# RESULTS OF USING THE LEARNING MANAGEMENT PLAN USING THE ADDIE MODEL IN THE ONLINE COLLABORATIVE LEARNING DESIGN COURSE

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**ARTICLE HISTORY**
**Received:** 28 July 2025 **Revised:** 11 August 2025 **Published:** 25 August 2025

## ABSTRACT

The objectives of this research were: 1) to study students' satisfaction with the learning management designed using the ADDIE Model. The population consisted of 21 master's degree students enrolled in the first semester of the 2025 academic year in an international program at a private university. The research instruments included a learning management plan for the Collaborative Online Learning Design course based on the ADDIE Model, and a student satisfaction questionnaire regarding the learning management using the ADDIE Model. Data were analyzed using descriptive statistics, including mean and standard deviation. The results revealed that student satisfaction with the learning management process based on the ADDIE Model was at the highest level across all aspects: analysis, design, development, implementation, and evaluation. Notably, the design and analysis aspects received the highest mean satisfaction score ($\overline{X}$ = 4.99). These findings indicate that the developed learning management plan effectively promotes collaborative learning in an online environment.

**Keywords:** Learning Management, Collaborative Online Learning, ADDIE Model

**CITATION INFORMATION:** Warulang, O., Sthittham, R., Palachaivanich, P., & Watcharinrat, D. (2025). Results of Using the Learning Management Plan Using the ADDIE Model in the Online Collaborative Learning Design Course. *Procedia of Multidisciplinary Research, 3*(8), 12.

# INTRODUCTION

Current education has been significantly influenced by digital technology, leading to a transformation from traditional teaching methods toward the increased application of technology in the classroom. Information and communication technology (ICT) plays a crucial role in learning management, as it enables learners to access knowledge freely anytime and anywhere, fostering flexible, learner-centered learning (Hrastinski, 2008). This aligns with the 21st-century skill requirements, which emphasize the development of critical thinking, communication, and collaboration skills (Trilling & Fadel, 2009). Consequently, instructors need to adapt their teaching methods to keep pace with current digital technologies and the evolving learning behaviors of students. One approach that addresses the digital era is collaborative online learning, which facilitates group work, idea exchange, discussion, and collective knowledge construction through online media (Laal & Ghodsi, 2012). This learning management style not only enhances learners' communication and problem-solving skills but also promotes collaboration, a key attribute for 21st-century work environments.

Research by Thitikarn Rakbamrung et al. (2022) on developing online training models using real-life scenarios combined with collaborative learning found that collaborative learning via LINE application enhanced teamwork skills and resulted in high learner satisfaction. Additionally, Phasakorn Ruangrong (2021), in a study on developing online training using Google Sites combined with collaborative learning, reported that the training was highly effective, increased learners' knowledge, and received high satisfaction ratings. These findings demonstrate that collaborative learning can be effectively applied to online learning in the Thai educational context.

Designing and developing a quality learning management plan is an essential factor that supports instructors in systematically planning, implementing, and delivering instruction to achieve learning outcomes based on Outcome-Based Education (OBE). Various instructional design models exist (Gupta, 2024), such as the ADDIE Model, Bloom's Taxonomy, Merrill's Principles of Instruction (MPI), Gagne's Nine Events of Instruction, Dick and Carey Model, Kemp Design Model, Action Mapping by Cathy Moore, and the SAM Model. Among these, the ADDIE Model is widely used for instructional design and consists of five phases: Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009). This model is systematic, flexible, and adaptable for developing instructional materials, online lessons, and learning management plans.

Based on the above, the researcher is interested in studying the effects of using a learning management plan based on the ADDIE Model in the course on Collaborative Online Learning Design. The study focuses on measuring learners' satisfaction with the learning management plan to provide empirical data for future learning management development. Furthermore, the findings can serve as guidelines for improving other courses employing collaborative online learning, thereby enhancing their effectiveness and meeting learners' needs sustainably within the Thai educational context.

# LITERATURE REVIEWS

## Collaborative Online Learning

Collaborative learning is a learning process in which learners work together to solve problems, exchange ideas, and co-construct knowledge. In an online context, learners communicate through digital platforms such as Learning Management Systems (LMS), Google Classroom, or Microsoft Teams (Laal & Ghodsi, 2012). Collaborative learning promotes social skills, communication, and critical thinking, which are essential 21st-century skills. Related research by Phasakorn Ruangrong (2021) on developing online training using Google Sites combined with collaborative learning found that learners increased their knowledge and reported high satisfaction. Additionally, international studies such as Moore et al. (2011) indicate that online

collaborative learning enhances learner engagement but requires well-designed activities that foster interaction and shared responsibility.

