

The Hybrid Case-Based Learning Design for Digital Life

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ABSTRACT: *Currently, general education in Thailand after the COVID-19 epidemic has adapted and changed a lot. Both the behavior of the learners that resulted in the teacher needing to modify and develop the teaching and learning style to be consistent and suitable for the current learning situation and the technology that has been developed have greatly contributed to education. Hybrid learning and case-based learning, or case studies, are still methods that can be further developed to be more effective. Thus, an amalgamated learning design with elements of case studies and hybrid learning was created to meet the needs of educational technology and flexibility among higher education learners and to be consistent with the lesson content of general education course code GEN0309, Digital Life, which emphasizes learning with examples or simulations to be more efficient and streamlined and to be able to promote the knowledge and digital skills of learners. After the research process found that based on the results of the hybrid case-based learning design for digital life model, which divides the learning into 5 levels and has 5 levels of learning components, consisting of Level 1. Case Preparation Step 2. Multiple Perspectives Step 3. Solutions Suggestion Step 4. Fact Decision and Step 5. Discuss Presentation proposed resulting in a teaching and learning model for learners that is suitable for the Digital Life course and answers the need for technology that can be used in conjunction with learning effectively because it is a blended learning technique. This is a teaching and learning management system that combines the advantages of online learning (Online Learning) and Face-to-Face learning together perfectly. Emphasis is placed on combining a variety of teaching methods to create interaction between learners and teachers. It also has a positive effect on academic progress, student satisfaction, and communication abilities.*

Keywords: Hybrid Learning, Case-Based Learning, Digital Life

1. Introduction

Following the COVID-19 pandemic, the Thai education system has adapted and adjusted with the times, which has prompted the teacher and the learner to adapt to the new system to catch up with the times. Along with the advancement of technology, learning styles need to be consistent and suitable for the situation. Hybrid learning and case-based learning, or case studies, can be further developed to be more effective as they are in line with the content of various current subjects.

Hybrid learning is an instructional management system that seamlessly combines the advantages of online learning and face-to-face learning. Emphasis is placed on combining a variety of teaching methods to create interaction between learners and teachers to make teaching and learning effective and meet the needs of today's technology (Bamrungsethaphong, Tharnpanya, and Satjajaruthai, 2020). Hybrid learning also has a positive effect on academic progress, student satisfaction, and communication abilities. This hybrid learning approach is widely used in higher education (Sanpanich, 2021) and can meet the needs of both students and teachers.

Learning through case studies is a method that gives students the opportunity to experience a case example or cases that the teacher defines from the truth or hypothesis of real-life situations so that they can develop their critical thinking skills, make decisions, and resolve issues unique to that case (Tadsawa, 2020). Nevertheless, it is reliable and capable of using case-based learning or case study instruction that is appropriate for both students and teachers.

The researcher has chosen to use the idea of building hybrid learning along with case studies for the topic of digital life based on the principles and ideas. This teaching and learning approach can be used with case study-focused instruction is a hypothetical situation that emphasizes the use of technology to boost a student's productivity, particularly in the modern world. Thai society is attempting to promote a new and more effective learning method to satisfy the demands of modern education and employment. Consequently, begin promoting learning by utilizing hybrid learning and case studies. It should consequently be present to manage learning. Regarding how students are learning in the digital era.

2. Hybrid Learning

2.1 Definition of Hybrid Learning

In the COVID-19 period, hybrid learning has emerged as a new type of instructional strategy. It increased the flexibility and adaptability of learning management to constantly shifting personal circumstances. It is a combination of learning that, specifically, 1. takes place at the same time (synchronous learning) and 2. takes place at various times (asynchronous learning), all connected by a telecommunications network and available for online study using live video from class or live streaming in addition to attending classes or being present in person.(Sanpanich, 2021)

2.2 Hybrid Learning Elements

- Synchronous / Asynchronous is that learners can learn either in the present moment or at any time. To meet the needs of learning with today's flexible technology and potential. Support for both types of learners at the same time.

- Live-Streaming / Onsite is to have a suitable learning environment both online and offline. or alternate hybrid pairs This will require the right classroom environment and the right platform: Microsoft Teams, Google Classroom, Zoom, or others.

- Learning Management System / e-Learning The learning experience is organized in a learning community format by simulating the classroom experience in an online format Both students and teachers can help each other to provide information, build various knowledge and talk to each other. The lesson must be able to meet the needs of the learners. Allow students to apply the advantages of technology to their learning.

