Teaching Model of Blended and Collaborative Learning in 2D Design Subjects Toward Learner Achievement

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Abstracts

The objectives of this research were 1) To find blended learning and collaborative learning strategy that is appropriate for classes in 2D graphic design. 2) To compare learners' achievements with their 2D animation and graphic design scores with the instructor's scores. And 3) to find the future development of this learning model. This instructional style was built on the foundation of individual, couple, and group projects. The sample used in the research was by specific random. This research's statistics were used for analysis by a pair sample *t-test.*

The statistical result found that there were three comparison parts in this research. In this investigation, there was no variation between the three comparisons. Whether it is a score comparison between the two subjects, a score comparison between the instructor's grade and the learners' grade for each subject, etc. Friends simultaneously serve as clients and graphic designers. The focus group's findings were divided into four categories: teaching and learning, self-simulation in the workplace, the number of assignments compared to grade, and practice learning. Most learners claimed that this was their first experience with this style of instruction. Every time learners receive feedback on their artwork, they will keep improving themselves.

Keywords: Blended Learning; Collaborative Learning; learner's Achievements

Introduction

In the traditional education method, after students graduated, they could not find employment; they had to complete training first. Because of the primary theoretical nature of education today, numerous organizations prefer to hire recent graduates who are prepared to work immediately or with minimal training. To meet workplace requirements, university teaching and learning must be changed to have a more practical focus. To get learners ready for employment, numerous topics must cut back on theoretical instruction and increase practical exercises. Therefore, various teaching techniques, are employed in the classroom to help learners understand and get superior learning results.

The practical approach to teaching and learning is critical in today's institutions. Many instructional techniques are employed in the classroom to address the COVID-19 spread issue. (Thongsawang, 2022 : 1049) A few years ago, face-to-face instruction was still the standard in Thailand, but today's online education significantly impacts learners and instructors. So numerous academies must change for the learners to realise their goals. Various learning methods were used in teaching and learning, including blended, collaborative, and cooperative learning.

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Blended learning is one of the twenty-first century's most widely used teaching and learning strategies. It is a breakthrough in education that blends several teaching and learning modalities. (Anchunda, 2022 : 957) It combines online networking and in-person networking, making learning more effective.

Multimedia students should be familiar with the fundamentals of media production design. In the past, design courses for teaching and learning have concentrated on learning theory. But in modern times, design philosophies are dictated by consumer demands. Even though the graduates are accurate in theory, let's say they need help to implement the designs or specifications given by the customers. The customers would not find the work attractive or acceptable in that circumstance. This research aims to simulate the events that must occur to meet client demands. Exercises in theoretical design are used as the first part of the instruction to help learners learn. Then, to determine the best learning style for 2D design, teaching methods like classes, online communities, face-to-face meetings, and other instructional techniques are used.

Research Objectives

1) To find blended learning and collaborative learning strategy that is appropriate for classes in 2D graphic design.

2) To compare learners' achievements with their 2D animation and graphic design scores with the instructor's scores.

3) To track the progression of students' grades when using a blended learning approach.

Hypothesis

H0 means the graphic score of the two subjects had no difference at the significance level of 0.05.

H1 means the graphic score of the two subjects differed at the significance level of 0.05.

Concept and Theory

Blended learning

Allen and Seaman (2010) said that Computer-mediated training and in-person instruction are combined in blended learning systems.

Graham (2012) said that b l e n d i n g instruction from two teaching and learning paradigms, including using computer-based technology, is known as blended learning.

Thungkanai (2021) concluded that the meaning means teaching and learning that is organized to blend face-to-face instruction using a mix of teaching techniques with online instruction using technology to enable learners to access information more rapidly, as shown in figure 1.

