An Evaluation of Sukhothai Thammathirat Open University English Proficiency Test (STOU-EPT) E-Testing System

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Abstract

This is an evaluation research. The purpose of this research is to assess the Sukhothai Thammathirat Open University English Proficiency Test E-Testing System. The research participants consist of 45 representatives of the Office of Registration Record and Evaluation; 3 representatives of the Office of the Information Service Centre; 2 representatives of each Regional Distance Education Centres: Lampang, Nakornsawan, Udon Thani, Nakhon Si Thammarat; 6 representatives of the Advisory Board of Exam Development System; 4 lecturers in measurement and evaluation; 2 representatives of the Research and Test Development Centre who have experience in using the Sukhothai Thammathirat Open University English Proficiency Test Item bank system; and 131 examinees of Sukhothai Thammathirat Open University English Proficiency Test (E-Testing). The research instruments consist of questionnaire and interview questions. Data were analysed using frequency percentage mean standard deviation and content analysis. The research found that five subsystems of Sukhothai Thammathirat Open University English Proficiency Test (E-Testing) system consist of registration system,

item bank system, examination management system, testing system and examination control system that can be used conveniently and quickly. Meanwhile the evaluation results are higher than the criteria set. There are some main suggestions as to improve the system. For instance, issues with audio recordings in the item bank; the system should determine the compensation for foreigners recording in the listening part at an incentive rate. Issues regarding the use of testing system, it should improve the video presentation on the listening part as to make it consistent with the items formats and the passage should be displayed on the right side of the item for compound questions.

Keywords: *Evaluation, English proficiency e-testing system, electronic examination system*

Introduction

In 2016, Sukhothai Thammathirat Open University, Thailand has developed the Sukhothai Thammathirat Open University English Proficiency Test (STOU-EPT) system through an electronic exam system to replace the traditional paper-and-pencil test to provide English proficiency test services. This is related to individuals and those who wish to apply to study for graduate programmes at Sukhothai Thammathirat Open University and undergraduates who are pursuing the programmes from the academic year 2017 onwards as to raise the English standard according to the announcement made by the Office of Higher Education Commission (Higher Education Commission, 2016).

The STOU-EPT English Proficiency Test through the newly developed electronic exam system uses the Common European Framework of Reference for Languages (CEFR), which measures three areas of English language skills: listening skills, grammar or structure skills and reading skills (Vanijdee, 2019). This electronic exam system consists of five subsystems: exam registration system, STOU-EPT exam repository system, exam management system, examination system and examination control system (Aungsuchoti & Jiraro, 2018).

To ensure the management of the exam is effective before expanding the service to the regional campus for coherent with the mission of open and distance learning, there is an assessment of the English Proficiency Test STOU-EPT that took place through the five subsystems of Sukhothai Thammathirat Open University's electronic exam system. This is to use the information obtained to improve the examination system and exam administration for more efficiency and to prepare for the provision of English proficiency tests to students of Sukhothai Thammathirat Open University of all levels and to the general public.

The purpose of this article is to evaluate the English Proficiency Test System STOU-EPT through the electronic examination system of Sukhothai Thammathirat Open University.

Research Objectives

The objectives of this study are to evaluate the STOU-EPT on the following aspects:

