A study of the scheduling guidelines for the teaching schedule of students in the College of Logistics and Supply Chain

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Abstract

A study of the scheduling guidelines for the teaching schedule of students in the College of Logistics and Supply Chain. The objective of this research was to explore identify scheduling obstacles and propose improvements. Data were collected via questionnaires from 224 students, lecturers, and staff, then analyzed using percentages, means, and standard deviations. The results showed a high level of satisfaction (mean 4.17). Schedule Appropriateness (3.79–4.01). Classes align with convenient times, provide adequate breaks, and do not interfere with travel or work. Course Arrangement (3.80): No overlaps in subjects; consecutive courses are well-timed, reducing confusion. Resources and Facilities (3.81–4.12): High consistency between schedules and the availability of classrooms/equipment. Recommendations implement end-of-semester feedback surveys for continuous adjustments. Develop a "Smart Class Schedule" system to automatically manage resources and prevent overlaps. Allow for schedule adjustments in emergencies or teacher workload changes. Establish a joint working group between academic and resource departments to monitor facility readiness.

Keywords: scheduling guidelines, teaching schedule, students

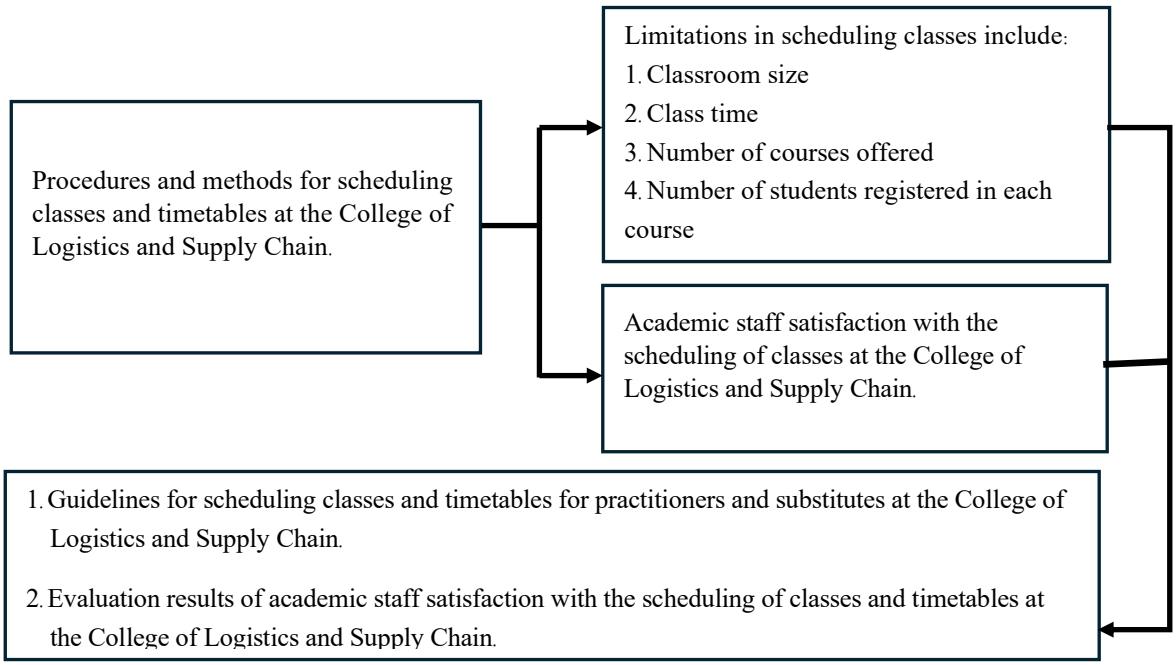
1. Introduction

Scheduling class schedules teaching schedule. It is an important step in organizing teaching and learning at every level, whether it be teaching and learning at kindergarten, primary, secondary, and tertiary levels. The mission of scheduling classes and teaching schedules is therefore a complex mission. There are many related factors such as the number of courses and the number of students. Number of teachers teach number of hours, number of classrooms Including arranging the classroom environment which is consistent with (Nattaphong Promwong and Atchara Sriphan, 2023) that said Organizing the learning environment must focus on students. Creating a good atmosphere and environment will help facilitate students' learning in organizing teaching activities for subjects in the subject category, especially activities that focus on practice. Therefore, scheduling classes and teaching schedules must Considering the learning outcomes of students is important. The factors of teachers and classrooms are therefore secondary factors. And setting a good teaching schedule will help promote student learning effectively. The course arrangement that emphasizes lectures is scheduled for the morning, which is the time when the body of the person Students are still refreshed. or arranging break time appropriate during class. In order not to cause students to become too tired from studying (Saowalak Chaosakul, 2015)

Logistics and supply chain colleges face the problem of scheduling classes that do not meet student needs. Whether it is the density of study hours Inappropriate time management or lack of flexibility in choosing subjects. The teaching schedule requires experience. Moreover, scheduling teaching takes time. It has been organized for quite a long time due to the complexity of Relationships of subjects, classrooms, teachers student group which the relation teacher' s these elements have the importance of direct teaching scheduling. From studies, it has been found that scheduling teaching within universities is a complicated task due to many related restrictions and conditions. Organizing Teaching schedules are therefore a complex process and require a lot of flexibility. The process of arranging teaching schedules to ensure suitability for the subject. Teachers, classrooms, curriculum, number of student groups Therefore it is extremely important. You must also consider various factors and regulations related to teaching scheduling. The teaching schedule at present, there are more problems