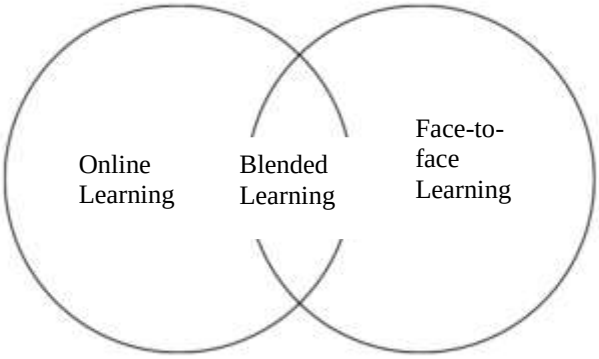

Figure 1 Model of blended learning
From https://limitlesseducation.net/

Collaborative learning

Collaborative learning management is planning to learn activities for students with a range of knowledge and skills. Work in groups with drive and a willingness to assume accountability for their responsibilities. Make the group's efforts go in the direction of the project's objective.

A problem-solving, task-completion, or product-creation activity is completed by a group of learners as part of the collaborative learning method of teaching and learning. This article aims to explain the fundamental idea of collaborative learning so that it may be understood while making sure that crucial factors are considered. The word collaborative learning refers to a teaching strategy in which students at different performance levels collaborate in small groups to achieve a shared objective. Positive interdependence, individual and group accountability, interpersonal and small group skills, face-to-face promotional engagement, and group processing are the five core components of collaborative learning. (Laal & Laal: 2011 : 491-495)

Clearly recognized positive interdependence, significant engagement, individual accountability and personal responsibility, social skills, and group self-evaluation are the five fundamental components of collaborative learning, according to Johnson et al. (1990 : 507-516).

Boa (2018 : 81-89) developed the BSMT model from blended learning to help develop the learner’s critical thinking abilities. They divide critical thinking abilities into six categories. They employed a variety of engaging activities in their online teaching and learning, including group projects, group presentations, and collaboration. The findings showed that the BSMT model may apply to real-world work settings and can be used in classroom instruction. Online education was crucial for changing the classroom to better suit today’s digital native learners’ preferred learning methods.

Vesisenaho et al. (2010 : 272-283) used information and communication technologies to support collaborative learning and blended learning. Social software was utilized during face-to-face instruction. Learners might pursue their education anywhere they liked. They divided it into two independent case studies. The findings showed that lecture-based instruction outside of the classroom is supported by online learning. They continued to claim that it was

challenging for the instructor to plan and deliver classes in line with collaborative learning ideas.

Research Method

This study looked at quantitative and qualitative methods to compare the score. (Thanudca, 2021) It also investigated sophomore students' perceptions of multimedia courses. The topics of this study are 2D graphic design, specifically the creation of 2D graphics and 2D animation, which are divided into two categories.

Learners must first design a single project for animation classes. The learners should work in pairs and finally, as a group to analyze the score's trend. Some learners may have fantastic creative ideas but need to gain the sketching skills necessary to communicate their ideas suitably to consumers. As a result, group or pair projects will produce better results and more effectively satisfy consumers.

The first step to designing oneself on paper is taking a course in visual design. Bring the completed design pattern to the picture graphic design tool to create. In the next step, each learned designs on a sheet of paper. Then, randomize it using a friend's other work. This practice represents the circumstance that would ensue if learners were to work as graphic designers and were required to complete their work according to the specifications of their customers. Friends in the room are designed similarly to customers, each with unique requirements.

The instructor gives the assignment, and each learner completes the identical task, which differs this method of instruction from traditional instruction. This kind of instruction is comparable to turning one learned into a customer and having a random learner use a friend's design as a graphic designer, who then must produce a piece of artwork by the customer's specific requests.

The score is collapsed into four parts. The first three sections are the instructor's evaluations. The first part is a paper design. The score that is generated by the graphic program is the second part. The presentation score is three parts. The final component is a rating given by friends who are like customers to friends who are graphic designers. The evaluation criteria contrast the drawings produced by the graphic design software with the designs that the customer requests. Get a high score if anyone can achieve the same or fulfill the conditions. The grades for the instructor's and the learner's designs were then compared to determine whether there was a difference.

