-way communication – sending e-mail
- 3) Dynamic Interaction – It is the important feature of internet consisted of 3 aspects including:
  - Searching
  - Web accessing
  - Human's response to web page usage

Benefits of Web-based Instruction :

- 1) Web pages provide an interaction between the learners and instructions or between the learners and lesson contents.
- 2) Web pages are able to present the contents in the form of Multimedia
- 3) Web pages are Open System allowing users to be independent for accessing data globally.
- 4) Web pages are rich with Online Search/Resource.
- 5) Web pages have no limitation on device, distance and time independent. Learners who possess computer in any system connected with internet will be able to access learning at any time and any place.
- 6) Web pages provide Learner Controlled System therefore the learners are able to learn according to their own readiness, expertise, and interest.
- 7) Web-pages are self- contained therefore we are able to manage all instruction via website because the web pages allow us to perform synchronous communication (e.g., chat), and asynchronous Communication (e.g., Web Board, etc.)

#### B. Local wisdom

Definition of local wisdom :

“Local wisdom” or popular wisdom is a new word that is recently used and there are many people have tried to define the meaning of the term “local wisdom” or popular wisdom as follows:

Nikom Chompulong stated that local wisdom means knowledge and experiences of the local people for solving problems or living that have been inherited for long time [8].

Prawet Wasee stated that local wisdom is originated from long learning accumulation with linking to all fields with no separation of any specific course. As a result, economic subjects , living, and cultural subjects will be linked together harmoniously [18].

Jaruwat Thammawat stated that local wisdom refers to valuable living pattern representing the cleverness of people and society that is accumulated and inherited continuously and it can be either local wisdom, personnel resources or knowledge resources [14].

Chonlastit Eiwsum-arg and Witsanee Siltrakul stated that local wisdom refers to knowledge and experiences of local people that are trained, accumulated, and inherited from their ancestors or knowledge and direct experiences obtained from working, nature, and environment. These things are valuable reinforcing abilities and enabling people to live peacefully. Such knowledge is creative and a part to reinforce production [3].

From the definitions provided by several researchers, it could be concluded that local wisdom means the valuable living pattern of people in each local area that is accumulated and inherited for long time.

### IX. RELATED PAPERS AND RESEARCHES

Kampol Damrongwong studied and compared the learning achievement of students from independent computer-assistant instruction and computer-assisted instruction with teachers to suggest maths of Primary 3. The results showed that there was no difference on learning achievement of students who learned with independent computer-assistant instruction and who learned with computer-assisted instruction with teachers [1].

Wirat Klahyarn conducted the experiment by using the microcomputer assisted instruction for remedial mathematics teaching on multiplication with some hearing impaired Primary 2 students. The results showed that using the microcomputer assisted instruction for remedial mathematics teaching enabled those students to have higher level of learning achievement [5].

Supasombul Ungrattanakorn conducted a research on development of program assisted instruction for remedial mathematics teaching on solving system of linear equations using matrix with the 4th year student in Faculty of Agricultural Technology. The results showed that the students had higher level of learning achievement with better attitude towards learning mathematics by using computer [16].

Somkiat Intachart studied on interaction between the lessons of computer-based instruction via contents and games and achieved scholastic aptitude for learning mathematics of 90 primary 6 students. In this research, the Scholastic Aptitude Test of Educational and Psychological Test Bureau of Srinakharinwirot University was used. The students were divided into high level, middle level, and low level with 30 students per each level. In addition, each level was divided into 2 equal groups by using matching and simple random sampling for grouping students into the groups of computer-based instruction via contents and computer-based instruction via games. The learning achievement was subsequently conducted with two-way analysis of variance. The results showed that students with different scholastic aptitude had different learning achievement with statistical significance at .05. However, there was no interaction between the lessons of computer-based instruction via contents and games and achieved scholastic aptitude [4].