- Cloud Technology / Digital Media Tools Digital Media Tools or Devices and technology that runs on the cloud It can help promote the learning of learners to be more convenient, faster, and more efficient. Currently, there are many of these tools or digital media. Therefore, choosing to use it in the context of the lesson content. It is important to manage learning.

- Courseware / Interactive Content during online or offline learning management Activities must be engaging and interactive. To make the learners interested in learning and understand the content of the lesson more quickly.

- Online Examination / Test System Learning management must evaluate and provide feedback such as online learning achievement progress in online learning may use different types of learning to mix as appropriate. (Sisamud, Wannapiroon, and Palee, 2020)

3. Case-Based Learning

3.1 Definition of Case-Based Learning

Case-Based Learning (Case Study) is a teaching technique that encourages learners to understand and relate fictional events or events based on real events with the knowledge or skills learned in the course. Questions about the case study and the body of knowledge that must be used are clearly defined. But there is no limit to one correct answer or one exact answer. It also helps students practice critical thinking and discussing situations has synthesized and evaluated approaches to responding to hypothetical events with principles has developed their own perspectives through exchanges and listening to other people's ideas It also gives learners the opportunity to create a variety of answers. Make students dare to think and dare to reveal their own views.

3.2 Case-Based Learning Process

Step 1: Case Preparation: The instructor prepares a case study, or a simulated situation used in learning management. and for students to understand the different cases or situations of the lesson content in which teachers need to prepare a variety of situations or case studies that are appropriate. corresponds to the lesson content.

Step 2: Multiple Perspectives: The teacher gives multiple perspectives or relevance of case studies or situations that have content consistent with the lesson. The learners must analyze those various perspectives to achieve learning. and have knowledge and understanding of case studies or simulation situations Allow students to learn a variety of perspectives and reasons from other learners, possibly through oral presentations. Typing a message making diagram or making into a video This should be a form and channel through which teachers and other learners can access the answer.

Step 3: Solutions Suggestion: Giving teachers advice on how to solve a variety of problems. Or suggest solutions for analyzing case studies or student simulations. In which learners are required to propose solutions to problems or solutions from case studies or various simulation situations to extend their knowledge. Then come up with a variety of answers that are suitable for the case study using the knowledge and skills learned or integrating knowledge from related

sciences. The teacher emphasized to the students that case study learning is not about finding just one right or wrong answer.

Step 4: Fact Decision, where the instructor raises theory or research related to case studies or simulations so that learners gain perspectives or additional learning information in summarizing and making decisions per word, answer or solution to the problem arising in the case study.

Step 5: Discuss Presentation: Allowing students to discuss and present all past learning outcomes with case studies or simulations that they have received. To teachers and other students to create opinions, and extending the idea to the maximum to the problem solving or solution that the learners have presented the teacher collects the students' answers, and pick up answers or interesting reasons from the learners to discuss with the learners to summarize and synthesize a common knowledge. The instructor summarizes the key points related to the material, and adding issues that the students still do not understand or do not fully understand.

4. Methodology

Hybrid Case-Based Teaching and Learning Model Design

Case-Based Learning (Case Study) is a teaching technique that encourages learners to understand and relate fictional events or events based on real events with the knowledge or skills learned in the course. Questions about the case study and the body of knowledge that must be used are clearly defined. But there is no limit to one correct answer or one exact answer. It also helps students practice critical thinking and discussing situations has synthesized and evaluated approaches to responding to hypothetical events with principles has developed their own perspectives through exchanges and listening to other people's ideas. It also gives learners the opportunity to create a variety of answers. Make students dare to think and dare to reveal their own views.

Study, research, and search for relevant documents and research to synthesize in hybrid learning design together with case studies for digital life subjects, which is a synthesis of hybrid learning elements and a case-based learning process, then designing instruction by synthesizing a case-based learning process with learning mixed, which can be divided into 3 parts of synthetic tables as follows:

- 4.1. Synthesis of hybrid learning elements
- 4.2. Synthesis of a case-based learning process
- 4.3. Synthesis of a case -based learning process with hybrid learning elements

Table 1. Hybrid Learning Elements Synthesis Table

"Hybrid Learning Elements" Literature Analysis	Bamrungsethaphong, Tharnpanya, and Satjajaruthai (2020)	Kongsumruay (2021)	Thanthong (2020)	Athonvarangkul, Dibyamadala, Mangkhang (2022)	Nawaporn Sanpanich (2021)	Kiattisak Sisamud, Panita Wannapiroon, Pongsaton Palee (2022)	The Education Department of Bangkok Archdiocese (2021)
Synchronous / Asynchronous	✓	✓	✓	✓	✓	✓	✓
Live-Streaming / Onsite	✓	✓	✓	✓	✓	✓	✓
Learning Management System / e-Learning	✓	✓	✓	✓	✓	✓	✓
Courseware / Interactive Content	✓	✓	✓	-	✓	-	✓
Cloud Technology / Digital Media Tools	✓	✓	✓	✓	✓	✓	-
Online Examination / Test System	✓	✓	✓	✓	-	-	✓