**ADDIE Model**

The ADDIE Model is a widely used instructional design framework consisting of five phases: Analysis, Design, Development, Implementation, and Evaluation (Branch, 2009). Its strengths lie in its systematic approach, flexibility, and adaptability across all educational levels, including print materials, online lessons, and curriculum design. Related studies by Waratya Kulnithichai et al. (2021) and Wilbangchat et al. (2023) confirm the effectiveness of ADDIE in developing high-quality online lessons and instructional plans, with learner satisfaction rated as high. These findings align with Branch's (2009) assertion that the ADDIE Model is a versatile framework applicable in various teaching contexts.

**Satisfaction**

Satisfaction is a key indicator reflecting the effectiveness of teaching and learning. It refers to learners' positive feelings toward content, activities, instructional methods, and learning materials (Oliver, 1997). High satisfaction levels positively influence learners' motivation and long-term academic achievement. Relevant research by Waratya Kulnithichai et al. (2021) found that learners expressed high satisfaction with online lessons designed using the ADDIE Model. Furthermore, Thitikarn Rakbamrung (2022) reported that online collaborative training significantly increased learning satisfaction. These results correspond with Moore et al. (2011), who identified satisfaction as a crucial factor for engagement and achievement in online learning environments.

This research aims to study the satisfaction of students towards learning management using the ADDIE Model.

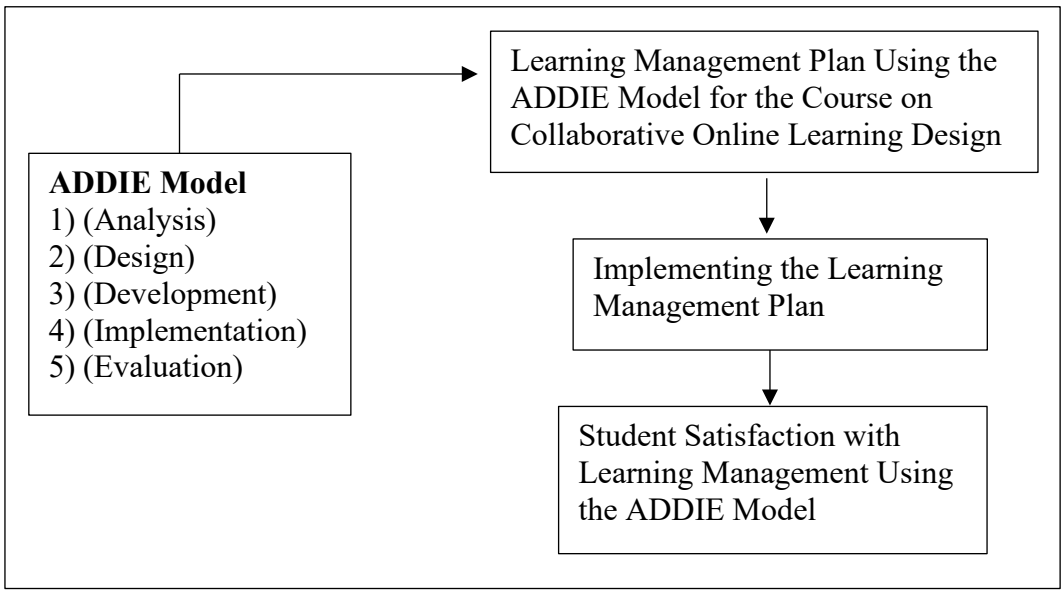


**Figure 1** Conceptual Framework

# RESEARCH METHODOLOGY

**Population and Sample**

The population consisted of graduate students at a private university. The sample comprised 30 graduate students enrolled in the first semester of the 2025 academic year in an international program at the same private university. These participants voluntarily responded to a questionnaire measuring student satisfaction with learning management designed using the ADDIE Model.

**Research Instruments**

Student Satisfaction Survey on Learning Management Using the ADDIE Model

**Instrument Development Process**

The research instruments consisted of two parts. The researcher developed the instruments following these steps:

A review of literature, textbooks, and related studies on collaborative learning, online learning management, and the principles of the ADDIE Model was conducted to establish a framework for question development.

Criteria for measuring satisfaction levels were set based on Likert's scale (Likert, 1932).

The questionnaire structure was designed into three sections as follows:

Section 1: Demographic Information

Gender

Age

Section 2: Student Satisfaction with Learning Management Using the ADDIE Model

This section comprised five domains corresponding to the ADDIE Model phases:

Analysis: 5 items

Design: 5 items

Development: 5 items

Implementation: 5 items

Evaluation: 5 items

Section 3: Suggestions

The questionnaire was then submitted to three experts to evaluate the content validity of the items relative to the research objectives using the Index of Item-Objective Congruence (IOC). Items with an IOC value of 0.50 or higher were considered acceptable.

Items scoring below the IOC threshold were revised or removed from the questionnaire.