    i.   its registration system;
   ii.   its repository system;
  iii.   its management system;
  iv.   its system; and
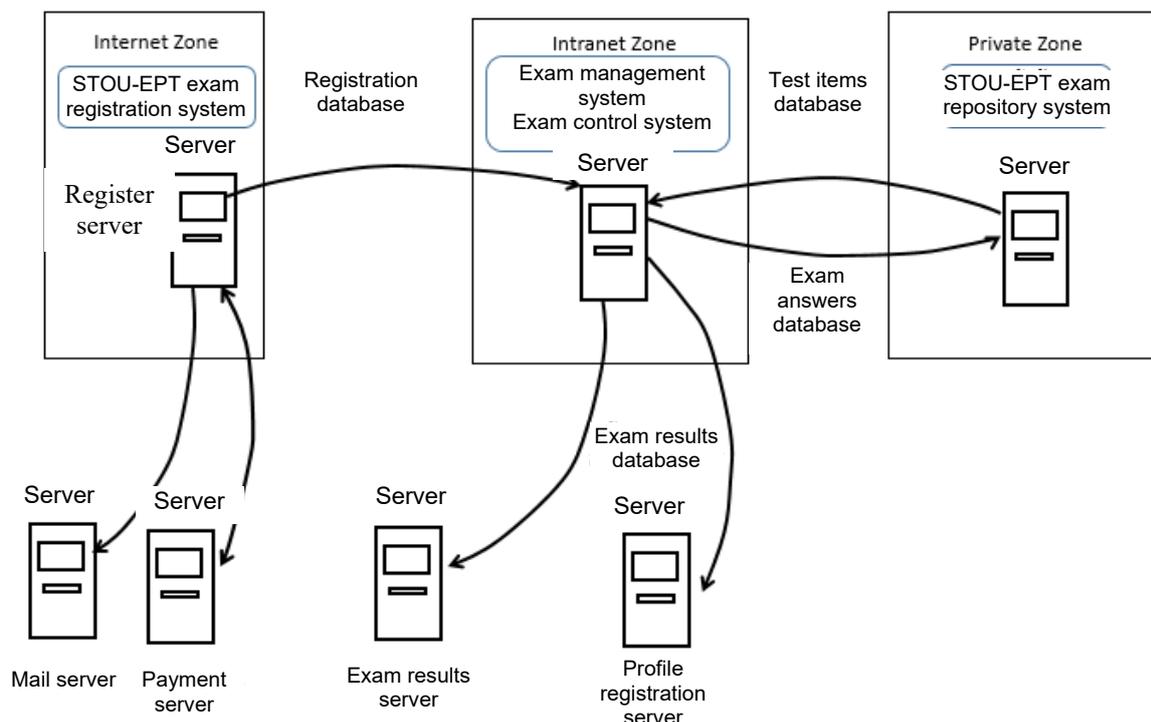   v.   its control system.

Literature Review

Sukhothai Thammathirat Open University English Proficiency E-Testing System

Sukhothai Thammathirat Open University English proficiency e-testing system or STOU-EPT (E-Testing) consists of five related subsystems as shown in Figure 1.

Figure 1

Picture of the linkage of the English Proficiency Test System STOU-EPT through the Electronic Examination System

The following are the details of the five related subsystems of STOU-EPT (E-Testing).

i)   STOU-EPT Exam Registration System

This is a system in the Internet Zone uses for recruiting, accepting payments and accepting applications. Exam registration procedures consist of subscription activities, selection of date, time and place of examination, payment, and application acceptance.

Payment can be made in two ways: through KTB account debit online or print out the application form and to pay at any Krungthai Bank counter within 48 hours. The system will process the registration exam and send the data to the mail server. Then, the mail server will deliver the e-mail to the subscriber mail in order to accept the examination application and submit a ticket used for accessing the test system on the day of the exam via e-mail that applicants apply for the exam which is a one-way transmission of information. Applicants will not be able to reply to this e-mail and they must print and bring their tickets on the exam day. When the application is closed for each time, the staff will transfer the exam registration information offline into the exam management system.

ii) STOU-EPT Exam Repository System

This system is located in the Private Zone where the university uses STOU-EPT exam storage permanently in the form of a database. The STOU-EPT exam system consists of activities such as access to the exam repository system, audio recordings in listening part, reading part, and structure/grammar part, examination recordings matching audio files with the exam texts in listening part of the exam, review exam answers individually, and then export them. The exams will be copied into the exam management system using an offline transfer method.

iii) Exam Management System

This system is available in the Intranet Zone uses for exam management by receiving information of applicants registered for the exam from the STOU-EPT exam registration system from the STOU-EPT examination system. This system can generate multiple tests. For example, there are 5 examinations, each with 3 parts, are able to randomly switch part into 125 ($5 \times 5 \times 5 = 125$) exam administrations. Next, the system will store the exam history for each individual and for exams.

iv) The Exam System

It is a system in the Intranet Zone that the exam takers use for login in order to use the exam system, try different types of exams, take real exams, submit each part of the exam and submit all exams. This system can check the exam, process, and display exam results on a computer screen.

v) Exam Control System

This system is placed in the Intranet Zone used on the day of the exam for opening of the exam system, transferring of the exam seats for the exam takers, opening-closing the exam, sending a message to the exam takers, printing of individual exam results, viewing the list of students in the examination room, printing ticket for the exam takers in the event that they did not prepare the tickets received by e-mail, viewing the list of quizzes used for the exam, printing of the report consists of printing the student list in the examination room, printing of exam results for all students in the room and printing of exam results. The examination result data will be exported to the student's profile registration system by an offline system.

