

Enhancing Online Student Attendance and Learning Participation through a Digital Attendance Tracking System

Kantra Laedkrilad¹ and Pintipa Seubsang²

^{1,2}Suan Sunandha Rajabhat University, Thailand

Email: ¹kantra.la@ssru.ac.th, ²pintipa.se@ssru.ac.th, ³korbu.ch@ssru.ac.th

Abstract

This research, entitled “Improving Online Student Attendance Rates,” aimed to (1) examine students’ satisfaction with the GEN0207 English for Career course delivered in an online format and (2) apply the findings to improve instructional effectiveness and enhance students’ learning participation. The sample consisted of 400 undergraduate students enrolled in GEN0207. A quantitative research design was employed using an online questionnaire (Google Form), and the data were analyzed using descriptive statistics, including mean, standard deviation, and percentage. (Boonphadung, S., & Seubsang, P. 2021).

The results indicated a significant improvement in students’ attendance after implementing an enhanced tracking and instructional management system. The average attendance rate increased from 68.5% to 85.7%, reflecting a 17.2% improvement. Students’ overall satisfaction with the online learning experience was at a high level (Mean = 4.28, SD = 0.63), particularly regarding the flexibility of the learning environment, technology-assisted instruction, and communication with instructors. Teaching Assistants (TAs) also reported the highest level of satisfaction (Mean = 4.51, SD = 0.52), noting a clear reduction in their monitoring workload. (Thienthongdee, S. 2023)

The findings suggest that integrating systematic attendance tracking with effective use of educational technologies strengthens student engagement and supports continuous participation in large-enrollment online classes. This research demonstrates the value of the Routine to Research (R2R) approach in transforming routine instructional challenges into applicable knowledge that enhances both teaching quality and future academic development.

Keywords: Online Attendance, Student Satisfaction, Online Learning, Attendance Tracking

1. Introduction

The Office of General Education and Innovative Electronic Learning at Suan Sunandha Rajabhat University manages large-group general education courses across online, on-site, and on-demand formats. As learning increasingly shifts into digital environments, monitoring student participation, especially attendance, has become essential for ensuring teaching effectiveness. However, instructors and Teaching Assistants (TAs) continue to face challenges such as difficulty tracking attendance, inconsistent learner engagement, and increased workload in managing online classes. (Jitthathairat, S. & Khwanngam, W. 2023)

GEN0207 English for Career, a high-enrollment course, reflects these challenges clearly. Students’ attendance often fluctuates in online formats, affecting learning continuity and

instructional planning. To address these issues, improved attendance systems and more efficient learning management processes are required.

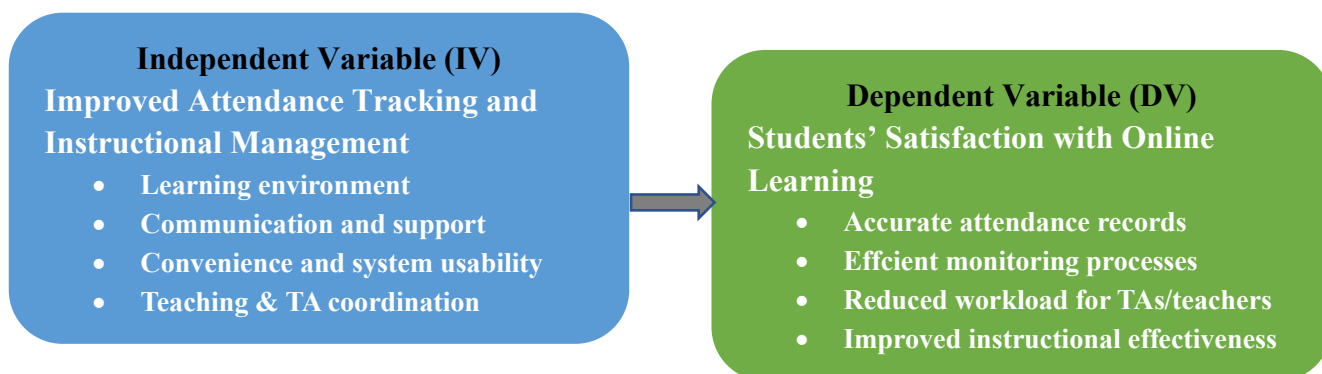
This study aims to examine students' satisfaction with the online learning experience and use the findings to enhance attendance tracking and instructional efficiency. Through the Routine to Research (R2R) process, the study seeks to transform routine teaching problems into practical solutions that improve the quality of general education management. (Silchai, P, 2021)

2. Research Objectives

This research study aimed to:

1. examine students' satisfaction with the online learning experience in the GEN0207 English for Career course.
2. examine the effectiveness of online attendance tracking and instructional management based on the findings.