**Data Analysis**

Data collected from the questionnaires were analyzed using descriptive statistics, including frequency, percentage, mean, and standard deviation.

## RESEARCH RESULTS

Student Satisfaction with Learning Management Using the ADDIE Model

**Part 1: Demographic Information**

The results from the survey on the development of the learning management plan for the course "Collaborative Online Learning Design," based on the ADDIE Model, conducted during the first semester of the 2025 academic year in an international program at a private university, with a total of 21 participants, are as follows: Regarding gender, the majority of respondents were female, totaling 13 students (61.90%), while males accounted for 7 students (33.30%), and 1 participant (4.80%) did not specify gender. Concerning age, most respondents were over 30 years old (10 students, 47.62%), followed by those aged 26-30 years (7 students, 33.33%), and those aged 20-25 years (4 students, 19.05%).

**Part 2: Student Satisfaction with Learning Management Using the ADDIE Model**

Domain1: Analysis

The overall satisfaction score was very high (mean = 4.99, SD = 0.043), indicating the highest level of satisfaction in the analysis phase. Details include: instructors clearly analyzed learners' needs and problems, established clear and appropriate learning objectives, provided opportunities for learners to express opinions about the content, and the learner analysis contributed to more effective learning. The highest satisfaction was observed with a mean of 5.00 (SD = 0.000), indicating maximum satisfaction, while the lowest satisfaction within this domain was related to content alignment with learner needs, with a mean of 4.49 (SD = 0.218), still reflecting very high satisfaction.

Domain2: Design
The overall satisfaction score was very high (mean = 4.99, SD = 0.043), signifying the highest level of satisfaction in the design phase. Specific findings include: the course structure was clear and systematic, the instructional plan organized activities appropriately, the design facilitated learner engagement, and activities stimulated learning interest. The highest satisfaction scores were for learning media and activities aligning well with objectives (mean = 5.00, SD = 0.000), while the lowest was 4.49 (SD = 0.218), all within the highest satisfaction level.
Domain3: Development
Satisfaction in the development phase was also very high (mean = 4.91, SD = 0.310). Details showed that teaching media were modern and suitable for the lessons; supporting documents were clear and easy to understand; media and activities enhanced content comprehension; and self-directed learning media were provided. Satisfaction with exercises and activities being appropriate for learner levels was also very high (means ranged from 4.90 to 4.95 with SDs between 0.218 and 0.300).
Domain4: Implementation
The overall satisfaction for implementation was very high (mean = 4.95, SD = 0.218), with all sub-items equally rated. These included teaching according to the plan, flexible learning environments adapted to circumstances, active learner participation in activities, continuous instructor guidance throughout the learning process, and a classroom atmosphere conducive to learning.
Domain5: Evaluation
Satisfaction with evaluation was very high (mean = 4.91, SD = 0.302). Key points included assessments aligned with objectives, learners receiving constructive feedback, diverse and appropriate evaluation methods, and fair and transparent evaluation processes. Satisfaction scores ranged from 4.85 to 4.95 (SDs from 0.218 to 0.478), all indicating the highest satisfaction level. The evaluation phase also effectively reflected learning achievement.

**Table 1** Student satisfaction with learning management using the ADDIE Model

| list | $\bar{x}$ | S.D. | Level Satisfaction |
|---|---|---|---|
| **Domain 1: Analysis** | | | |
| 1.1 The instructor clearly analyzed the learners' needs and problems. | 5.00 | .000 | Highest satisfaction |
| 1.2 Clear and appropriate learning objectives were established. | 5.00 | .000 | Highest satisfaction |
| 1.3 The learning content aligned with the learners' needs. | 4.95 | .218 | Highest satisfaction |
| 1.4 Learners had the opportunity to express their opinions about the content to be studied. | 5.00 | .000 | Highest satisfaction |
| 1.5 Learner analysis contributed to more effective learning. | 5.00 | .000 | Highest satisfaction |
| **Sum** | **4.99** | **.043** | **Highest satisfaction** |
| **Domain 2: Design** | | | |
| 2.1 The course structure is clear and systematic. | 5.00 | .000 | Highest satisfaction |
| 2.2 The instructional plan appropriately sequences the activities. | 5.00 | .000 | Highest satisfaction |
| 2.3 Learning materials and activities align with the objectives. | 4.95 | .218 | Highest satisfaction |
| 2.4 The instructional design facilitates learner engagement. | 5.00 | .000 | Highest satisfaction |
| 2.5 The design of activities helps stimulate interest in learning. | 5.00 | .000 | Highest satisfaction |
| **Sum** | **4.99** | **.043** | **Highest satisfaction** |
| **Domain 3: Development** | | | |
| 3.1 The instructional materials are modern and appropriate for the lessons. | 4.90 | .300 | Highest satisfaction |

