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THE EFFECT OF A COLLABORATIVE EXPERIENTIAL LEARNING MODEL USING THE DIGITAL MARKETPLACE TO ENHANCE THE DIGITAL ENTREPRENEURSHIP OF UNDERGRADUATE STUDENTS

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Abstract: Internet technology has transformed traditional commerce, resulting in entrepreneurship becoming digital entrepreneurship. Consequently, a learning process that encourages learners to enhance their digital entrepreneurship is essential for the 21st Century. This research aims to study academic achievement by utilizing the collaborative experiential learning model using the digital marketplace and comparing academic achievement. The research approach is divided into 2 phases: a study of academic achievement utilizing the collaborative experiential learning model using the digital marketplace and compare academic achievement with more traditional learning approaches. The sample groups consisted of three groups. The participants were selected using random cluster sampling. Data collection was done using pretest-posttest and the standard deviation (S.D.), t-test, and one-way analysis of covariance (ANCOVA) of the data were used for statistical analysis. The research results found that: the academic performance of the learner group utilizing the collaborative experiential learning model using the digital marketplace was higher than that of the learner groups using the collaborative experiential learning process and the traditional instruction method. In addition, each of the groups considered exhibit a different academic achievement. The fact that there is higher academic achievement utilizing the collaborative experiential learning model using the digital marketplace shows that instructors can use this model for instruction purposes.

Keywords: collaborative experiential leaning, digital marketplace, digital entrepreneurship

Introduction

A suitable learning in the 21st Century is Collaborative Experiential Learning (Trongtorsak *et al*., 2021) in that it is one which creates knowledge through exchanging experiences. It emphasizes the creation of an experience that facilitates self-learning by gaining experience before learning, taking what has been observed and considering it in small groups in order to discuss the results (Laal *et al*., 2013; Kolb, 2014; Kang and Chen, 2016; Shiralkar, 2016; Pangestu *et al*., 2019; Neto and Fernandes, 2019).

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The rapid growth of information and communication technology (ICT) is increasingly affecting all areas of life. This means that it is essential for education to undergo widespread changes (Shawky *et al*., 2014) and to incorporate new technological phenomena that influence peoples' final decision-making concerning their business, marketing, and career activities in different organizations (Kuandee *et al*., 2019). Additionally, digital technology changes how people do business and create start-ups (Vorbach *et al*., 2019). What is clearly different is the emergence of the Digital Marketplace. It has transformed many business processes in almost every sector (Anshari *et al*., 2019). It is a channel for transactions through platforms on the internet. There is now a massive collection of merchandise and shops which act as a medium for buying and selling products (Cruz-Cunha *et al*., 2013; Fajar and Sandhyaduhita, 2016). Digital technology has resulted in digital entrepreneurs' creation. This is a phenomenon that occurs through the adoption of technology assets such as the internet and the use of information and communication technology.

In the past few decades, digital technology has been widely used in global society. Moreover, it is now applied at all levels of education. These digital technologies are creating attractive innovation opportunities for entrepreneurs (Vorbach *et al*., 2019). A Digital Entrepreneur is an entrepreneur who can use digital media and technology to develop management and business strategy, and who can build competitiveness by applying the knowledge of technology to improve the traditional business processes, according to Welsum (2016), Sussan and Acs (2017) and Guthrie (2014).

Research Objectives

The objectives of this research are:

1. To study the academic achievement based on collaborative experiential learning model using the digital marketplace.
2. To compare the academic achievement based on the collaborative experiential learning model using the digital marketplace with more traditional learning approaches.

Research Methodology

The research process was divided into two distinct stages as follows:

Stage I – A study of academic achievement based on a collaborative experiential learning model using the digital marketplace.

Stage II – A comparison of academic achievement based on the collaborative experiential learning model using the digital marketplace with more traditional learning approaches.

1. Research Design

This study utilized an experimental research design involving matching the pretest-posttest results. The three groups used consisted of one control group and two experimental groups; were both experimental groups given special treatment. Details are as shown in Table 1.

Table 1. Matching Pretest- Posttest

Group	Pre-test	Treatment	Post-test
Group A (Experiment)	O_1	X_1	O_2
Group B (Experiment)	O_1	X_2	O_2
Group C (Control)	O_1	-	O_2

Before conducting this experiment, three sample groups were chosen - Group A, Group B (experiment group), and Group C (control group), were given the same pretest questions. The purpose of pretest was to observe the students' initial conditions before providing treatment in the experimental group and the conventional treatment given to the control group. Group A's treatment is a collaborative experiential learning model using the digital marketplace, group B was a collaborative experiential learning process while group C (the control group) was taught using conventional media. After the treatment was undertaken, all the three groups were provided with the same posttest questions.

