

This file has been cleaned of potential threats.

If you confirm that the file is coming from a trusted source, you can send the following SHA-256 hash value to your admin for the original file.

db08f36aec613d12cf2ea668452844694d6c2f3790040c93adb3ea2d29bbcc2e

To view the reconstructed contents, please SCROLL DOWN to next page.

A Quantitative Study on User Satisfaction with the Online Multimedia Production Studio at The College of Logistics and Supply Chain.

Chinnarat Singlakorn^{1*} and Krisada Krudthong²

^{1,2} College of Logistics and Supply Chain, Suan Sunandha Rajabhat University, Thailand

E-mail: ¹*chinnarat.si@ssru.ac.th, ²krisada.kr@ssru.ac.th

*Corresponding author

Abstract.

This quantitative research aimed to investigate users' opinions and satisfaction regarding the utilization of the Online Multimedia Production Laboratory at the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University. The objectives of the study were to examine satisfaction levels with laboratory usage and to identify users' needs for educational support facilities.

The population consisted of undergraduate students enrolled in the College of Logistics and Supply Chain during the academic year 2025. A total of **377 students** were selected as the sample using purposive sampling. Data were collected through a structured questionnaire covering four dimensions: laboratory scheduling and management, audiovisual and multimedia equipment, suitability of laboratory facilities, and supporting infrastructure. The data were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation, as well as inferential statistics such as t-tests and one-way analysis of variance (ANOVA).

The results indicated that overall user satisfaction with the Online Multimedia Production Laboratory was at a **high level**. Satisfaction with laboratory scheduling and audiovisual equipment received the highest ratings, reflecting the adequacy of learning resources and facility management. However, satisfaction with supporting infrastructure, particularly internet connectivity, was found to be at a **moderate level**, suggesting the need for improvement in technological support systems.

The findings of this study provide practical implications for administrators and policymakers in higher education institutions. Enhancing multimedia laboratory management and improving supporting facilities may contribute to higher levels of user satisfaction and more effective learning environments in alignment with institutional development policies.

Keywords: user satisfaction, multimedia production laboratory, higher education, learning facilities, educational support

1. Introduction

1.1 Background and Significance of the Study

Higher education institutions are responsible for multiple missions, including teaching and learning, research, academic services, the preservation of arts and culture, and institutional

administration. Effective management of these missions requires the provision of high-quality learning environments that support educational objectives and enhance learning efficiency.

Suan Sunandha Rajabhat University has continuously emphasized the development of teaching and learning, curriculum enhancement, research, and academic services at both undergraduate and graduate levels. Within this framework, the College of Logistics and Supply Chain places particular importance on the management of learning facilities, especially specialized laboratories that support technology-enhanced learning.

The Online Multimedia Production Laboratory is a key learning resource for students in the college, providing access to audiovisual equipment, multimedia tools, and digital learning environments. Effective scheduling, appropriate equipment provision, and adequate supporting facilities are essential factors that influence students' learning experiences and satisfaction. However, limitations in infrastructure and supporting systems may negatively affect the effectiveness of laboratory utilization.

Therefore, it is essential to examine users' opinions and satisfaction regarding the utilization of the Online Multimedia Production Laboratory. Understanding students' perceptions and support needs can provide valuable insights for improving laboratory management and aligning facility development with institutional policies aimed at enhancing administrative efficiency and educational quality.

In addition, this study was motivated by the researcher's direct experience with the management and utilization of the Online Multimedia Production Laboratory at the College of Logistics and Supply Chain. Observations of students' learning activities and laboratory usage revealed both strengths and areas requiring improvement, particularly in terms of supporting infrastructure and system readiness. These practical observations prompted the researcher to conduct a systematic investigation to obtain empirical evidence for institutional improvement.

1.2 Research Objective

The objective of this study is to investigate users' opinions and satisfaction regarding the utilization of the Online Multimedia Production Laboratory and the educational support needs of the College of Logistics and Supply Chain, Suan Sunandha Rajabhat University.

2. Literature Review

2.1 Concepts of Opinion

Opinion refers to an individual's expression of feelings, beliefs, or judgments toward a particular object, situation, or service. Opinions are shaped by personal experiences, knowledge, and environmental factors and may change over time. In educational contexts, opinions are commonly used to evaluate learners' perceptions of learning environments, facilities, and institutional services.