| list | $\bar{x}$ | S.D. | Level Satisfaction |
|---|---|---|---|
| 3.2 The learning support documents are clear and easy to understand. | 4.90 | .300 | Highest satisfaction |
| 3.3 The exercises/activities are suitable for the learners' level. | 4.95 | .218 | Highest satisfaction |
| 3.4 The media and activities help enhance understanding of the content. | 4.90 | .300 | Highest satisfaction |
| 3.5 There are learning materials that support self-directed learning. | 4.90 | .436 | Highest satisfaction |
| **Sum** | **4.91** | **.310** | **Highest satisfaction** |
| **Domain 4: Implementation** | | | |
| 4.1 The instructor teaches according to the specified lesson plan. | 4.95 | .218 | Highest satisfaction |
| 4.2 The learning process is flexible according to the situation. | 4.95 | .218 | Highest satisfaction |
| 4.3 Students participate actively in learning activities. | 4.95 | .218 | Highest satisfaction |
| 4.4 The instructor provides guidance throughout the learning process. | 4.95 | .218 | Highest satisfaction |
| 4.5 The classroom atmosphere is conducive to learning. | 4.95 | .218 | Highest satisfaction |
| **Sum** | **4.95** | **.218** | **Highest satisfaction** |
| **Domain5 : Evaluation** | | | |
| 5.1 Assessment is conducted according to the specified objectives. | 4.95 | .218 | Highest satisfaction |
| 5.2 The evaluation methods are varied and appropriate. | 4.90 | .300 | Highest satisfaction |
| 5.3 Learners receive constructive feedback. | 4.95 | .218 | Highest satisfaction |
| 5.4 The assessment effectively reflects learning achievement. | 4.85 | .478 | Highest satisfaction |
| 5.5 The evaluation process is fair and transparent. | 4.90 | .300 | Highest satisfaction |
| **Sum** | **4.91** | **0.302** | **Highest satisfaction** |

# DISCUSSION & CONCLUSION

### Student Satisfaction with Learning Management Using the ADDIE Model

This study surveyed the development of a learning management plan for the course "Collaborative Online Learning Design" using the ADDIE Model, conducted during the first semester of the 2025 academic year in an international program at a private university. A total of 21 students participated. The demographic data indicated that most respondents were female (13 students, 61.90%), while males accounted for 7 students (33.30%), and 1 participant (4.80%) did not specify gender. Regarding age distribution, the majority were over 30 years old (10 students, 47.62%), followed by those aged 26-30 years (7 students, 33.33%), and those aged 20-25 years (4 students, 19.05%).

The satisfaction regarding the Analysis phase was very high (mean = 4.99, SD = 0.043). This indicates that learners were most satisfied with the analysis phase because the learning plan systematically analyzed learner needs, course content, and contextual factors, resulting in clear and relevant learning objectives that aligned with learners' expectations. This finding is consistent with Branch's (2009) assertion that the analysis phase is a critical foundation for the quality of instructional design. It also aligns with the research of Waratya Kulnithichai et al. (2021), who found that analyzing learner needs improves the effectiveness and goal alignment of online lessons.

Regarding the Design phase, the satisfaction score was similarly high (mean = 4.99, SD = 0.043). The results indicated that the course structure, sequencing of activities, and instructional media were appropriate for collaborative online learning. Such design aligns with 21st-century learning approaches emphasizing learner participation and communication (Laal & Ghodsi, 2012). This supports the findings of Thitikarn Rakbamrung et al. (2022), who reported that collaborative training design enhances teamwork skills and yields high learner satisfaction.

In the Development phase, the satisfaction was also very high (mean = 4.91, SD = 0.310). Learners rated the instructional and online media as high-quality and helpful for understanding the lessons. Satisfaction at this stage reflects the suitability of the media for the online learning context and ease of access. These results correspond with findings by Wilbangchat et al. (2023), which confirmed that using the ADDIE Model to develop online media improves learning quality and learner experience.

The Implementation phase likewise showed high satisfaction (mean = 4.95, SD = 0.218). Learners were particularly satisfied with the application of the plan, especially regarding participation in collaborative activities. This aligns with Moore et al.'s (2011) theory that interaction in online activities influences learner motivation and achievement. It also corroborates the study of Phasakorn Ruangrong (2021), which found that collaborative learning via Google Sites enhances engagement and learning outcomes.

Finally, satisfaction with the Evaluation phase was very high (mean = 4.91, SD = 0.302). Learners perceived the evaluation as clear, transparent, and reflective of the learning objectives. This supports Oliver's (1997) concept that learner satisfaction is directly related to the fairness and clarity of assessment. Furthermore, it aligns with Waratya Kulnithichai et al.'s (2021) research, which demonstrated that assessments aligned with instructional objectives significantly increase learner satisfaction.

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**Data Availability Statement:** The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

**Conflicts of Interest:** The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.