3. Conceptual Framework



The conceptual framework of this study focuses on the relationship between students' satisfaction with the online learning experience and the improvement of attendance tracking and instructional management in the GEN0207 English for Career course.

Independent Variable (IV)

Students' Satisfaction with Online Learning, including:

- Learning environment
- Communication and support
- Convenience and system usability
- Teaching and TA coordination

Dependent Variable (DV)

Improvement in Attendance Tracking and Instructional Management, including:

- Accuracy of attendance data

Efficiency of monitoring processes

Reduction of workload for instructors and TAs

Enhancement of instructional effectiveness

4. Research Methodology

This study used a mixed method design to examine students' satisfaction with online learning in the GEN0207 English for Career course and to improve the online attendance tracking system. The sample consisted of 400 undergraduate students who directly participated in the online learning activities and were selected using purposive sampling.

Data were collected using an online questionnaire (Google Form) consisting of four dimensions: learning environment, communication and support, system usability, and teaching/TA coordination. All items were measured on a 5-point Likert Scale (1 = Very Dissatisfied to 5 = Very Satisfied). Additional qualitative insights were obtained from short interviews with Teaching Assistants (TAs) regarding workload reduction and system improvement.

Data analysis included percentage, mean, and standard deviation, as well as a comparison of student attendance rates before and after implementing the improved attendance tracking system. Qualitative data were analyzed using basic content analysis to support quantitative findings.

5. Result

The results of this study are presented in three parts: (1) the comparison of attendance rates before and after the improvement of the online attendance tracking system, (2) students' satisfaction with online learning in the GEN0207 English for Career course, and (3) Teaching Assistants' satisfaction with the improved instructional management process. The findings demonstrate clear improvements in student participation, learning engagement, and the efficiency of teaching support mechanisms.

1. Comparison of Attendance Rates Before and After System Improvement

Table 1 Attendance Rates Before and After Implementation of the Improved Tracking System

Indicator	Before Improvement (%)	After Improvement (%)	Change (%)
Attendance Rate	68.5	85.7	+17.2
Number of Active Students	274	343	+69 students
Consistency of Weekly Attendance	moderate	high	Improved

2. Students' Satisfaction with Online Learning

Table 2 Mean and Standard Deviation of Students' Satisfaction (N = 400)

Satisfaction Dimension	Mean (\bar{x})	SD	Interpretation
Learning Environment	4.30	0.61	High
Communication & Support	4.25	0.67	High

Satisfaction Dimension	Mean (\bar{x})	SD	Interpretation
System Usability	4.22	0.58	High
Teaching & TA Coordination	4.34	0.66	High
Overall Satisfaction	4.28	0.63	High

3. Teaching Assistant (TA) Satisfaction

Table 3 TA Satisfaction Toward the Improved Attendance System

Aspect Evaluated	Mean (\bar{x})	SD	Interpretation
Reduction in Workload	4.58	0.47	very high
Ease of Using Attendance Tools	4.49	0.55	very high
Accuracy of Attendance Records	4.52	0.50	very high
Communication with Students	4.45	0.53	high
Overall TA Satisfaction	4.51	0.52	very high

6. Conclusion

The findings of this study demonstrate that the improvement of the online attendance tracking system in the GEN0207 English for Career course led to a significant enhancement in student participation and instructional management efficiency. The attendance rate increased from 68.5% to 85.7%, indicating that the enhanced tracking method effectively encouraged students to attend classes more consistently.

Students reported a high level of satisfaction with the online learning experience ($\bar{x} = 4.28$), particularly regarding the learning environment, communication and support, system usability, and coordination with Teaching Assistants (TAs). These dimensions contributed to a more positive and engaging learning atmosphere.