Characteristics of English Proficiency Test STOU-EPT

Sukhothai Thammathirat Open University's STOU-EPT English Proficiency Test is designed according to the CEFR, consists of three parts: Part 1 Listening, Part 2 Structure and Part 3 Reading with the structure of the exam as shown in Table 1.
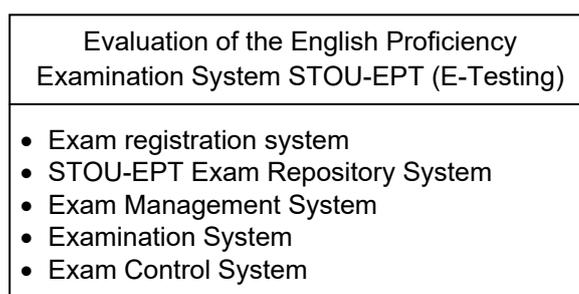
Table 1

Structure of the STOU-EPT English Proficiency Test

Examination	Exam Details	Exam Characteristics	Number of Tests (Questions)
Part 1 Listening	Text I	Short Conversations: Listen to the conversations and answer the multiple choice exam	8
	Text II	Listen to the messages and answer the matching exam	6
	Text III	Listen to the messages and answer the exam in a form	6
	Text IV	Listen to the sound and answer the correct-incorrect exam	5
Total			25 (No. 1 - 25)
Part 2 Structure		Multiple choice exam: Choose the correct answer.	35 (No. 26 - 60)
Part 3	Passage I	4 choice questions	5 (No. 61 - 65)
Reading	Passage II	4 choice questions	5 (No. 66 - 70)
	Passage III	4 choice questions	10 (No. 71 - 80)
	Passage IV	4 choice questions	10 (No. 81 - 90)
	Passage V	4 choice questions	10 (No. 91 – 100)
Total			40 (No. 61 - 100)
Total from Part 1 - Part 3			**100**

By comprehending the STOU-EPT English Proficiency Test through the electronic exam system of Sukhothai Thammathirat Open University according to the above concepts together with the characteristics of the STOU-EPT English Proficiency Test, it can be summarised that the research framework for assessing the English Proficiency Test STOU-EPT (E-Testing) system consists of evaluating the operations of five systems, including exam registration system, STOU-EPT exam repository system, exam management system, examination system and exam control system as shown in Figure 2.

Figure 2

Research Framework

Evaluation of the English Proficiency
Examination System STOU-EPT (E-Testing)

- Exam registration system
- STOU-EPT Exam Repository System
- Exam Management System
- Examination System
- Exam Control System

Research Method

This evaluation research is conducted by collecting information based on assessment issues with the assessment framework which consists of five systems, including exam registration system, STOU-EPT exam repository system, exam management system, examination system and exam control system. Each assessment issues explain group of informants, equipment, data analysis, indicators and criteria as shown in Table 2.

Table 2

Framework for Assessing the English Proficiency Test System STOU-EPT (E-Testing) of Sukhothai Thammathirat Open University

Assessment Issues	Group of Informants	Equipment	Data Analysis	Indicators	Criteria
1. Exam Registration System					
1.1 Exam registration system for applicants	36 applicants for STOU-EPT	Electronic questionnaire which the quality of tool inspected l by three experts in order to determine the content validity and get IOC 1.00 for all items and unstructured interviews	Mean and standard deviation content analysis	Satisfaction is at the average score	The applicants have a very high level of system satisfaction (the average of 3.5 or more of a full score of 5)
1.2 Exam registration system for the exam administrators	1 official/ staff who uses and administers the exam registration system	Unstructured interview form	Content analysis	Comments on the use of the system	Officials that the system was easy to use and convenient
2. STOU-EPT Exam Repository System					
2.1 Audio recordings in the Listening Part (this is a prerequisite activity to bring the audio files into the STOU-EPT exam repository system)	4 professors evaluating the results	Unstructured interview form	Content analysis	Comments on audio recordings in the Listening Part	Audio recordings in the Listening Part is smooth and convenient
2.2 Record and revise all three parts of the exam into the exam repository system	1. 4 professors evaluating the results 2. 2 officials who uses STOU-EPT exam repository system	Unstructured interview form	Content analysis	Comments on exam recording and editing	The exam recording and editing can be done in all forms easily and conveniently