Conclusion from the synthetic table: According to the Hybrid Learning Elements Synthesis Table, it was found that the hybrid learning elements consist of 6 main components:

1. Synchronous/ Asynchronous, which is a very important element. Because hybrid learning must be able to support learning in both ways by synchronous is a learning mean that learners and teachers can communicate in both ways (Face-to-Face) at the same time (Realtime). Asynchronous learning mean that learners can come to learn at different times with the teacher. and can come to receive learning anywhere, anytime.

2. Live-Streaming/ Onsite is a hybrid learning environment. which teachers can use tools to help manage teaching and learning It is organized online (Online) with a live broadcast tool. Live-Streaming or use the on-site classroom (Onsite) at the educational institution as well.

3. Learning Management System / e-Learning is a part used in teaching and learning management. Usually, there is a dedicated teaching management software in use, such as Google Classroom or Moodle, etc., which is used to manage students. Lesson is content and an important part of learning

4. Courseware/ Interactive Content is an essential part of the lesson content. Because most learners who learn with a hybrid learning style (Hybrid Learning) have learning materials. interactive to encourage learners to learn with maximum efficiency.

5. Cloud Technology/ Digital Media Tools is digital media or cloud-based tools that help teachers to manage teaching and learning for students effectively. It is often found that hybrid learning has digital media, or these tools built into the teacher's learning system. As part of learning for learners

6. Online Examination/ Test System is another important element used in the evaluation of learners. for learning that all learners have received Comprehensive examination system or testing system It is an essential part of the assessment of learners' learning. It is also an indicator of teaching and learning of teachers as well.

Table 2. Case-Based Learning Process Synthesis Table

"Case-Based Learning Process" Analysis	Description		Poranat Kitoongrueng (2010)	B Williams (2023)	Anna E. Flynn, James D. Klein (2001)	Wiwat Tadsawa (2020)	Supanee Kanhadilok, Treechada Punsumreang	Wichitra Kusoom, Arunee Hengyotmakt (2019)	Panyapat Kanthong (2018)
Case Preparation	Teacher: Prepare a case study.	Learner: Understand the situation.	✓	✓	✓	✓	✓	✓	✓
Multiple Perspectives	Teacher: Gives multiple perspectives on the case study.	Learner: Analyzes the case study.	✓	✓	✓	✓	✓	✓	✓
Solutions Suggestion	Teacher: suggests a variety of solutions.	Learner: presents a case study solution.	✓	✓	✓	✓	✓	✓	-
Fact Decision	Teacher: Give the theory or research related to the case.	Learner: Summarize and decide.	✓	✓	✓	✓	✓	-	✓
Discuss Presentation	Teacher: Give feedback and comments.	Learners: Discuss and present results.	✓	✓	✓	✓	✓	✓	✓

Conclusion from the synthetic table: From the Case-Based Learning Process Synthesis Table, it was found that the Case-Based Learning Process Synthesis Table has 5 steps as follows:

1. Case Preparation (preparation) is for teachers to prepare case studies or simulations used in learning management and for students to understand the different cases or situations of the lesson content in which teachers need to prepare a variety of situations or case studies that are appropriate. Corresponds to the lesson content.

2. Multiple Perspectives (perspective step) is mean that the instructor gives a variety of perspectives or relevance of the case study or situation that has content consistent with the lesson. The learners must analyze those various perspectives in order to achieve learning and have knowledge and understanding of case studies or simulation situations.

3. Solutions Suggestion (recommended step) is for teachers to suggest ways to solve a variety of problems. Or suggest solutions for analyzing case studies or student simulations. In which learners are required to propose solutions to problems or solutions from case studies or various simulation situations in order to extend their knowledge.

4. Fact Decision (decision stage) is when the instructor raises theory or research related to case studies or various simulation situations so that learners gain perspectives or additional learning information to summarize and decide on the answer or solutions to problems arising in the case study.

5. Discuss Presentation (discussion, presentation) is for learners to discuss and present all past learning outcomes with case studies or simulations that learners have received. To teachers and other students to create opinions, and extending the idea to the maximum to the problem solving or solution that the learners have presented.