A study of the scheduling guidelines for the teaching schedule of students in the College of Logistics and Supply Chain. It is a study of finding ways to organize a good and appropriate study schedule. Therefore, it is important to help increase teaching efficiency and resource management to suit the needs of students and subjects under the College of Logistics and Supply Chain.

Figure 1: Conceptual Framework



1.1 Research Objective

1.1.1 To study approaches to creating appropriate class schedules for students at the College of Logistics and Supply Chain**.**

1.1.2 To identify problems or obstacles encountered in current class scheduling**.**

1.1.3 To propose ways to improve class schedules to better suit the academic disciplines**.**

2. Literature review

Wren (1996) defined timetabling or timetable scheduling as "the allocation of limited resources (e.g., instructors, classrooms, time) to satisfy a set of constraints in order to create an optimal and practical teaching schedule." Wren emphasized that timetabling is an "NP-hard problem," meaning it's a mathematically complex problem with no easy, quick optimal solution, often requiring heuristics or algorithms to solve. The characteristics of the timetabling problem include resources, constraints, hard constraints, soft constraints, and Objectives. Timetabling is not simply about "scheduling," but a complex problem involving multiple factors, considering both resource constraints and the needs of stakeholders. The use of mathematical and computational methods can reduce errors and improve efficiency.

A well-designed timetable clearly impacts student learning quality (Burke & Petrovic, 2002) because it affects convenience, balances study workload and rest time, and improves the efficiency of classroom and teaching equipment utilization. Inappropriate class scheduling can lead to student burnout, lack of motivation, and negatively impact academic performance. Traditional scheduling relies on teachers or administrators determining the timeline based on courses and available resources. Mathematical techniques and action research are used to resolve conflicts and find optimal solutions (Schaerf, 1999). Information technology and software employing computer algorithms are used to allocate resources efficiently.

3. Methodology

3.1 Population and sample

The population used in this research consisted of 510 undergraduate students, lecturers, and staff affiliated with the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus, during the 2024 academic year.

The sample group used in this research consisted of undergraduate students, lecturers, and staff affiliated with the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus, academic year 2024. Since the population size was known, the sample size was calculated using Taro Yamane's formula (Yamane, 1967: 887), with a 95% confidence level and an acceptable margin of error of no more than 5%.