Assessment Issues	Group of Informants	Equipment	Data Analysis	Indicators	Criteria
2.3 Review of each exam question individually	4 professors evaluating the results	Unstructured interview form	Content analysis	Comments on reviewing the exam questions individually	Able to access the system to review and edit each exam question easily and conveniently
2.4 Export the exam to be used for each examination	1 professor evaluating the results	Unstructured interview form	Content analysis	Comments on the export of the exam	Able to export the exam easily, conveniently, and the exam is complete and correct.
3. Exam Management System					
3.1 Exam Management System	1 professor evaluating the results	Unstructured interview form	Content analysis	Comments on the exam management	Able to manage the exams easily and conveniently. The examination history of the individual and of the exam are correct and complete as well as they can be viewed retrospectively for all cases.
4. Examination System					
4.1 Phase 1: Assessment before using the STOU-EPT English Proficiency Test System through the electronic examination system	1. 45 representatives from the Registration, Record and Evaluation Office 2. 3 representatives from the Information Centre 3. 8 representatives from the Resource Development Centre at STOU. 4. 6 advisors	Questionnaire	Frequency and percentage	Percentage of participants who try to use the STOU-EPT exam system and thought that the system is easy to use and convenient	Not less than 76% of all informants
4.2 Phase 2: Evaluation of the use of the STOU-EPT English	131 STOU-EPT test takers including: 1. General public, totalling 36 persons 2. 95 employees of the	Electronic questionnaire	Mean and standard deviation	Satisfaction is at the average score	The applicants for the exam are very satisfied with the

Assessment Issues	Group of Informants	Equipment	Data Analysis	Indicators	Criteria
Proficiency Test System through the electronic examination system	external agencies				examination system (the average of 3.5 or more of a full score of 5)

5. Exam Control System

Assessment Issues	Group of Informants	Equipment	Data Analysis	Indicators	Criteria
5.1 Phase 1: Assessment before use of the STOU-EPT English Proficiency Test System through the electronic examination system	8 representatives from the Resource Development Centre, STOU	Open-ended questionnaire	Content analysis	Comments on exam control	Thought that the examination control was easy and convenient
5.2 Phase 2: Assessment of the use of the STOU-EPT English Proficiency Test System through the electronic examination system	1. 1 professor evaluating the results 2. 4 exam supervisors at the Central of STOU	Unstructured interview form	Content analysis	Comments on exam control	Thought that the examination control was easy and convenient

Findings

The following are the five findings resulted from this study.

i) Examination Results for the Exam Registration System

Staff/officials who operate and supervise the registration system for the English Proficiency Test STOU-EPT through the electronic exam system have commented that the use of the registration system for the whole examination of the staff/officials and the applicants of all activities are easy to use and convenient by following the user manual. The STOU-EPT (E-Testing) exam registration system is able to answer applicants' questions with application problems by using the user manual and E-Testing system for applicants.

Applicants express their opinions that the exam registration system is easy to use. The average of all evaluation results is between 4.19 to 4.28 at a high level. When compared with the evaluation criteria set, the average satisfaction is 3.5 or more which is considered as high level of pass criteria. The applicants

recommended that the payment duration should be extended from 48 hours to 72 hours as 48 hours is too short.

ii) Assessment Results for the STOU-EPT Repository System

The process of the STOU-EPT exam repository system in activities relating to recording audio in the Listening Part, recording and editing of all three parts into the exam library system, reviewing the exam questions individually, and exporting the written exam for use in each exam went smoothly. The system is easy to use and convenient. Nevertheless, there was a problem with the inability to recruit female foreigners to record in the Listening Part due to the lack of compensation regulations for the recorded foreigners. Hence, the internal personnel are used in which there are no female foreigners involvement. However, personnel with accents are recruited, which are closest/similar to the foreigners' accents.

iii) Evaluation Results for the Exam Management System

For the examination management system assessment results, it was found that the system is able to work normally in the activities of importing the applicants' information for the exam, importing the quizzes, administrating the examination, and maintaining individual and exam history.

iv) Examination System Evaluation Results

- ***Results of the first phase of the examination system***

70.45% to 88.36% percent of participants in the STOU-EPT English Proficiency Test provide their opinions that the exam guide digital video disc (DVD) had clear content, the guideline is easy to understand and cover all issues in order which makes it possible to do the exam without any doubts. It also has a suitable length and additional suggestions for students to repeat in Part 1 (Listening). However, when the voices have already been presented in two rounds, the messages will not be played and to be listened again. The exam lasts only 30 minutes, and it cannot be redone and edited.

