

Developing a Digital-Enriched Instructional Media Design Process for the General Education Course

Paitoon Charonpak¹, Thanakorn Uiphanit² and Chalermopol Tapsai³

^{1,2,3}Suan Sunandha Rajabhat University, Thailand

Email: ¹paitoon.ch@ssru.ac.th, ²thanakorn.ui@ssru.ac.th, ³chalermopol.ti@ssru.ac.th

Abstract

This study aims to develop a process for designing instructional media for the general education course, intending to provide an effective learning experience for students. The sample group consists of 3,000 undergraduate students enrolled in the GEN0320 Digital Millionaire course in the 2023 academic year at Suan Sunandha Rajabhat University. This project seeks to gain a deeper understanding of students' needs and satisfaction by employing quantitative research methods, focusing on accessibility, diverse learning approaches, and enhanced communication between instructors and students. The overall satisfaction of participants is at the very high level, with an average score of 4.66. This research contributes to educational innovation and improves students' self-development, fostering a foundation for national development. Educational technology supports diverse learners, aligning with national education laws and 21st-century learning standards, emphasizing lifelong learning, critical thinking, collaboration, and adaptability. The study further aligns with Thailand's Education 4.0 strategy, preparing students with essential skills for future challenges.

Keywords: Instructional Media Design, User Satisfaction, Digital-Enriched Learning Media

1. Introduction

In the digital age, education is rapidly evolving to meet the diverse needs and learning styles of students. Traditional teaching methods are being replaced by more flexible, learner-centered approaches that leverage digital tools and interactive media. GEN0320 Digital Millionaire course, developed by Suan Sunandha Rajabhat University, exemplifies this shift by equipping students with essential digital skills and knowledge applicable to both academic and personal contexts (Chen & Wang, 2021; Lail & Eissa, 2023).

This study explores the development of an instructional media design process that prioritizes accessibility and engagement for students in the GEN0320 course. By incorporating a variety of multimedia elements—such as text, images, animation, audio, and video—the design enhances interactivity and caters to different learning preferences. This approach supports better retention of complex concepts while providing on-demand access to materials in diverse formats (Chankham, n.d.; Phonklai, 2021).

A key focus of the course is its learner-centered approach, which allows students to tailor their learning experiences to their interests and career goals. This flexibility fosters intrinsic motivation and cultivates self-directed learning skills—both critical for success in the modern world. Supplementary materials further encourage deeper exploration of topics, broadening students' understanding and knowledge base (Amornrit, n.d.; Rattanapian, 2022). These learning skills contribute to effective student learning and align with Thailand's Education Strategy 4.0 and the Thailand 4.0 policy framework. Especially problem-solving skills are

recognized as essential 21st-century competencies that play a significant role in supporting national educational reform and workforce development. Important of the 21st century That affects the Thai education strategy 4.0 and Thailand 4.0 (Ganratchakan Letamornsak, 2023)

This research examines undergraduate students enrolled in GEN0320 to evaluate the course, focusing on their satisfaction and the effectiveness of the instructional media. The findings highlight how digital media and adaptable learning environments can enhance student engagement, comprehension, and overall satisfaction. Ultimately, the study contributes to advancing digital education practices that emphasize accessibility, learner autonomy, and the integration of globally informed yet locally relevant content.

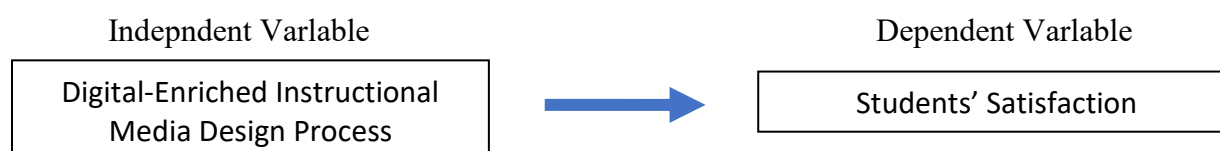
2. Research Objectives

The objectives of this study are to develop a digital-enriched instructional media design process for a general education course and to examine users' satisfaction with the developed instructional media. The specific objective is as follows:

1. To enhance learning accessibility by developing a flexible and user-friendly instructional media design that enables students to access course content and support services online anytime and anywhere, thereby meeting learners' needs for convenience and adaptability.

3. Conceptual Framework

This research synthesizes concepts, theories, and related studies, which can be summarized into a conceptual framework for the research.



4. Methodology

The research methodology of this research focuses on 5 steps of the process of research: research objectives, data collection and data analyzing, findings and discussion and conclusion. The best approach to was the use of quantitative The population of this study consisted of 3,000 undergraduate students enrolled in the course "GEN0320 Digital Millionaire" during the 2023 academic year at Suan Sunandha Rajabhat University. All enrolled students were included in the study. However, by using Taro Yamane (1976), the proper sample size was about 400.

5. Result

The results are shown in the following table.