3.2 Study methods

This research is a quantitative study conducted using a structured questionnaire. The questionnaires were distributed to a sample group of 400 special program students enrolled in the 2024 academic year at the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus.

The questionnaire consisted of four sections:

Section 1 contained a personal information survey; Section 2 concerned the needs for class schedules and teaching timetables of academic and support staff; Section 3 focused on the satisfaction of academic staff with the class schedules and teaching timetables for students of the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus; and Section 4 included suggestions and other comments.

The researchers requested the cooperation of registered students to complete questionnaires and collected the data for analysis by calculating percentages, means ($\bar{X}$), and standard

deviations (SD) of each answer. The data was then interpreted. The researchers used probability sampling, specifically stratified random sampling, to determine the sample size using the Krejcie-Morgan formula.

Data Analysis

Information obtained from collecting data from questionnaires. (Questionnaire) that from the sample will be processed and analyzed using ready-made computer programs. Data were analyzed according to the intended assumptions and statistics were used to analyze this research data as follows. (Kanlaya Vanichbunch, 2019)

4. Results

The research on "A study of the scheduling guidelines for the teaching schedule of students in the College of Logistics and Supply Chain"**.** Suan Sunandha Rajabhat University, Nakhon Pathom Campus concluded the following:

Table 1 : Arithmetic mean ($\bar{X}$) and standard deviation (SD) of student opinion levels regarding the class schedule of students at the College of Logistics and Supply Chain

Student Feedback on Time Scheduling	Mean	S.D.	Level
Time Suitability			
1. The schedule aligns with student availability	3.95	0.95	High
2. The schedule includes sufficient breaks between classes	3.79	0.83	High
3. The teaching time does not affect travel and part-time work	4.01	0.79	High
Course Suitability			
4. The schedule avoids course overlaps	3.80	1.00	High
5. Continuing courses are scheduled in appropriate time slots/semesters	3.80	0.96	High
Resources and Facilities			
6. The schedule aligns with the availability of classrooms and equipment	3.30	1.12	Moderate
7. Time management ensures efficient resource utilization	3.50	0.88	High
Overall Satisfaction			
8. Overall, the current time schedule is suitable	3.76	0.82	High

The table illustrates the analysis of data from undergraduate students, faculty, and staff who responded to the satisfaction survey regarding the scheduling of classes for students at the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus, revealed a moderate level of perception, with a mean of 16.75. When considering individual items, the overall mean was high (Mean = 3.76, SD = 0.82), indicating that students considered the current class schedule quite appropriate in terms of time, subjects, and resource utilization. Further analysis of each aspect is as follows: Regarding the appropriateness of time, the overall mean was high, with the highest score indicating that class times do not interfere with travel and overtime work (Mean = 4.01, SD = 0.79). This shows that most students are satisfied with the schedule's scheduling to facilitate their travel and other responsibilities. Regarding the appropriateness of subjects, opinions in this area were similar, both showing a high mean (Mean = 3.80), indicating that subjects do not overlap and are scheduled within appropriate timeframes. However, the relatively high standard deviation (SD = 1.00) indicates diverse student opinions, suggesting different experiences regarding scheduling, resources, and facilities. Analysis revealed that the mean score for "The timetable aligns with the availability

of classrooms and equipment" was moderate (Mean = 3.30, SD = 1.12), the lowest among all items, highlighting limitations in resource and equipment availability. The "efficient use of resources and time management" score was high (Mean = 3.50, SD = 0.88), reflecting the need for improved resource management efficiency. Overall satisfaction showed a high mean (Mean = 3.76, SD = 0.82), indicating that most students considered the timetable appropriate, but some areas need improvement, such as better availability of classrooms and equipment.