In this research is separated into three phases: individual work, pair work, and group work under the same circumstances (Bunluepornsak: 2013), as can be observed from the learning strategies indicated above. However, the concepts of presentation and design are distinct. This will be a paradigm of learning like Figure 2. There will be an instructor for each of the three stages, beginning with face-to-face instruction in the classroom, to educate fundamental design theory. The duties for each pair or group became increasingly unique and couldn't be matched in class, so the instructors began offering guidance online. When the learners have previously received advice, they use those ideas to make changes to the work they create. Learners graduate from the instructor's online guidance since they do not need to wait until the next class to get feedback from the instructor. If the instructor and the student are both available, they can promptly offer advice. The advantage of blended learning that increases learned productivity is this.

The sample group was given a self-evaluation after the assessment so that the learners may attempt to evaluate their proficiency level. The results of the instructor's evaluation and the learners' self-assessment were then compared to determine whether there was a difference in the results. The self-evaluation tests' issues cover four areas: learning style, knowledge and understanding, design, and application.

After the researcher had completed the self-assessment form, three professionals provided the IOC values and then changed the questions following their recommendations. Then test it out on third-year learners who have finished both courses to get the Cronbach alpha value and measure the self-level assessment of confidence. The assessment form can be utilized further once all necessary information has been received.

Research Framework

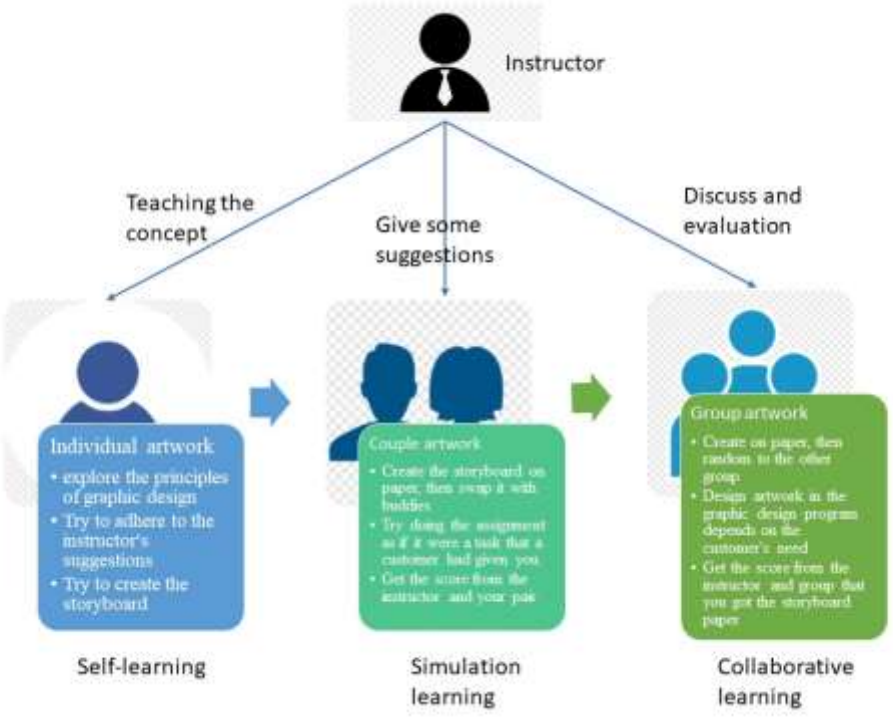

Figure 2 Learning Model from blended learning and collaborative learning in this research

Participants

Ten college sophomore students from Bangkokthonburi University made up the study's sample. Because there were students from two disciplines, who had enrolled this semester and frequently attended the class, they were purposefully sampling.