Paitun Noppakat discovered the efficiency of lessons of computer assisted instruction for remedial teaching of Secondary 3 students who had the learning achievement on mathematics regarding "Factorization of Polynomials" lower than the criteria by 50% and compared the learning achievement between the students who learned with computer assisted instruction group and normal instruction group. The results showed that the students who learned from computer assisted instruction lessons had high learning achievement at the standard criteria of 60/60, i.e., they were able to reach 75/70. In addition, the learning achievement of the students who learned with with computer assisted instruction group and normal instruction group was different statistically significant at .05. The learning achievement of students who learned with computer assisted instruction group was higher than those who

learned with normal instruction group [9].

From the conclusion of the researches on computer assisted instruction, it was found that computer assisted instruction was able to improve the learning achievement of the students to be higher than normal instruction. In addition, the learning achievement after learning from computer assisted instruction was higher than normal instruction, i.e., computer assisted instruction played the important role in enabling the learners to achieve their learning according to the objectives efficiently. Consequently, the learners were able to learn from interaction. When considering on attitude and satisfaction of students toward computer assisted instruction, it could be concluded that students had good attitude towards computer assisted instruction with good satisfaction and enthusiasm.

As a result, the researcher was interested in utilizing the principles of computer asisted instruction to develop Online Suan Sunandha Local Wisdom Lesson towards ASEAN. There should be some activities enabling the learners to learn and obtain the correct skills through actual practice. This also enabled students with special demands to learn according to their abilities personally.

### X. RESEARCH PROCESS

- 1) Studied papers and researches as well as studied from local some philosophers through interview and focus group in order to synthesize Suan Sunandha Rajabhat local wisdom. Subsequently, the obtained results were classified and arranged systematically in bi-language format (i.e., Thai and English) and created in the form of online lessons.
- 2) Submit developed online lessons of Suan Sunandha Rajabhat local wisdom to experts for inspection and improvement.
- 3) Tried out improved online lessons of Suan Sunandha Rajabhat local wisdom with students who were not target group for further improvement and public relations.
- 4) Students who were target group studied created online lessons of Suan Sunandha Rajabhat local wisdom and took pre and post test. Subsequently, satisfaction of students was evaluated after their usage of online lessons of Suan Sunandha Rajabhat local wisdom. Obtain guidelines for learning management in online lessons of Suan Sunandha Rajabhat local wisdom;
  - o Tested students with test review of 4 online lessonss. The obtained scores were collected as scores of formative evaluation.
  - o 15 items of achievement test on online lessonss were tested with students and the obtained scores were collected as scores of post-test.
  - o 10 items of satisfaction evaluation form towards online lessonss were commented by students.
- 5) The results were checked and the obtained scores of pre and post test were analyzed by using statistics in order to find efficiency at 80/80.
- 6) Student's satisfaction after using online lessons of Suan

Sunandha Rajabhat local wisdom was analyzed and concluded.

#### XI. CONCLUSION ON DEVELOPMENT AND UTILIZATION OF ONLINE LESSONS

- 1) From development and try out of online lessons of Suan Sunandha Rajabhat local wisdom, it was found that it was suitable and efficient according to defined criteria calculated to be 86.00 / 87.50 when utilizing with 40 students who were target group that was consisted with defined hypothesis.
- 2) From try out of online lessons of Suan Sunandha Rajabhat local wisdom, it was found that efficiency of process (E1) provided in tests was calculated to be 86.00% and efficiency of results (E2) was calculated to be 87.50%. These online lessons of Suan Sunandha Rajabhat local wisdom had higher efficiency than 80/80 as defined therefore it could be concluded that these online lessons had high efficiency as defined by criteria and they were able to be used for classroom instruction efficiently.
- 3) From the results of student's satisfaction towards learning with online lessons of Suan Sunandha Rajabhat local wisdom, it was found that overall student's satisfaction towards instruction using online lessons was in the highest level, i.e., students had overall satisfaction towards online lessons in high level with mean of 4.46 and item 10 was gained the highest satisfaction level of students. Average demand of students on creating online lessons for other subjects was 4.84. For other evaluations, most of them had high level of satisfaction.