2. Participants

This study participants were undergraduate students in the second semester of the academic year 2019 of Chandrakasem Rajabhat University, Thailand. The participants were divided into three groups. The allocation to groups was based on Cluster Random Sampling.

3. Research Instrument

- The collaborative experiential learning process for enhancing digital entrepreneurship
- The collaborative experiential learning model using the digital marketplace to enhance digital entrepreneurship
- Course handout
- The Digital marketplace
- Digital marketplace manual
- Multiple-choice Pretest Posttest questions (40 items) each consisting of four options.

4. Data Analysis

The statistics used for data analysis were mean, standard deviation, t-test, and one-way analysis of covariance.

5. Research Hypothesis

This research presented the research hypothesis as follows.

Student groups learning by a collaborative experiential learning model using the digital marketplace, a collaborative experiential learning process and learning through traditional instruction methods had different academic achievements.

Research Results

Academic achievement based on a collaborative experiential learning model using the digital marketplace

The participants were pretested and posttested. The changes made by the learners participating in the study are described in this section. Details are provided in Table 2

Table 2. The result of participants' pretest and posttest scores

		N	Mean	Std. Deviation
Group A (Experiment)	Pretest	30	14.93	5.54
	Posttest	30	32.27	4.72
Group B (Experiment)	Pretest	30	13.13	5.30
	Posttest	30	24.33	4.67
Group C (Control)	Pretest	30	11.20	4.60
	Posttest	30	21.07	4.92

From Table 2, the posttest scores show that the mean of the experimental group (Group A) was 32.27, and the standard deviation (S.D.) was 4.72, while in terms of the pretest scores, the mean was 14.93, and the standard deviation (S.D.) was 5.54. The results with regard to the posttest scores show that the mean of the experimental group (Group B) was 24.33, and the standard deviation (S.D.) was 4.67. Finally, with regard to the pretest scores, the mean was 13.13 and the standard deviation (S.D.) was 5.30, while for the posttest scores the results show that the mean of the control group (Group C) was 21.07, and the standard deviation (S.D.) was 4.92 while for the pretest scores, the mean was 11.20 and the standard deviation (S.D.) was 4.60.

Academic achievement comparison result

Covariance analysis (ANCOVA) was used to compare the three groups' achievement scores. The pretest score was used as a covariate. Details are provided in Table 3.

Table 3. Results of analysis of covariance for the groups' achievement scores

Source	Type III Sum of Squares	df	Mean Square	F	Sig
Group*Pretest	1193.758	1	1193.758	130.508	.000**
Group	1113.252	2	556.626	60.853	.000**
Error	786.642	86	9.147		
Total	3970.889	89			

**p<.01 (R Squared = .804, Adjusted R Squared = .797)

In terms of the results in Table 3, the covariance analysis results comparing academic achievement found that F (2, 86) = 60.853, p = .000 <.01. This shows that all groups had an academic achievement mean score that was statistically different at a significance level of .01. The researcher then made a pairwise comparison using the LSD method. The values are as shown in Table 4.

Table 4. Result of analysis pairwise comparisons using LSD method

(I) Group	(J) Group	Mean Difference (I-J)	Std.Error	Sig.
E1	E2	7.933*	1.232	.000**
	C	11.200*	1.232	.000**
E2	E1	-7.933*	1.232	.000**
	C	3.266*	1.232	.010*
C	E1	-1.200*	1.232	.000**
	E2	-3.266*	1.232	.010*

** p<.01 *p<.05

The result of pairwise comparisons of the three different pairs is as follows:

- The academic performance of the participants of Group A and Group B are different.
- The academic performance of the participants of Group A and Group C are different.
- The academic performance of the participants of Group B and Group C are different.

Discussion and conclusion

Based on the results, the academic performance increased in all three groups. The mean scores of the participants in group A, group B, and group C at the pretest stage were 14.93, 13.13, and 11.20, respectively, which changed to 32.27, 24.33, and 21.07 respectively in the posttest. The results of the ANCOVA analysis, showed the significance value was 0.0000 (p<.001).

This mean that there is a difference in academic performance between the learners who learned as a result of the collaborative experiential learning model using the digital marketplace to enhance digital entrepreneurship, those who learned as a result of the collaborative experiential learning process for enhancing digital entrepreneurship, and those who learned through traditional instruction methods. The participants of group A had an academic performance mean score higher than that of the participants in group B. The participants in group A had an academic performance mean score higher than that of the participants of group C, while the participants of group B had an academic performance mean score higher than that of the participants of group C.

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