Table 3. Case-Based Learning Process with Hybrid Learning Elements Synthesis

Case-Based Learning	Hybrid Learning		Live-Streaming / Onsite	Learning Management System / e-Learning	Courseware / Interactive Content	Cloud Technology / Digital Media Tools	Online Examination / Test System
	Synchronous	Asynchronous					
Case Preparation	✓	-	✓	✓	-	✓	-
Multiple Perspectives	✓	✓	✓	✓	✓	✓	✓
Solutions Suggestion	✓	-	✓	✓	✓	✓	✓
Fact Decision	✓	✓	✓	✓	✓	✓	✓
Discuss Presentation	✓	-	✓	✓	-	✓	-

Conclusion from the synthetic table: Based on the synthesis of the case-based learning process with hybrid learning elements, it can be concluded that the steps consist of the following learning components:

Step 1: Case Preparation emphasizes on synchronous learning because instructors need to interact with students, which has various learning elements that consist of teaching and learning live-streaming or onsite, in conjunction with the use of Learning Management System or e-Learning, including the use of Cloud Technology and various Digital Media Tools.

Step 2 Multiple Perspectives that can be learned both Synchronous and Asynchronous because the instructor can provide learning information or case studies, including various simulations that are consistent and suitable for the lesson content using all 5 components.

Step 3 Solutions Suggestion that emphasizes Synchronous learning because teachers need to give advice. A variety of solutions or solutions to the various case studies or simulations that students receive. Which is a two-way communication between students and teachers using all 5 elements as well.

Step 4 Fact Decision can learn both Synchronous and Asynchronous because the instructor must raise relevant theories or research and facts of the case studies or simulations that the learners receive for students to analyze and make decisions using all 5 components

Step 5 Discuss Presentation that emphasizes Synchronous learning because teachers need to communicate and interact with students. The students have to discuss the results and present them to the teacher and students together, for expressing opinions and extending the body of knowledge which has various learning elements that consist of teaching and learning Live-Streaming or Onsite, in conjunction with the use of Learning Management System or e-Learning, including the use of Cloud Technology and various Digital Media Tools.