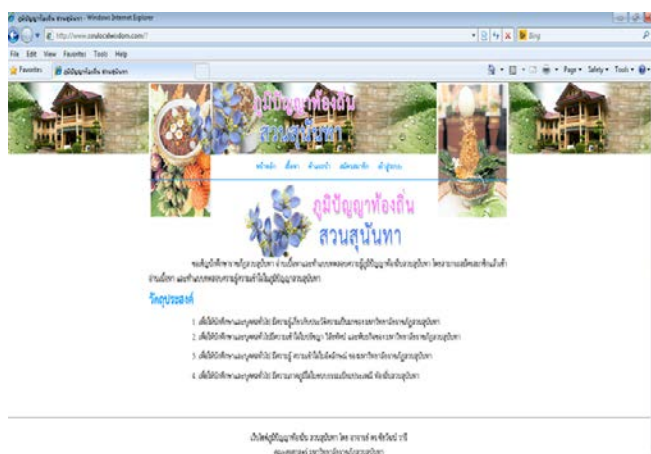


Fig. 2 Online Lessons of Suan Sunandha Rajabhat Local Wisdom  
<http://www.ssrulocalwisdom.com>

## XII. DISCUSSION

### A. Discussion on Development and Utilization of Online Lessons

From development and utilization of online lessons of Suan Sunandha Rajabhat local wisdom, the results could be discussed as follows:

- 1) Development and utilization of online lessons was successful and efficient as expected because the research had studied on process of making online lessons from several theories and concepts through studying on related papers and analyzing lesson's content from curriculum, determination of behavioral objective, planning of creation and development. In addition, the researcher was also supported by some content experts and their comments on index of consistency among issues, objectives, learning standard of curriculum, finding on accuracy of tools, and finding of confidence level, were assembled as a tool for creating and developing online lessons of Suan Sunandha Rajabhat local wisdom. As a result, such online lessons were able to be created and developed successfully. In addition, they were also able to be used and publicized to other instructors in other universities that was consistent with a research of Sunanta Suntornprasert [13] stated that instruction with online lessons was able to develop students to be more confident with themselves and learn lessons with their potential leading to higher level of achievement. In addition, online lessons also developed students in both cognitive domain and affective domain efficiently because they enabled students to learn and understand contents of lessons through repeated reading. In addition, it was also found that online lessons were able to adjust learner's behavior to seek knowledge, realize, and see value of learning providing good cognitive skills to learners if such online lessons were developed by content expert and expert on online lessons correctly and systematically according to principles. To develop the content of Suan sunandha Rajabhat local wisdom online lesson, the first step is to have the experts group meeting with focus group technic to create an appropriate content to be consistent with the research of the Naeimeh Delavari and group which is Due to the advent of computer-based technologies, data sharing and communication in collaborative design environments have significantly improved. However, current systems' interfaces do not support mutual understanding among professional design team members. This only contributes to increasing levels of miscommunication and lesser understanding among design professionals in IT-integrated design collaboration processes. The purpose of this paper is to understand and nurture engagement of design professionals within the building and construction sectors to the computing system interfaces, so they will actively participate in IT-integrated design collaborations. This study utilizes Grounded Theory Methodology to explicate our understanding about engaging design professionals. While control and

feedback are common parameters of engagement in prior models, the study found the need to add functionality to engage design professionals in IT-integrated collaborative interfaces [7].

- 2) Efficiency of these online lessons was in high level as expected at 86.00 / 87.50 due to creation and development of such online lessons. The researcher studied on basic data and analyzed work, contents, learners who were target group, and behavioral objectives prior planning on creation and development to meet those behavioral objectives under explanation and suggestions of content expert for inspecting accuracy of contents, language correctness, appropriateness of design, instructional methods, and presentation. Subsequently, the obtained lessons were improved, developed, and tried out with a small student group in order to find further faults for additional improvement and development prior performing field tryout with 40 students. The results showed that efficiency of online lessons was 86.00 / 87.50 that was satisfying and met with expected hypothesis. A development of Suan sunandha Rajabhat local wisdom is an online teaching materials of e-learning and consistent with Meriem Hnida and group's findings which is the notion of competence and learner model is the kernel of the Competency-Based Approach (CBA). This representation provides a baseline for an e-learning adaptive system in which we plan to implement individual learning through individualized learning paths and collaborative learning considering individuals as part of homogeneous groups [6].
- 3) Student's satisfaction towards online lessons of Suan Sunandha Rajabhat local wisdom was in high level for all items because the research studied on psychology of learning of learners before planning creation of online lessons. Subsequently, the obtained results were planned for creation and development of complete online lessons that was consistent with work of Supasombun Ingrattanakorn [16] who studied on developing computer program for remedial mathematics teaching on matrix and linear equation of 4<sup>th</sup> year students of Faculty of Agricultural Technology. The results showed that learners had higher level of achievement than before with good attitude towards mathematics learning by using computer.