93.18% of the participants in the English proficiency test STOU-EPT agreed that logging into the exam system is easy and convenient. 77.27% to 100.00% of the participants in the STOU-EPT English Proficiency Test provided their comments that the method for answering each part of the exam is easy to understand and convenient to answer. The questions are shown on the screen quickly. The sounds and images are clear. The colours are beautiful and the large font size is suitable. For the Part 1 (Listening), it provides adequate time intervals. Submitting answer papers to each part is simple and convenient. However, there was some suggestions about Part 1 (Listening), Part 2 of the gap time between some explanations and questions is too much until it seems that the silent part is too long. In Part 3, there are two screens, thus having to scroll the exam question up and down makes it difficult to see. They suggested that it should be adjusted to the left-right instead.

70.45% of participants in the STOU-EPT English Proficiency Test agreed that the results report form is concise, easy to read and beautiful; meanwhile 63.64% of participants agree that the results are consistent with their abilities.

- ***Assessment Results for the Examination's Phase 2***

    The average satisfaction levels of all questions is between 4.36 to 4.43 among the general public and between 4.31 to 4.51 among employees of the external organisations. Pertaining to the highest levels of score, the assessment results are consistent in both groups as all meeting the criteria set at 3.50.

    For the examination system, the average of all assessment results is between 3.81 to 4.46 among general public and 3.74 to 4.62 among employees of external organisations. Pertaining to the highest levels of score, the assessment results are consistent in both groups, all meeting the criteria set at 3.50. The issues that should be considered for further improvement are the presentation format, the passage in the Reading Part (divided into two screens between the chapters and questions), font size and background colour.

    For the Listening Part, the average of all assessment results is between 3.89 to 4.25 among the general public and between 4.15 to 4.45 among the employees of the external organisation which are considered in the high level. Pertaining to the highest levels of score, the assessment results are consistent in both groups, all meeting the criteria set at 3.50. The issues that should be considered for discussion with the system developer are the suitability of two listening sessions, the clarity of the sounds recorded in the exam, and the clarity of the audible notes, ease and convenience in answering the matched exam in the Listening Part or options that are needed for the answers were too long. This is due to the tutorial DVD that recommended participants to read before clicking listen to the audio. This made the test takers read first and then click listen. When they clicked to listen to the exam, there was still a period of time to read again, causing the test takers to get confused and think that the system had a technical problem.

- ***Results of the Examination Control System Evaluation***

    The staff/official of the Academic Development Centre who has the access to the test control system informed that preparing for the exam site and equipment is not complicated. The central office has explained the operation in detail and the officer of the examination control system mentioned that it is not complicated and is convenient to operate as the use of the system can be easily understood due to the clear guideline.

    The professors and exam supervisors provided their opinion that the exam control system is easy to use, processed quickly and accurately, and it is safe from external attacks. This is achievable by following the instructions in the user manual of the exam control system.

    The general public exam results for all three parts are at level A2 and B1 for the FDA personnel group. The three parts are mostly at level B1 and B2, which is consistent with the knowledge and actual proficiency of the group that has taken the test whereby A2 is the lowest level, B1 is the intermediate level, and B2 is the highest level.

Discussions

From the research results, the explanations are as follows:

i. The results of the assessment of the registration system of the STOU-EPT English Proficiency Test were found that the exam registration system is easy to use and convenient. The English Proficiency Test System STOU-EPT through electronic examination system is a system that has been developed continuously from the computerized walk-in exam system based on the readiness of individual students since 2010. The STOU-EPT English Proficiency Test Registration System is a similar system, replacing only the registration of the national ID number. It is easier in that sense that there is only one subject to choose. Furthermore, in the exam registration system, there is an operation manual for users or what is called 'User Manual'. There is STOU-EPT (E-Testing) exam registration system for exam takes in which all applicants can print it out to interpret the application process before entering the registration system. However, there is an issue arises as the test takers request to extend the payment period from within 48 hours to 72 hours. This opinion is consistent with the readiness of the individual students with computers who wish to extend the payment time and add payment channels (Aungsuchoti et al., 2010), which could not be done because the registration of the English Proficiency Test STOU-EPT was a seat reservation for the exam. Providing a period of 48 hours is sufficient as once the applicant fails to pay, the other applicants have their opportunities to apply.