Result

Table 1 The comparison of achievement between 2D graphic design and 2D animation subjects with a pair-sample t-test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Graphic-Animation	2.700	4.138	1.309	-.260	5.660	2.063	9	.069

Note: *$p < .05$, two-tailed.

Table 1 shows that the scores of both graphic design and animation subjects were not different at the level of 0.05 significance. There was no difference in the grades of the learners' creations for either images or animation.

Table 2 The comparison of achievement between the self-assessment of the learners and the score from the instructor with a pair-sample t-test in 2D graphic design subject

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Score-Learning	-.225	.637	.201	-.680	.231	-1.117	9	.293
Score-Understanding	.175	.835	.264	-.422	.772	.663	9	.524
Score-Using	.100	.806	.255	-.476	.676	.392	9	.704
Score-Designing	.300	.752	.238	-.238	.838	1.261	9	.239

Note: *$p < .05$, two-tailed.

According to Table 2, there was no difference in the learner's and the instructor's scores at the level of 0.05 significance, indicating that both groups assigned the same grades to the artwork.

Table 3 The comparison of achievement between the self-assessment of the learners and the score from the instructor with a pair-sample t-test in 2D animation design subject

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Score-Learning	-.075	.659	.208	-.546	.396	-.360	9	.727

Score-Understanding	.350	.664	.210	-.125	.825	1.667	9	.130
Score-Using	.360	.847	.268	-.246	.966	1.334	9	.212
Score-Designing	.440	.642	.203	-.019	.899	2.168	9	.058

Note: *$p < .05$, two-tailed.

The result from table 3 found that the score between the self-assessment of the learners and the instructor was not different at the level of 0.05 significance, which means both instructor and learners gave the score from the animation in the same way.

The Result From the Focus Group

Surayothin, Jongkonklang, and Pinthuto (2022 : 226-235) used the focus group technique to find qualitative answers and content analysis of curriculum administration and learning management of the teachers. In this research, the researchers used the focus group technique to classify the conversation topics for the focus group into four categories: teaching style, self-simulation in a virtual workplace, amount of learned assignments compared to grading, and practice-based learning.

To teach and learning

According to the sample group's findings, this was the first time they had received this kind of instruction. It is a class where the instructor teaches the principles and practices of utilizing software for designing and producing final products. It emphasizes putting effort into practice and improving individual performance. If the learners have issues or questions, the instructor will offer case-by-case guidance, as each person's design contains a unique set of components. Consequently, it can't need to overview of the issue. After receiving the suggestion, the learners can use it in their current and future work. Having conversations or receiving learner comments enables the artwork's creator to acquire more varied viewpoints. It is blended learning and may apply to other disciplines or in future jobs. Learners can also learn how to create creatively or to satisfy the wants of their customers. have gotten familiar listen with no to simple concerns, such as customers' feedback on the items created by the design software through their work, which is simpler for the learners to comprehend than the instructor lecturing in front of the class. Additionally, because the learners designed and created the artwork, they will be more aware of its value. Additionally, there are some recommendations from learners who want to bring the works from other sources, such as locating works from the Internet, books, and magazines and bringing them to learners and instructors for discussion to generate a more diversified perspective. And so that they might use these talks in their subsequent efforts.

Self-simulation to represent a work environment

According to the sample's outcomes, learners improved upon errors or problems by asking instructors and classmates for help. Learning from other people's designs and acquiring experience in various methods are just a few examples. Additionally, learners practice acting out the role of a job evaluator so they may learn from a new viewpoint. Alternately, learners who are reviewers must take great deliberation before grading, considering the suggestions. The learners were previously the ones who were evaluated, even though this was the first time they had discovered a circumstance like this. This type of instruction offers unique, future-relevant experiences. This involves more excellent self-improvement than doing the exercises

at the end of class or completing homework, as usual. Learners take pride in their work when they receive commendation from peers and instructors, as seen by the rise in grades for each assignment. Many other educators who have witnessed this style of instruction agreed that learners are more excited about learning practical skills than theoretical ones because of the prompt feedback learners receive in their work. By comparing the number of students in the classroom to other subjects, you can see if learners are motivated to attend when they recognize the value in their work.