Opinions may be expressed verbally or in written form and can be either positive or negative. They reflect how individuals interpret and evaluate their experiences, making them a useful indicator for assessing satisfaction and service effectiveness in educational institutions.

2.2 Concepts of User Satisfaction

User satisfaction is a psychological state resulting from the comparison between expectations and actual experiences. Satisfaction occurs when perceived performance meets or

exceeds expectations, whereas dissatisfaction arises when performance falls below expectations. Satisfaction is dynamic and can change depending on situational factors, service quality, and resource availability.

In educational settings, user satisfaction reflects students' overall evaluations of learning facilities, instructional support, and institutional services. High levels of satisfaction are associated with positive learning experiences, motivation, and continued engagement, while dissatisfaction may hinder learning outcomes and perceptions of institutional quality.

2.3 Service Quality and Educational Facilities

Service quality is a critical determinant of satisfaction in service-oriented organizations, including higher education institutions. Effective service delivery requires reliability, responsiveness, accessibility, competence, and adequate physical resources. Tangible elements such as facilities, equipment, and learning environments play a significant role in shaping users' perceptions of service quality.

Learning facilities, particularly specialized laboratories, are essential components of educational service quality. Proper management of laboratory scheduling, maintenance of equipment, and availability of supporting infrastructure contribute to effective learning environments and higher levels of user satisfaction.

2.4 Multimedia Laboratories and Learning Support

Multimedia production laboratories support experiential and technology-enhanced learning by providing students with opportunities to engage in practical activities using audiovisual equipment and digital tools. Studies in higher education contexts indicate that students report higher satisfaction when laboratories are adequately equipped, well-maintained, and supported by efficient management systems.

However, challenges such as insufficient equipment, limited access, and inadequate supporting facilities—particularly internet connectivity—remain common issues. These challenges highlight the importance of continuous evaluation and improvement of multimedia laboratories to meet students' needs and institutional development goals.

2.5 Research Gap

Previous studies have primarily focused on general service quality or classroom facilities, with limited attention given to satisfaction with online multimedia production laboratories in specialized academic units. Moreover, many studies have examined overall satisfaction without analyzing specific dimensions such as scheduling systems, equipment provision, laboratory suitability, and supporting infrastructure.

This study addresses these gaps by examining multiple dimensions of user satisfaction related to the Online Multimedia Production Laboratory at the College of Logistics and Supply Chain, providing empirical evidence to support facility management and educational development.

3. Methodology

3.1 Research Design

This study employed a quantitative survey research design to examine users' opinions and satisfaction regarding the utilization of the Online Multimedia Production Laboratory.

3.2 Population and Sample

The population consisted of undergraduate students from seven academic programs within the College of Logistics and Supply Chain. A total of **377 students** who had experience using the laboratory were selected as the sample through purposive sampling.

3.3 Research Instrument

Data were collected using a structured questionnaire consisting of three sections:

1. demographic information,
2. satisfaction levels across four dimensions, and
3. open-ended questions on problems and support needs.

Responses in Section 2 were measured using a five-point Likert scale.

3.4 Data Collection

Data were collected during the academic year 2025. The researcher personally administered the questionnaires, ensuring confidentiality and voluntary participation.

3.5 Data Analysis

Descriptive statistics (frequency, percentage, mean, and standard deviation) and inferential statistics (t-tests and one-way ANOVA) were used for data analysis.

4. Results

The results indicated that overall user satisfaction with the Online Multimedia Production Laboratory was at a **high level**. Satisfaction with laboratory scheduling, audiovisual equipment, and the number and suitability of laboratories was rated high. In contrast, satisfaction with supporting facilities—particularly internet connectivity and security systems—was rated at a **moderate level**.

The results are presented in Tables 1–4 reproduced from the R2R study. Numeric values should be verified against the original R2R prior to submission.

