

ASSESSING NEEDS IN HYBRID INSTRUCTION

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ABSTRACT

This study aims to identify and prioritize the needs of hybrid teaching and learning and propose appropriate approaches to address these needs. The research was conducted in two phases. In Step 1, a questionnaire identified and prioritized the need for hybrid teaching and learning among lecturers from Suan Sunandha Rajabhat University. The research utilized statistical tools such as mean, standard deviation, and Modified Priority Needs Index (PNI modified) to prioritize the needs. In Step 2, a suitable approach was presented to address the identified needs using interviews and content analysis with a sample group of 5 experts.

The findings indicate that the highest need for hybrid teaching and learning was related to system infrastructure and communication technology, followed by education and learning with face-to-face and online learning, student needs, and course content. Appropriate approaches to address these needs include learning process planning, network system development, and training for instructors and students.

Keywords: Needs assessment/ Hybrid teaching and learning/ University professors.

INTRODUCTION

The COVID-19 pandemic has significantly changed people's lives, including how educational institutions operate. Online teaching and learning have become crucial for continuous learning, with various components such as instructors, students, content, learning materials and resources, learning management processes, information technology networking, and measurement and evaluation. Various teaching methods facilitate interaction between teachers and students, considering the subject characteristics and context of the learners for effective learning outcomes (Kankayan et al., 2020).

The advancement and rapid evolution of information technology and technological innovations have facilitated people in preparing themselves to handle complex situations more effectively (Boonphadunga & Seubsang, 2021). Hybrid Learning, also known as Blended Learning, is an approach to teaching and learning that integrates offline learning, such as classroom-based instruction or pre-recorded video lectures, with online learning, which includes synchronous and asynchronous online teaching. This pedagogical approach involves utilizing various instructional materials simultaneously, enhancing learning efficiency, and addressing various learning challenges with diverse impacts. For instance, learners can collaborate and learn in a virtual classroom setting, complete teacher-assigned

quizzes and assignments within specified deadlines, and subsequently engage with the instructor in a physical classroom setting or form groups to alternate between attending university and online learning from home.

Hybrid Learning, also known as Blended Learning, is a modern educational approach that combines traditional classroom learning with online learning. This approach utilizes technology to facilitate learning inside and outside the classroom and is considered suitable for 21st-century learners. Stacey and Gerbic (2007) conducted a study on teaching for blended learning, focusing on perspectives from university and distance students. They found that effective blended learning requires careful design and preparation, with teachers playing a pivotal role in designing effective blended learning and teaching strategies that recognize the importance of creating a sense of social well-being for learners when studying online. Furthermore, the use of technology was found to be beneficial in improving student learning outcomes.

Effective communication and interaction between teachers and learners and among learners are essential in managing blended learning, particularly in e-learning (Stacey & Gerbic, 2007, cited in Praweenaya Suwannathachot, 2014). Students perceived various teaching strategies, such as group projects, forum discussions, lectures, student Q&As, and email communication with teachers, as valuable. These strategies have a statistically significant correlation with the teaching and learning environment, and teachers can use the study results to guide the development of teaching strategies.

Brodersen and Melluso (2017) reported on a research study that examined the impact of K-12 online and blended learning programs on student achievement outcomes, outlining the characteristics of the learning programs. Most of the examined programs employed blended learning strategies, providing some means of differentiating their content, difficulty level, or pacing. The study found that 45% of the blended learning programs studied (5 out of 11) offered differentiation in the face-to-face component of instruction.

A needs assessment is recommended to identify the problems and needs arising from it to ensure the effective implementation of hybrid teaching and learning. This is a critical foundation for planning and defining development guidelines that align with prevailing conditions and meet the needs of the learners (Suwimon Wongvanich, 2015). Kristjansson et al. (2015) also researched school and community needs assessment. The analysis can be performed using both qualitative data analysis and content analysis. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to analyze quantitative data, and the Modified Priority Needs Index (PNI modified) technique was used to analyze needs. Questionnaires were used to explore needs, and group discussions were employed to analyze the causes of needs and determine solutions.

