THE EFFICIENCY OF USING A CLASS TIMETABLE MANAGEMENT DATABASE SYSTEM, FACULTY OF SCIENCE AND TECHNOLOGY, SUAN SUNANDHA RAJABHAT UNIVERSITY

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ABSTRACT

The purpose of this research is 1) To evaluate the efficiency of using a class timetable management database system. 2) To survey opinion and suggestion about a class timetable management database system from teachers in Faculty of Science and Technology. The research was divided into 2 parts. Part 1 collecting data from a list of subjects, the timetable of students that study in the education plan, the timetable of teachers and the timetable of classrooms, and create a class timetable management database system. Part 2 setting questionnaire and survey opinion and suggestion about a class timetable management database system from teachers in Faculty of Science and Technology. The samples were the teacher of the Faculty of Science and Technology. There were 14 programs and separated into 82 samples. The statistics used in the data analysis were descriptive statistics: percentage, mean and standard deviation. The researchers found that the opinion about the class timetable management database system in all two aspects as a whole. Consider each aspect, using the database system are at a good level. There are opinions on the topics as follows. Interestedness's data has the highest value, and design and format compatibility have the lowest value. For considering aspect the efficiency and quality of the database are at a good level. There are opinions on the topics as follows. Data utility for using has the highest value, and completeness data has the lowest value.

Keyword: Class timetable management, database system, efficiency, quality

INTRODUCTION

Instructional management of Suan Sunandha Rajabhat University is in the past, from having some programs, teachers, and personnel not many. Also, the numbers of students are only thousands. But at present, there are more than 30,000 students, more teachers, and personnel, so the instructional management is very important and necessary. Implementing software as a working program helps management is the online student registration and processing system. Which helps to facilitate enrollment schedule, a class timetable management and other uses in academic administration control.

In the current situation, academic service staffs of the Faculty of Science and Technology having problems in the class timetable management through the software program. That is the online student registration and processing system. Class timetable management is still limited. There are many things that cannot be done. For example, number of programs, number of students including resources for facilitating teaching and learning is limited. Buildings, classrooms, laboratories with insufficient demand. Instructional management of teachers is difficult. [1] Moreover, academic service staffs consider the workload Instructor's teaching time both as a teacher and an executive while they have arranged the class timetable. Which the software program is not able to arrange the class timetable management easily. However, the staff responsible for arranging the class timetable must be done with thorough consideration, even if there is a software program. The mistake of arranging the class timetable, although only 1 subject will cause students to register at the wrong number of hundreds of people.

In addition to this, the second problem is the dissemination of information on the class timetable management for students and teachers. The online student registration and processing systems not yet able to show all the information to students easily understandable which will cause errors in registration as well.

Based on the reasons mentioned above, the researcher realized the problem of class timetable management and the dissemination of information on the class timetable management for students and teachers.

This research focuses on creating a class timetable management database system for academic staffs, teachers, and students. It used to collect and show class timetable information only. Including the evaluation of the efficiency of using the class timetable management database system at Faculty of Science and Technology, Suan Sunandha Rajabhat University.

OBJECTIVES

1) To evaluate the efficiency of using a class timetable management database system at Faculty of Science and Technology.
2) To survey opinion and suggestion about a class timetable management database system from teachers in Faculty
of Science and Technology.

METHODOLOGY

A.Population and Sampling size

The population used in the research was all teachers of the Faculty of Science and Technology, Suan Sunandha Rajabhat University that uses a class timetable management database system. There are 14 programs of 100 people.

The Sampling size was a teacher of Faculty of Science and Technology using the calculating method of Taro Yamane 1970 [2] as 82 samples.

C.Research Tools

Research Tools is a questionnaire on the opinion of using a class timetable management database system. This questionnaire is inquiries by using the questionnaire open-end and close end questions.

D.Data Analysis

The questionnaire was distributed to the teachers of the Faculty of Science and Technology in sampling size. The questionnaire was distributed by randomly and sent to teachers as 82 samples. The questionnaires were analyzed statistically by using a computer statistical software program to calculate the statistics. Descriptive statistics were used to explain the personal factors of the teachers of the Faculty of Science and Technology follow as Thovicha and Pinyo. [3] The results were analyzed, compared with the interpretation criterion of mean and standard deviation.