Table 1. User Satisfaction with Laboratory Scheduling

| Item | Mean | Level |
|---|------|----------|
| Clear dissemination of laboratory schedules | 3.82 | High |
| Advance notification of laboratory usage | 4.11 | High |
| Appropriateness of time allocation | 3.85 | High |
| Public service and voluntary activities | 3.39 | Moderate |
| Adequacy of class sections | 3.96 | High |
| Overall | 3.83 | High |

Table 2. User Satisfaction with Audiovisual and Multimedia Equipment

| Item | Mean | Level |
|--|-------------|--------------|
| Modernity and functionality of equipment | 4.01 | High |
| Clarity of learning documents and media | 3.58 | High |
| Variety of audiovisual equipment | 3.89 | High |
| Appropriateness for course content | 3.96 | High |
| Effectiveness of learning equipment | 4.11 | High |
| Overall | 3.91 | High |

Table 3. User Satisfaction with the Number and Suitability of Laboratories

| Item | Mean | Level |
|--|-------------|--------------|
| Clear procedures for laboratory requests | 4.08 | High |
| Clear assessment procedures | 4.01 | High |
| Appropriateness of learning materials | 3.91 | High |
| Suitability of assessment frequency | 3.99 | High |
| Opportunities for consultation | 3.87 | High |
| Overall | 3.97 | High |

Table 4. User Satisfaction with Supporting Facilities and Infrastructure

| Item | Mean | Level |
|--|-------------|--------------|
| Internet system suitability | 2.38 | Low |
| Adequacy of classroom facilities | 2.63 | Moderate |
| Appropriateness of instructional equipment | 3.61 | High |
| Safety of electrical systems | 3.51 | High |
| Building security system | 2.98 | Low |
| Overall | 3.02 | Moderate |

5. Discussion

From the researcher's perspective, the findings reflect the actual learning context of students within the College of Logistics and Supply Chain. The high level of satisfaction observed in several dimensions can be attributed not only to the availability of resources but also to the practical learning requirements of the programs offered. This contextual understanding supports the interpretation of quantitative results beyond numerical values.

The findings demonstrate that effective laboratory scheduling and adequate audiovisual equipment contribute significantly to high levels of user satisfaction. These results are consistent with previous studies emphasizing the importance of service quality and physical facilities in educational contexts.

However, moderate satisfaction with supporting infrastructure highlights persistent challenges related to technological readiness. Insufficient internet connectivity may limit the effectiveness of online multimedia learning, suggesting a need for targeted improvements in digital infrastructure.

6. Conclusion and Recommendations

Despite its contributions, this study has several limitations. The sample was limited to undergraduate students from a single college within one university, which may restrict the generalizability of the findings. In addition, the study relied on self-reported data, which may be subject to response bias. Future research could employ mixed-method approaches or comparative studies across multiple institutions to enhance the robustness of the findings.

This study confirms that students generally express high satisfaction with the utilization of the Online Multimedia Production Laboratory. To enhance learning effectiveness, the college should prioritize improvements in supporting infrastructure, particularly internet systems, while maintaining effective scheduling and equipment management.

Future research may expand the scope to include qualitative approaches or comparative studies across different faculties or institutions.

Acknowledgment

This research was supported by Suan Sunandha Rajabhat University under the Routine to Research (R2R) funding scheme for the fiscal year 2025. The author would like to express sincere appreciation to **Asst. Prof.Dr.Sudarat Pimonrattanakan** for academic guidance and valuable suggestions.

References

- Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1985). A conceptual model of service quality and its implications for future research. *Journal of Marketing*, 49(4), 41–50. <https://doi.org/10.2307/1251430>
- Oliver, R. L. (1997). *Satisfaction: A behavioral perspective on the consumer*. McGraw-Hill.
- Kotler, P., & Keller, K. L. (2016). *Marketing management* (15th ed.). Pearson Education.
- UNESCO. (2015). *Rethinking education: Towards a global common good?* UNESCO Publishing.
- OECD. (2017). *Education at a glance 2017: OECD indicators*. OECD Publishing. <https://doi.org/10.1787/eag-2017-en>

Pimonrattanakan, S., & Ayasanond, C. (2018). The supply chain management of pomelo production processes and tourism sustainability in Nakhon Chaisri, Nakhon Pathom Province, Thailand. *African Journal of Hospitality, Tourism and Leisure*, 7(5). https://www.ajhtl.com/uploads/7/1/6/3/7163688/article_11_vol_7_5__2018.pdf