Table 2 : Arithmetic mean ($\bar{X}$), standard deviation (SD), interpretation of student feedback on the class schedule and timetables of faculty and staff at the College of Logistics and Supply Chain

Staff Feedback on Time Scheduling	Mean	S.D.	Level
Time Suitability			
1. The schedule aligns with student availability	3.85	0.97	High
2. The schedule includes sufficient breaks between classes	3.87	0.99	High
3. The teaching time does not affect travel and part-time work	4.03	0.92	High
Course Suitability			
4. The schedule avoids course overlaps	4.12	0.91	High
5. Continuing courses are scheduled in appropriate time slots/semesters	3.81	0.94	High
Resources and Facilities			
6. The schedule aligns with the availability of classrooms and equipment	3.95	0.88	High
7. Time management ensures efficient resource utilization	3.97	0.91	High
Overall Satisfaction			
8. Overall, the current time schedule is suitable	4.17	0.81	High

The table illustrates the analysis of data from undergraduate students, faculty, and staff who responded to the satisfaction survey regarding the scheduling of classes and timetables by faculty and staff at the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Nakhon Pathom Campus, revealed an overall average score at a high level (Mean between 3.81 – 4.17). This reflects that the class and timetable scheduling is appropriate and effectively meets the needs of personnel. A detailed analysis of each aspect is as follows: Regarding the appropriateness of the class schedule to work performance, the analysis showed that all items had a high average score. The item with the highest average score was "The class schedule is consistent with the availability of classrooms and equipment" (Mean = 4.12, SD = 0.91), reflecting that personnel perceived the schedule as appropriately aligned with teaching resources. The next highest average score was "The teaching time is suitable for the period when they can best perform their duties" (Mean = 4.03, SD = 0.92), indicating that the class schedule contributes to the efficiency of faculty and staff work, as well as resources and facilities. In this aspect, the average scores for both items are at a high level, with the item receiving the highest average score being the class scheduling system's flexibility in making changes or adjustments (Mean = 3.97, SD = 0.91), reflecting the ability to adapt the schedule as needed. The consideration of faculty/staff feedback before scheduling (Mean = 3.95, SD = 0.88) was also high, indicating a good level of consideration for stakeholders' opinions in the scheduling process. Regarding overall satisfaction, the most positive average score in this table was "The current class schedule is appropriate" (Mean = 4.17, SD = 0.81), showing that most personnel are highly satisfied with the overall class schedule and consider it practical and suitable for use.

5. Conclusion

A study of students' opinions on the class schedule of the College of Logistics and Supply Chain found that students generally had a high level of satisfaction in all aspects, including time suitability, course suitability, resource and facility management, and overall satisfaction. This reflects that the current class schedule effectively meets student needs. Regarding time suitability, the research showed that the schedule aligns with students' convenient study times, allows sufficient rest periods, and does not interfere with travel or part-time work. This aligns with the of research of Sirinthip Manngan and Nattapong Promwong (2022), who proposed the SPACE approach, focusing on student consideration and the continuity and non-redundancy of learning activities. Finally, regarding resources and facilities, students felt that the class schedule aligns with the availability of classrooms and equipment. This supports the concept of Piyapong Klangjoho and Piyapong Sumettikoon (2022) who proposed scheduling classes using student and instructor needs data to ensure efficient and flexible resource allocation. The overall satisfaction level was high, indicating that the class scheduling effectively met student needs and created satisfaction. According to the research by Nandiya Noichan et al. (2024) on Guidelines for Digital Technology Competency Developing of Teacher Students in Suan Sunandha Rajabhat University, a synthesis of the findings revealed eight approaches to developing digital technology competencies: creating a digital technology collaboration network; regulating and monitoring the use of digital technology; organizing activities to develop digital technology skills; enhancing knowledge of using digital technology in teaching and learning; self-development and organizational development; studying and formulating policies of the supervising agency; and strategies: keeping up with news/being a role model in applying digital technology in teaching and daily life; and allocating budget for purchasing materials, equipment, and learning resources in digital technology.

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