E.Opinion level standard

Opinion level standard can be divided score by a range. Each range is 5 levels. Criteria used to interpret information according to Likert Scale method follow as Likert, Rensis1967. [4] Each scale is divided into 5 levels.

The score range is meaning as follows.

Score range of 4.21 - 5.00, meaning of the level of opinion is very good.
Score range of 3.41 - 4.20, meaning of the level of opinion is good.
Score range of 2.61 - 3.40, meaning of the level of opinion is fair.
Score range of 1.81 - 2.60, meaning of the level of opinion is poor.
Score range of 1.00 - 1.80, meaning of the level of opinion is not very poor.

RESULTS

The researcher has divided the study into 2 parts: Part 1 arranging a class timetable management database system of Faculty of Science and Technology that collecting data from a list of subjects, the timetable of students that study in the education plan, the timetable of teachers and the timetable of classrooms. Part 2 the opinion about using a class timetable management database system**.** The results of the study are as follows.

Part 1 Arrangement of a class timetable management database system

The class timetable management database system was designed by brainstorming of academic service section. The researchers use the class timetable data for each semester of the academic service section that arranges every semester. It starts from semester 2/2017 to 2/2018, showing in the form of a table of Microsoft Excel files as shown in Figure 1.1

ภาคเรียนที่	รหัสวิชา	ชื่อวิชา	หน่วยกิต	สาขาวิชา/แขนง	จำนวนจริง	จำนวนที่คีย์	รุ่น	หมู่	กลุ่มเรียน	ห้องเรียน	วัน	เวลา	ชื่อผู้สอน
2/2561	CSC3302	ฝึกประสบการณ์วิชาชีพทางวิทยาการคอมพิวเตอร์	4(360)	วิทยาการคอมฯ	28	30	58	01	001				อ.ทีมวิทยาการคอมพิวเตอร์
2/2561	CSC3302	ฝึกประสบการณ์วิชาชีพทางวิทยาการคอมพิวเตอร์	4(360)	วิทยาการคอมฯ	28	30	58	02	002				อ.ทีมวิทยาการคอมพิวเตอร์
2/2561	CSC3302	ฝึกประสบการณ์วิชาชีพทางวิทยาการคอมพิวเตอร์	4(360)	วิทยาการคอมฯ	28	30	58	03	003				อ.ทีมวิทยาการคอมพิวเตอร์
2/2561	STA2111	สถิติสำหรับการวิจัย	3(2-2-5)	วิทยาการคอมฯ	26	30	59	01	004	26105	อังคาร	13.00 - 17.00	ดร.ชูเกียรติ ผุดพรมราช
2/2561	CSS3103	โครงงานวิทยาการคอมพิวเตอร์ 1	3(0-9-3)	วิทยาการคอมฯ	26	30	59	01	001	2233	เสาร์	8.00-17.00	อ.ทีมวิทยาการคอมพิวเตอร์
2/2561	CSS3105	ภาษาอังกฤษสำหรับวิชาชีพทางวิทยาการคอมพิวเตอร์ 2	3(3-0-6)	วิทยาการคอมฯ	26	30	59	01	001	2243	พฤหัส	14.00-17.00	อ. ภาณุ วราภรณ์
2/2561	CSS4204	เทคนิคการทำเหมืองข้อมูล	3(2-2-5)	วิทยาการคอมฯ	26	30	59	01	001	2231	อังคาร	8.00-12.00	ผศ.ดร.กัลยณัฏฐ์ กุหลาบเพชรทอง
2/2561	CSS3211	การพัฒนาโปรแกรมประยุกต์สำหรับอุปกรณ์เคลื่อนที่	3(2-2-5)	วิทยาการคอมฯ	26	30	59	01	001	2231	พฤหัส	8.00-12.00	อ.เสถียร จันทร์ปลา
2/2561	CSS2201	ภาษาโปรแกรมทางเลือก	3(2-2-5)	วิทยาการคอมฯ	26	30	59	01	001	2231	จันทร์	8.00-12.00	อ.สุวิมล คุปติวุฒิ
2/2561	STA2111	สถิติสำหรับการวิจัย	3(2-2-5)	วิทยาการคอมฯ	28	30	59	02	005	26105	ศุกร์	13.00 - 17.00	ดร.ชูเกียรติ ผุดพรมราช
2/2561	CSS3103	โครงงานวิทยาการคอมพิวเตอร์ 1	3(0-9-3)	วิทยาการคอมฯ	28	30	59	02	002	2233	พุธ, พฤหัส, ศุกร์	17.00-20.00	อ.ทีมวิทยาการคอมพิวเตอร์