ii. For the results of the STOU-EPT test system assessment, the activities in the part of the exam recording into the system, both audio files, images, documents and pdf files is completed including reviewing each exam question individually, and exporting the exam. The manual user is clear and can be performed according to the steps outlined. There are a few problems detected in the recording part which is the inability to arrange for a foreign female to record the voices because there is no regulation to pay compensation at an appropriate rate. Hence, using the Thai university personnel affecting the quality assessment of the exam in the listening section, the exam takers addressed that the female voice was unclear. The approach to solving such problems is the university should set a compensation rate for recording listening exams according to the international rate to motivate foreigners to work for the record audios.

iii. The results of the exam management system assessment show that the information of the applicants registered for the exam and test data into the system are able to be brought into the exam management system without any problems and the exam is able to be arranged smoothly. Moreover, the system is able to keep complete individual data and exam history records. The professors who are responsible for the activities in this system are former programmers of the Computer Bureau. As, the process can be done successfully.

iv. Examination System Evaluation Results show that the average score through all criteria. This is because the university has placed a pre-exam guide DVD on the website of the registration system. Those who have watched the DVED before taking the exam will be able to do the exam more smoothly. This is in line with the research done by Vanijdee et al. (2008) whereby the exam can be administered using an electronic test if the computer is ready. Test takers should get acquainted with the system. However, there are issues that need to be addressed, such as a DVD of the introduction of the exam, as for the introduction of the part-listing exam, it must be recommended accordingly. To be exact, it is recommended to click and listen to the sounds first and then read the problems. During the silent periods, test takers will not be able to understand as there is no sound. Additionally, there should be an adjustment in the presentations of the questions in the Reading Part to show the reading messages on the left side of the screen and

show the problems/questions on the right side as there are long reading with many pages; the top and bottom halves make the test taker inconvenient. This opinion is consistent with the system testers and test takers of all generations.

v.   The results of the exam control system evaluation show that the exam control system is easy to use, convenient, processed quickly and accurately, and is safe from external attacks. Whereas the system developer has experienced in developing the examination system according to the readiness of individual students with the computers. Furthermore, the application of the exam control system has been adjusted to be able to unlock the Listening Part with the intention of it can be reversed in case of computer problem and add time to individuals to spare time lost in solving problems because the Listening Part is scheduled for 30 minutes. When the time expires, the exam system will stop and submit itself automatically.

Suggestions

Suggestions for Applying the Research Results

There are two suggestions for applying the research results. Firstly, in the preparation of the Listening Part of the exam repository system, all foreigners should use the audio records to standardise the exam. Secondly, for the examination system suggestions, there is an issue of preparing a wide screen computer monitor to support the adjustment of the exam system application to present the problems/questions in the Reading Part. The reading chapters are displayed on the left side of the computer screen and the problems/questions are on the right side. For long reading chapters with many pages, the top and bottom halves are not easy to read.

Suggestions for Future Research

In regards to suggestion for future research, first of all, the STOU-EPT English Proficiency Test should be calibrated through the electronic exam system of Sukhothai Thammathirat Open University with CEFR. Finally, the accuracy of the STOU-EPT English Proficiency Test should be checked through the electronic examination system of Sukhothai Thammathirat Open University with the English language proficiency that can be obtained from other examinations with other standardised tests.

Conclusion

Evaluation results for exam registration system concluded that from the point of view of the applicants, it is easy to use the exam registration system. The applicants' recommended that the payment duration should be extended from 48 hours to 72 hours. Official and staff commented that all activities of the STOU-EPT exam repository system and exam management system is not complicated and convenient to operate because the use of the system can be easily understood due to the clear guideline provided. The examination system is also convenient for test participants. The method of answering each exam was easy to understand and sending answers is convenient and fast. On the other hand, they should adjust the reading passages display, which now is scrolled up and down that makes it difficult to read. It should be changed to left and right. Evaluation results for examination system and exam control system found that the candidates were satisfied at a high level to the most. Officials and staff commented that the system is easy to operate, convenient, processed quickly, accurately and can be operated according to the manual. Improvements that could be done include checking the connection of all computers to the examination

system and an updated version of the tutorial DVD to guide the exam to be concise. The issues that cannot be adjusted include payment time extension, since the committee determined that 48 hours is a reasonable time.

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