#### *B. Discussion on Distinctiveness of online lessons of Suan Sunandha Rajabhat local wisdom*

Distinctiveness of online lessons of Suan Sunandha Rajabhat local wisdom was as follows:

- 1) Distinctiveness of online lessons of Suan Sunandha Rajabhat local wisdom was analyzed on its content prior preparing its tests therefore it was complete according to academic principles. Moreover, the researcher also studied and researched on concepts and theories for creating and developing online lessons from reliable data sources of papers and websites therefore data used in this research was updated and correct upon academic

principles completely. For report writing, utilization, and development, it was prepared by the researcher by considering on language principles upon defined contents and curriculum. It was prepared in the same system either system of writing topic title or reference system in bibliography.

- 2) The researcher prepared the report on the results of development and utilization of online lessons by developing, improving, and correcting under suggestions of experts as well as presented it in 5 chapters of research including introduction, background and significance, related papers, concepts, theories, and researches, research process, and results of development and utilization.
- 3) For utilizing concepts for creativity, the researcher studied on concepts and theories obtained from learners and comments obtained from specific experts on educational technology. In addition, the research also participated in several trainings in order to collect experiences for gaining new knowledge on applying computer technology to learning of students. As a result, this innovation was created that was considered as the ultimate benefit for educational management. Consequently, after tryout of this innovation, it was admired and accepted by several instructors.
- 4) Typing, format, and correctness of this report and developed media according to academic principles was also another distinctiveness greatly considered by the researcher because correct, beautiful and orderly typing was an indicator reflecting quality and efficiency of the researcher. In addition, it also fostered orderliness for passing on and fostering to researcher's students.
- 5) This instructional media on online lessons of Suan Sunandha Rajabhat local wisdom was a contribution developed by the researcher in all procedures from initiating concepts of development and analysis on contents to test design, finding efficiency of created test, writing conceptual framework, considering on theory and psychology of learning before tryout. The obtained results were publicized to other instructors in various places and it was found that most instructors had positive respond to this innovation. They commented that this online lesson was useful for academic advance and able to be used as a model on applying it as electronic innovation in the future.
- 6) 40 students who used online lessons of Suan Sunandha Rajabhat local wisdom had higher grades exhibited that online lessons were efficient and beneficial for learners.

### XIII. SUGGESTION

From conducting this research, the researcher had the following suggestions :

#### *A. General suggestions*

- 1) Before using online lessons of Suansunandha local wisdom for preparing readiness for ASEAN, the instructor should prepare readiness of online suggestions and must urge



students on loyalty for doing their tests without opening provided answers. They must completed all items and procedures without skipping in order to gain certain knowledge and understanding in lessons. Consequently, they would be able to utilize obtained knowledge in group discussion and practicing skills of concluding lessons diversely. This also the best method to practice students on conceptual skills as well.

- 2) While performing group activities for practicing team working, instructor should perform a duty as a consultant providing suggestions and assistance to students when they had any problem in order to enable them to perform all activities contained in lessons smoothly with no boring.

#### B. Suggestions for further studies

Online lessons should be created with other contents.

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#### XIV. BIOGRAPHY



Chaiwat Waree was born in Nongchang, Thailand. He received the B.Ed. degree in Thai from the Srinakharinwirot University, TH, in 1999, the M.Ed. degree in Guidance and Counseling Psychology from the Srinakharinwirot University, TH, in 2002, and the D.Ed. degree in Curriculum and Instruction from the Burapha University, TH in 2010. His research interests cover the Pedagogy and Psychology and Education Technology. Dr. Chaiwat is a Lecturer at Faculty of Education, Suan Sunandha university and

External assessor for Office of National Education Standards and Quality Assessment, TH.