FIGURE 1.1

Setting the class timetable management database system on the website of the Faculty of Science and Technology. Which shows the database with Microsoft Excel file. It is the file that has a password lock. Makes the file unable to save data Therefore, users of the system will be able to read only.

In addition, users can access the following steps.

1) Entering the Faculty of Science and Technology website and selecting the main menu bar at the work academic services.

2) Click on the sub-tab of the class timetable database and open the Microsoft Excel file the class timetable database, to access system.

3) Using the class timetable management database which can view all class timetable data or choose to view specific information. It can be done by using a column filter, separating important data that needs to be sorted by each column.

The steps can be shown in Figure 1.2.

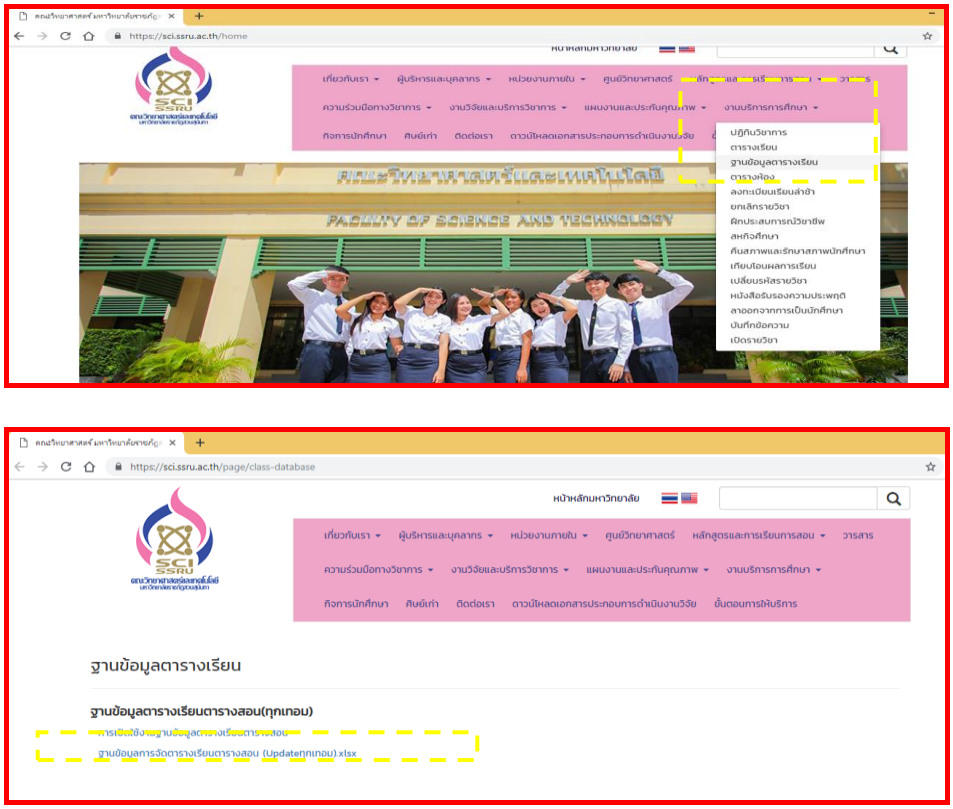

FIGURE 1.2

Part 2 The opinion about using a class timetable management database system

Teachers filled already opinions questionnaire about using a class timetable management database system. The researchers analyzed data of teacher opinion in all two aspects as using the database system and the efficiency and quality of the database. We consider each aspect, considering the 1st aspect of using the database system as follows in Table 1

TABLE 1 Mean and standard deviation of opinion about using the database system, Faculty of Science and Technology