In terms of the quantity of assignments given to learners compared to scoring

The sample's findings demonstrated that the learners were delighted with the workload relative to the rating. The assignments are appropriate for the grades and time allotted. Agreements between the learners and the instructors are created, and the criteria are clearly stated. In contrast to other topics where the scoring standards are predetermined, there is freedom in the scoring. Since the start of the study, the learners have agreed to the instruction conditions in this manner. The activities that must be completed will range in difficulty, giving the learners gradually more experience. It involves more than one element of the instructor while grading. Because the choice of how to view the design work varies on the person. Peer grades facilitate a more balanced grading. A fair rating is obtained by using friend ratings. Nobody supports a buddy by awarding a perfect score. Friend evaluations are based only on the work itself, without regard to any flaws or improvements that may have been there. The scores are the same as what the instructor assigned, as shown in Table 3. Additionally, there are specific recommendations for the type of work that prioritizes quality above quantity. Resulting in little effort, but each project will have a set of uniform grading standards.

The aspect of learning that focuses mainly on practice

The sample group's findings revealed that emphasizing practice mainly increases work experience rather than studying theory, making it simpler to understand because they have already done it. Learners examine the information to gain a clearer understanding. Specific ideas must be learned before action is taken at the conclusion. Still, the learners will receive various advice in each situation to continue developing the task. Because of the focus on knowledge and concepts, it will only significantly impact the first teaching approach. Most learners will need help to see a big idea. Learners will comprehend the work better and perform more quickly if they are given hands-on experience while the theory is gradually introduced. It is a method of instruction that emphasizes training over learning. Although some recommendations claim that learners need a foundation in design before meeting realistically, they are not accustomed to this type of education; learners can work in the future more confidently. They are gradually changed to provide improved performance.

Discussion

According to the research findings, there was no difference in the learning outcomes for students who studied both topics. It demonstrates that additional disciplines may be taught using this method. There is also a self-evaluation tool for learners. There was no difference in the points provided by the instructors in the examination of all 4 characteristics, indicating that the students had learned their own limitations by not over-scoring. Typically mostly, student self-ratings outperform instructor ratings. because learners frequently evaluate their own work extremely highly and are proud of it. However, when students obtain feedback from their instructors and peers, they rank themselves lower. Therefore, the scores were not significantly different according to Tables 2 & 3.

Conclusion

The research's learning approach is built on blended and collaborative learning. Emphasis on a variety of learning methods, both face-to-face and online. Starting with working independently, with partners, and in groups. By applying the identical learning model, the learners' scores in the still image and motion picture design subjects did not differ significantly at the.05 levels. Additionally, the grades that the instructor and the learners themselves rated were the same. There was no difference between the subject-specific self-assessment ratings and the instructor's performance evaluation scores.

Recommendation

Most recommendations were obtained through classroom observations, and according to focus group findings, there were 1) According to the research's findings, learning outcomes in design subjects—both visual and animation subjects—were comparable. Since varied learning outcomes indicate that the learning style is only appropriate for certain subjects, this learning style may use. 2) Learning management emphasizes practice over theory, so some learners must become more familiar with this kind of instruction. However, learners will become more engaged in teaching once they see the benefits of instruction. 3) To demonstrate that this teaching method is effective, it should teach and learn numerous design disciplines by upholding a student-centered attitude and emphasizing practice as the primary. 4) When utilizing different teaching and learning methods, it is also essential to consider the subject's context, allowing learners to accommodate to new learning methods. Additionally, instructors must always listen to learned comments to assess if the teaching strategy is effective for the subject and to improve instruction. 5) Much technology has been developed recently to aid teaching and learning. As a result, learners may always use online channels to raise questions or make comments. It also encourages learners to be motivated to improve their work outside of the classroom.

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