Table 1 User Satisfaction

No.	Evaluation Details	Mean (\bar{x})	Student Satisfaction Level
1	The instructor uses time and class activities effectively.	3.85	High

No.	Evaluation Details	Mean (\bar{x})	Student Satisfaction Level
2	The instructor provides a clear course outline, specifying objectives, course topics, and learning activities.	4.26	High
3	The instructor explains concepts clearly and aligns them with learning objectives.	4.22	High
4	The instructor encourages student participation and allows opportunities for all students to engage.	4.20	High
5	The instructor is approachable, friendly, and respectful to students.	4.19	High
6	The instructor provides clear explanations, making the material easy to understand.	4.18	High
7	The instructor encourages students to express their thoughts and ideas, fostering a collaborative environment.	4.21	High
8	The instructor demonstrates an understanding of student needs and adapts teaching to support student learning.	4.23	High
9	The instructor uses diverse teaching methods, enhancing student interest and engagement in the course.	4.20	High
10	The instructor integrates moral and ethical considerations into the course content.	4.18	High
11	The instructor provides ample opportunities for students to practice skills and apply knowledge.	4.16	High
12	The instructor promotes critical thinking and problem-solving skills through active learning activities.	4.14	High
13	The instructor offers timely and constructive feedback on assignments and exams.	4.22	High
14	The instructor uses various types of media and instructional materials to support diverse learning styles.	4.23	High
15	The instructor supports online learning and e-learning effectively, enabling flexible study options.	4.21	High

Instructional Media Design Process Satisfaction

The instructional media design process for the GEN0320 course, "Getting Rich with Digital," received high satisfaction ratings.

Overall Satisfaction Level: Average score of **4.18** (83.60%)

The study on students' satisfaction with innovative learning management designed to develop creative thinking and innovation skills focused on a teaching plan tailored for undergraduate students in the Faculty of Education at Suan Sunandha Rajabhat University. The course, Innovation and Information Technology for Educational Communication and Learning,

employed an innovative learning management plan aimed at fostering creative thinking and innovation skills. The research findings indicated that the overall satisfaction of students was at a high level. The aspect with the highest satisfaction was the learning outcomes derived from the teaching process, followed by satisfaction with the learning environment, the learning process, and finally, the content of the course. These results suggest that implementing a structured teaching plan with clearly defined objectives and learning strategies enabled instructors to prepare thoroughly for their lessons. Additionally, the use of various tools and teaching techniques aligned with the type of information students studied, combined with hands-on activities emphasizing collaboration, significantly enhanced student engagement.

Regular progress monitoring through tools like LINE as a communication and tracking platform allowed students to improve their project presentations effectively. This continuous feedback loop helped students identify areas for improvement, contributing to a positive and enjoyable online learning experience. Consequently, students demonstrated enthusiasm, active participation, and increased engagement in the learning process.

The results revealed that students who engaged in learning through the developed Cloud-Based Learning System in general education courses at Suan Sunandha Rajabhat University achieved significantly higher post-test scores than their pre-test scores at the .05 level of statistical significance. This outcome is consistent with the findings of Hinnon (2016) as well as Thamma, Yaemkasikorn, and Hoksuan (2013), who reported that students enrolled in general education courses—particularly Bachelor of Education students at Suan Sunandha Rajabhat University—exhibited significantly higher learning achievement after participating in cloud-based instructional activities compared to before instruction. (Phonklai, S,2021).

6. Conclusion

This study highlights the successful development of a digital-enriched instructional media design process tailored for the GEN0320 "Digital Millionaire" course. By focusing on accessibility, interactivity, and learner engagement, the instructional design not only enhanced the learning experience but also aligned with the principles of 21st-century education. The integration of multimedia elements facilitated diverse learning preferences, while the learner-centered approach promoted autonomy and intrinsic motivation among students.

The findings demonstrate a significant improvement in students' knowledge, with overall satisfaction reaching the highest level, as evidenced by an average score of 4.66. This underscores the effectiveness of the design process in meeting educational objectives and supporting students' academic growth. Furthermore, the alignment with Thailand's Education 4.0 strategy positions this research as a pivotal step toward fostering skills necessary for future challenges, including critical thinking, collaboration, and adaptability.

Ultimately, this research contributes to the advancement of instructional media practices, offering a model that can be adapted across various general education courses to improve learning outcomes and satisfaction. Future studies may explore further refinement and broader applications of this instructional media design process to ensure its continued relevance and impact in digital education. While future research may consider integrating gamification into online learning by addressing key design challenges, including (1) clearly defined game design goals, (2) appropriate methods and procedures for game design, (3) effective gamification elements, and (4) suitable learning environments that support the use of gamification in learning activities (Amornrit, 2020).

Acknowledgments

The authors would like to thank Suan Sunandha Rajabhat University, Bangkok, Thailand (<http://www.ssru.ac.th/>) to provide funding support to attend the dissemination of research on this and thank family, friends, colleagues, students in the field of Digital Innovation Management and Content, Digital Technology for Education and The Office of General Education and Innovative Electronic Learning for cooperation and provide the dataset in research, all of you.

References

- Amornrit, P. (2020). Gamification in distance learning system design. *Journal of Educational Technology and Communication*.15(18).34-44.
- Chankham,N and Punlumjeak,K.(2019).Development of courseware for ubiquitous learning on 21st-century learning skills in creative thinking in higher education. *Journal of Social Communication Innovation*.7(1).104-112
- Chen, X. , & Wang, Y. (2021). Student perceptions of learner-centered approaches in online learning environments. *International Journal of Digital Learning*, 8(2), 67–80.
- Letamornsak,G. (2023). Developing 21st Century Learning Skills to Support the Thai Education Strategy 4.0. *Journal of Educational Research and Development*, 5(2), 45–60.
- Phonklai, S. (2021). Studying cloud-based learning models in general education courses at Suan Sunandha Rajabhat University. *Suan Sunandha Academic and Research Journal*, 15(1), 46–55.