RESEARCH OBJECTIVE

1. To identify and prioritize the needs of hybrid teaching and learning.
2. To propose an appropriate approach to addressing the need for hybrid teaching and learning.

METHODOLOGY

The present study employed both quantitative and qualitative research methods, which were carried out in two distinct phases as follows:

Phase 1: Identification and Prioritization of Hybrid Teaching and Learning Needs

The study population comprised 100 professors from Suan Sunandha Rajabhat University. Data were collected using a questionnaire created with Google Form, which consisted of text-based questions that respondents answered on a 5-point Likert scale to assess the current level of hybrid teaching and learning, and to identify areas that require improvement. The data obtained were analyzed by determining the mean difference between the current and desired states, and the priorities of the needs were ranked using the Modified Priority Needs Index (PNI_{modified}) method (Suwimon Vongvanich, 2005).

Phase 2: Proposing an Appropriate Approach to Addressing the Need for Hybrid Teaching and Learning

The study population for this phase comprised five purposively selected university professors specializing in educational technology. The research tools used in this phase were interviews and content analysis, which enabled the researchers to gather and analyze data on the most effective strategies for addressing the identified needs of hybrid teaching and learning.

RESULTS

1. The Needs Priority Index (PNI modified) was employed to assess the priority needs of teachers and students in hybrid teaching and learning. The results showed that teachers had the highest need for teaching and learning in hybrid concerning the infrastructure of communication systems and technologies, followed by a combination of everyday learning (Face-to-face) and online learning, students, and course content, respectively.

2. An appropriate approach for teaching and learning in hybrid was proposed by analyzing the top three priority needs, namely infrastructure of communication systems and technologies, teaching with a combination of everyday learning (Face-to-face) and online learning, and students. The communication systems and technological infrastructure were identified as suitable for the target group. However, it should be noted that deciding on a blended learning technology requires careful consideration of economic conditions, time constraints, content production, and presentation methods. On the learner side, factors to consider include the number of learners, their computer technology skills, access to resources, learning styles, availability, and time.

CONCLUSION AND FUTURE WORK

Based on the results of the research, it was found that the Priority Needs Index (PNI modified) for hybrid teaching and learning indicates that teachers have essential needs for the infrastructure of communication systems and technologies, followed by teaching with a combination of everyday learning (face-to-face) and online learning, students, and course content. In addition, hybrid instruction offers several benefits, including:

- The ability to provide a convenient learning mix of offline and online learning enables students to select a learning style that suits their needs.
- The flexibility to adjust the learning style to accommodate the needs of each learner.
- The ability to facilitate effective student-teacher and student-to-student interaction online and offline, allowing students to learn together effectively.
- The application of various existing learning materials in teaching and learning.
- The full and effective use of communication technology enables students to learn effectively from close distances and at a distance.
- The ability to promote social distancing is an important measure to prevent the spread of COVID-19.
- The implementation of a learning style that prioritizes health and safety, making it an increasingly popular model for the future.

The advantages of hybrid teaching and learning include leveraging communication technology to enable students to interact with teachers and ask questions more conveniently while also allowing students and teachers to save time for study. Moreover, online learning enables students and teachers to study and teach from anywhere, reducing commuting time and costs. It also facilitates social distancing and reduces school congestion, crucial measures to prevent the current COVID-19 outbreak. This approach also offers opportunities for students to meet and participate in learning activities in the classroom, where the focus is on learning activities, practicing skills, and summarizing lessons to enhance learners' comprehension of the content.

Suggestions for next research

1. There should be qualitative research, including in-depth student interviews, to understand the needs and appropriate learning and teaching methods that create the best learning for students.
2. Research should be conducted to study the appropriate environment for organizing a hybrid teaching model so that students can learn conveniently and develop the knowledge and abilities that arise from learning effectively.

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