In addition, TAs expressed very high satisfaction ($\bar{x} = 4.51$) with the improved system, noting substantial reductions in workload, greater accuracy in attendance monitoring, and smoother communication with students. These outcomes highlight the system's effectiveness in supporting both instructional operations and classroom management.

Overall, the study confirms that enhancing digital attendance tracking, combined with strengthened instructional support, can greatly improve teaching and learning processes in large online classes. The Routine to Research (R2R) approach proved beneficial in transforming a recurring instructional challenge into practical solutions that can be applied to future courses under the Office of General Education and Innovative Electronic Learning consistent with class attendance to have a significantly positive impact on academic performance. This effect is larger for low-performing students and smaller for students in courses with larger class sizes. The above findings survive a number of robustness checks, including a bounding technique, restricting sample to compulsory courses and limiting variation in attendance caused by whole day absence. (Ha, W.2024)

7. Discussion

The results of this study reveal clear improvements in both student participation and instructional management following the enhancement of the online attendance tracking system in the GEN0207 English for Career course. The significant increase in attendance from 68.5% to 85.7% suggests that digital monitoring tools can effectively encourage students to attend

classes more consistently in an online environment. This finding aligns with previous studies indicating that structured attendance systems and consistent follow-up positively influence student engagement in virtual learning settings.

Students' high satisfaction across all dimensions further supports the effectiveness of the improved learning management process. The high mean scores in learning environment, communication and support, and system usability reflect students' confidence in the online learning format when digital tools are reliable and communication channels are clear. These results emphasize the importance of learner-friendly platforms and timely instructional support as key factors contributing to smooth and engaging online learning experiences.

Moreover, Teaching Assistants (TAs) reported very high satisfaction, particularly in areas related to workload reduction and accuracy of attendance monitoring. This confirms that technological interventions, when properly implemented, can streamline instructional tasks and reduce operational challenges in large-enrollment courses. These insights are consistent with the principles of Routine to Research (R2R), which emphasize problem identification, solution development, and practical improvement of routine educational processes.

Overall, the discussion highlights the importance of integrating effective digital tools, strengthening instructional communication, and empowering TAs to support instructional processes. The findings reinforce the notion that strategic enhancements to online course management can lead to more efficient teaching operations, improved student engagement, and a more positive overall learning experience.

Acknowledgments

The researcher would like to express sincere appreciation to the Office of General Education and Innovative Electronic Learning, Suan Sunandha Rajabhat University, for providing support, resources, and opportunities essential to the completion of this study. Special thanks are extended to the instructors and Teaching Assistants (TAs) of the GEN0207 English for Career course for their cooperation and valuable contributions throughout the data collection process.

The researcher also wishes to acknowledge the undergraduate students who participated in the study for their time and honest responses, which were crucial to the success of this research. Finally, gratitude is expressed to all colleagues and staff members whose guidance and encouragement supported the development of this Routine to Research (R2R) project.

References

- Boonphadung, S. , & Seubsang, P. (2021) . Good practices for STEM- based learning management and assessment for secondary education classrooms in Thailand. *Turkish Journal of Computer and Mathematics Education*, 12(12), 2007–2015.
- Ha,W.(2024). The effects of class attendance on academic performance: Evidence from synchronous courses during Covid- 19 at a Chinese research university. *International Journal of Educational Development*.104(2024).1-11.
- Jitthathairat, S., Chanphun, J., & Khwanngam, W. (2023).Satisfaction with online learning via Line and Google Meet among Bachelor of Nursing Science students at Krungthep Thonburi University during the COVID-19 pandemic.*Journal of Interdisciplinary Social Science and Communication*, 6(2), 139–150.<https://doi.org/10.14456/issc.2023.32>.

- Silchai, P. (2021). A study of learning patterns through the Metawithi system in general education courses at Suan Sunandha Rajabhat University. *Suan Sunandha Asian Social Science*, 15(1) , 46– 55. Retrieved from <https://so05.tci-thaijo.org/index.php/ssajournal/article/view/252290>.
- Thienthongdee, S. (2023). Guidelines for developing communication and technology skills in the 21st century for schools under the Teacher Professional Experience Training Center network, Suan Sunandha Rajabhat University. *Suan Sunandha Academic Journal of Education*, 7(2), 25–34.