Using The Database System	**Opinion Levels**		
	Mean $\bar{x}$	Standard Deviation S.D.	Interpretation
1. Using convenience	3.72	0.653	Good
2. Design and format compatibility	3.38	0.621	fair
3. Interestedness's data	4.01	0.745	Good
4. Data variety	3.82	0.722	Good
5. Easy access and understandable	3.65	0.852	Good
Total Using The Database System	3.715	0.749	Good

From Table 1 The result that shows aspect using the database system in level good. The mean was 3.715 and the standard deviation was 0.749. In addition, if you consider each topic, you found the most score topic was Interestedness's data in level good. It was mean of 4.01 and the standard deviation was 0.745. The secondary score topic was Data variety in level good. It was mean of 3.82 and the standard deviation was 0.722.

The lowest score topic was Design and format compatibility in level fair. It was mean of 3.38 and the standard deviation was 0.621.

The result of considering the 2nd aspect of the efficiency and quality of the database as follows in Table 2

TABLE 2 Mean and standard deviation of opinion about the efficiency and quality of the database, Faculty of Science and Technology

The Efficiency and Quality of the Database	**Opinion Levels**		
	Mean $\bar{x}$	Standard Deviation S.D.	Interpretation
1. Completeness data	3.22	0.817	fair
2. Database Reliability	3.49	0.653	Good
3. Uncomplicated	3.43	0.721	Good
4. Correctness and Completeness	3.60	0.682	Good
5. Data Usage	3.88	0.636	Good
Total the Efficiency and Quality of the Database	3.522	0.734	Good

From Table 2 The result that shows aspect the efficiency and quality of the database in level good. The mean was 3.522 and the standard deviation was 0.734. In addition, if you consider each topic, you found the most score topic was Data Usage in level good. It was mean of 3.88 and the standard deviation was 0.636. The secondary score topic was Correctness and Completeness in level good. It was mean of 3.60 and the standard deviation was 0.682. The lowest score topic was Completeness data in level fair. It was mean of 3.22 and the standard deviation was 0.817.

Summary of opinions about using a class timetable management database system of both aspects as follows in Table 3

TABLE 3 Mean and standard deviation of opinions about using a class timetable management database system, Faculty of Science and Technology

Using a class timetable management database system	**Opinion Levels**		
	Mean $\bar{x}$	Standard Deviation S.D.	Interpretation
1. Using The Database System	3.715	0.749	Good
2. The Efficiency and Quality of the Database	3.522	0.734	Good
Total Using a class timetable management database system	3.618	0.747	Good

From Table 3 From Analysis of the summary that shows total Using a class timetable management database system in level good. The mean was 3.618 and the standard deviation was 0.747. The most score aspect was Using the Database System in level good. It was mean of 3.715 and the standard deviation was 0.749.

CONCLUSION AND FUTURE WORK

In conclusion, the researchers used knowledge about the database system [5] to be used in the design of a class timetable management database system and it is installed on the Faculty of Science and Technology website.

From the installation to show the class timetable management database of semester 2/2017 to 2/2018, that started in December 2018 to January 2019. We found that the database can be easily accessed. It has clear manual procedures. Database systems can be easily understood and can be viewed by the Faculty of Science and Technology website anywhere.

The researchers asked opinions of the class timetable management database system. The questionnaire is complete by using 82 teachers from Faculty of Science and Technology, Suan Sunandha Rajabhat University. Teachers have opinions about the class timetable management database system for both aspects of using the system and the efficiency and quality of the database in level good. The teachers have commented that the database is interesting. It is convenient to use. The system is easy to access and easy to understand. The database is accurate and complete and useful information for users.

The benefits of research are the system can be used to help teachers know the class timetable easily, conveniently, quickly and with details of accurate and complete information. Students can know the class timetable of the subject as same as the teacher. Academic service staffs can edit the database. But the teacher can't correct it which must inform the staffs to correct only. In addition to this, the staff can bring the database for planning to arrange the class timetable in the next semester which can be implemented continuously and every semester. The limitation of database systems is the only data for arranging before key the class timetable in an online registration and processing system of the university. Including for using in check and disseminating information to users only.

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