5. Result of the Research

5.1 Teaching and Learning Design Framework

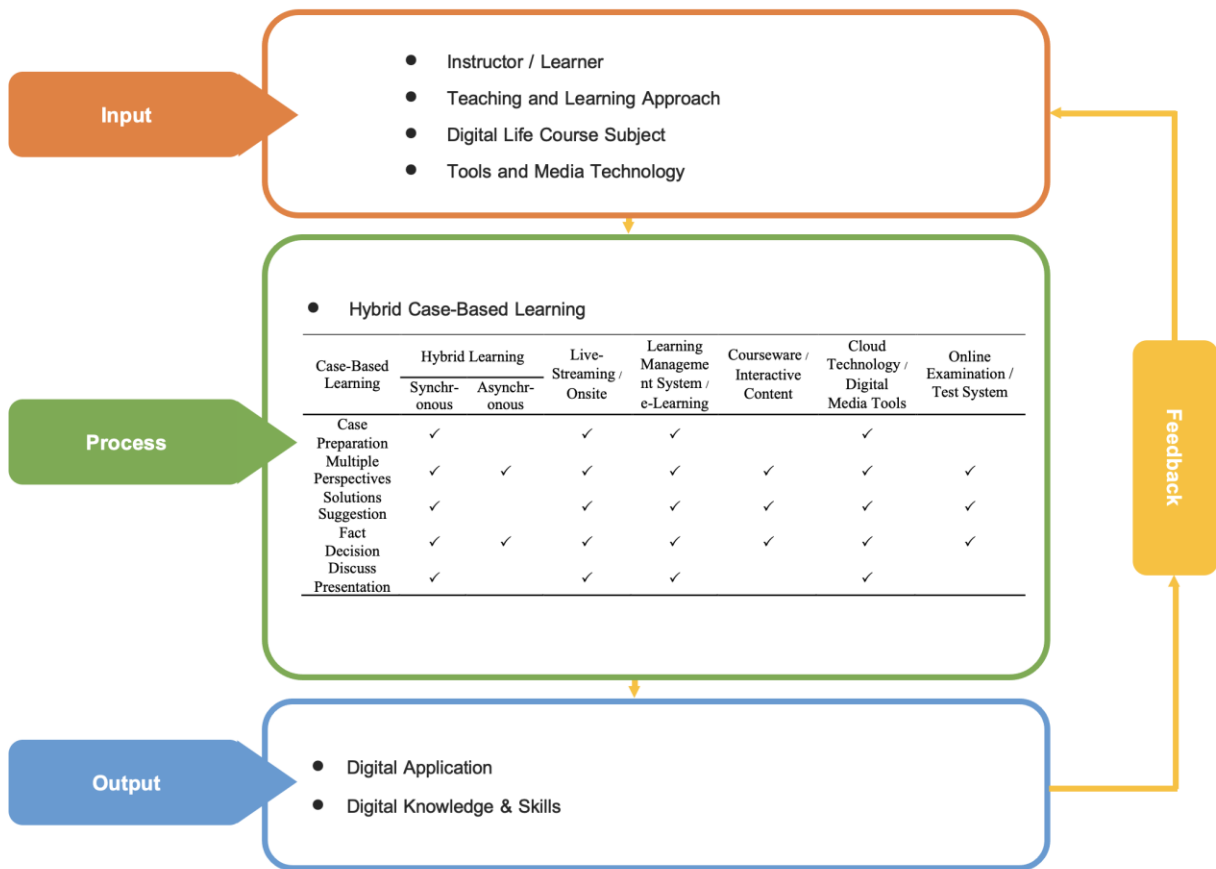


Figure 1. Teaching and Learning Design Framework

The results of the synthesis of the case-based learning process together with the hybrid learning, leading to the creation of a conceptual framework for instructional design that includes input, process, and output parts. to be further developed into a hybrid learning model with case studies for digital life subjects to further enhance knowledge and digital skills.

5.2 Hybrid Case-Based Learning Design for Digital Life Model

Hybrid Case-Based Learning for Digital Knowledge and Skills Teaching Model



Figure 2. Hybrid Case-Based Learning Design for Digital Life Model

Hybrid Case-Based Learning for Digital Life Model Design by referring to the synthetic table of case-based learning process with hybrid learning. The learning is divided into 5 steps, and there are learning components in each step as follows:

Step 1: Case Preparation emphasizes on synchronous learning because instructors need to interact with students which has various learning elements that consist of teaching and learning Live-Streaming or Onsite, in conjunction with the use of Learning Management System or e-Learning, including the use of Cloud Technology and various Digital Media Tools.

Step 2 Multiple Perspectives that can learn both Synchronous and Asynchronous. Because teachers can provide learning information, or case studies, including various simulations that are consistent and suitable for the lesson content using all 5 components.

Step 3 Solutions Suggestion that emphasizes Synchronous learning because teachers need to give advice. A variety of solutions or solutions to the various case studies or simulations that students receive which is a two-way communication between students and teachers using all 5 elements as well.

Step 4 Fact Decision can be learned both Synchronous and Asynchronous because the instructor must raise relevant theories or research and facts from the case studies or simulations that the learners receive for students to analyse and make decisions using all 5 components.

Step 5 Discuss Presentation that emphasizes Synchronous learning because teachers need to communicate and interact with students. The students must discuss the results and present them to the teacher and students together for expressing opinions and extending the body of knowledge which has various learning elements that consist of teaching and learning Live-Streaming or Onsite, in conjunction with the use of Learning Management System or e-Learning, including the use of Cloud Technology and various Digital Media Tools.

6. Discussion

Based on the results of the hybrid case-based learning design for digital life model, which divides the learning into 5 levels and has 5 levels of learning components, consisting of Level 1. Case Preparation Step 2. Multiple Perspectives Step 3. Solutions Suggestion Step 4. Fact Decision and Step 5. Discuss Presentation proposed resulting in a teaching and learning model for learners that is suitable for the Digital Life course and also answers the need for technology that can be used in conjunction with learning effectively because it is a blended learning technique. This is a teaching and learning management system that combines the advantages of online learning (Online Learning) and Face-to-Face learning together perfectly. Emphasis is placed on combining a variety of teaching methods to create interaction between learners and teachers. It also has a positive effect on academic progress, student satisfaction, and communication abilities. (Bamrungsetthapong et al., 2020) and (Sanpanich, 2021) In order to make teaching and learning effective and meet current technology. Combined with learning through case studies, it is a learning that allows students to experience an example situation or case (Case) that the teacher determines from the truth or hypothesis of the true story that is appropriate for the lesson content. This is in line with the statements of (Tadsawa, 2020) and (Kanthong, 2018) so that learners can develop critical thinking skills, make decisions, and solve problems found in those cases. Blended learning with case studies for Digital Life (Hybrid Case-Based Learning Design for Digital Life Model), it will be useful to both learners and teachers in the Digital Life course and appropriate to the current context and technology. Including helping to promote more efficient learning.

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