

Career Skills and Entrepreneurship for Students by Collaborative Project-Based Learning Management Model

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Abstract

The research titled career skills and entrepreneurship for students by collaborative project-based learning management model aimed to study the results of learning management to develop students to have career skills and entrepreneurship by collaborative project-based pedagogy. The population consisted of 15 undergraduates who were teacher students at the Business Education Program, the Faculty of Education, Chiang Mai University, Thailand. This group of students had to attend an internship at schools after enrolling in this course in, and they had to teach career subjects at schools. The instruments used for data collection consisted of a lesson plan for the self-employment course, a behavior observation form, a journal form after teaching, student products from assignment tasks, students' reflections in a journal, an in-depth interview, a focus group, and a questionnaire to gauge the level of satisfaction of students, writing and presenting reflections on students' learning, and projects evaluation. The research separated students into three groups upon their interests, each group was composed of 5 students volunteer, they learned better in a small group. Students learned the theory of the self-employment program and the principles of project work step by step. After that, students studied field trips for data collection from career surveys and entrepreneurs' interviews, and a special lecture from an entrepreneur, students conducted self-employment projects for selling products both on-site and online, then analyzed the results presented, to listen to suggestions for improvement, and developed knowledge and skills on the self-employment program. Data were analyzed by using content analysis, statistical calculation, and percentage, and were presented in the form of a description and table. The findings showed the results of the collaborative project-based learning to train students to have career skills and entrepreneurship and conduct projects for selling products successfully. The students had a change in their attitudes, behaviors, knowledge, career skills, and experiences in conducting self-employment projects, and their satisfaction with collaborative project-based learning showed at the highest level (100%). Students were satisfied with the project-based learning at the highest level (90%). and especially the opportunity to gain knowledge and experiences from conducting self-employ programs at the highest level (95%).

Keywords: career skills, entrepreneurship, project-based learning, learning management

1. Introduction

Preparing students with specific skills necessary for success in the workplace is a common goal of all university programs. Most skills necessary for success in the workplace might be specific to each discipline, many soft skills are valued by most employers are communication, problem-solving, being a team player, and leadership skills (Crawford et al., 2011). The self-employment program course is open since 2002 for all undergraduate students at Chiang Mai University Thailand to enroll in their major elective or free elective courses. This course aims at developing students to have knowledge and career skills in self-employed content and project work including selling product experiences. Even though the course was lecture-based but the instructor had designed the students' practice section before the final examination due to fulfilling the students' experience. The instructor has designed teaching and learning by using collaborative and project-based learning. The course always improved the instruction based on students' capacity and interest. To understand the self-employment program techniques, students have to do the assignments with a group of students in the classroom,

brainstorming, sharing their opinions, and discussing to be active learners and gain career skills and entrepreneurship experiences.

In any courses aiming to support students in gaining knowledge and skills for implementation in daily life, students have to get the chance to practice or learn by doing through project-based learning as individuals or groups. Project-based learning is a learning method of how translating theories into practice and covers both academic principles and practice (Mantawy et al., 2019). To encourage students to become involved with materials that they are interested in through inquiry means that students must learn by doing to achieve a result or finding by questioning, exchanging, sharing, planning, designing, expecting, experiencing, data collecting, data analyzing, concluding, communicating and presenting those findings. Havice et al. (2018) suggested that project-based learning assists learners to practice skills such as communication, presentation, collaborative working, work management, data inquiry, evaluation, critical thinking, and problem-solving. Therefore, project-based learning is appropriate for teaching and learning management, especially for higher education levels (Alamri, 2021). The benefits of project-based learning were found for more demanding tasks or tasks that students likely had the least experience in performing practice. Additionally, project-based learning expressed advantages in facilitating engagement with course content and learning resources outside the classroom (Randazzo et al., 2021). Falcione et al. (2017) agreed that collaborative learning supports assignment tasks and activities, as well as allows clarification of instructor and student roles. Moreover, collaborative learning supports student learning because students will work actively and will learn with a high degree of responsibility in an atmosphere that supports and encourage learning (Estébanez, 2017). Every element of each course, especially assignments and activities, is expected to occur step-by-step to support students to learn appropriately and gain important 21st Century skills, especially in the case of online collaborative learning via online social media (Abdul et al., 2020). Le et al. (2018) pointed to the five principles of collaborative learning, there are: 1) learning where students should engage in mutual assistance to achieve defined objectives 2) students working on an assignment as a working team 3) students working on an assignment to develop skills associated with social interaction 4) students preparing a work process analysis 5) students' learning outcomes—both individual and the group being inspected and evaluated. Educational institutions use collaborative learning as an appropriate method for assisting problem-solving learning and innovation (Baloche & Brody, 2017).

To conduct project-based learning, an instructor has to advanced plan the process of teaching and learning carefully and precisely before implementation, by following these steps: 1) prescribe the content and determine the goal of the skills and issues that the instructor needs students to know and apply; 2) develop the occurrence of the output by linking back to the process and how to present it; 3) prescribe the planning and the scope of the project, its duration, and its evaluation; 4) design teaching and learning activities plans to support project-based learning, including contents and the necessary skills; and 5) engage in project-based evaluation (Havice et al., 2018).

However, all learning designs must be relevant to promoting students' thinking skills and be realistic in practice. The research on the project-based learning process in vocational education advised five steps: preparation, prescribing the topic of the student's project, creative designing, evaluating, presenting the output, and evaluating the project (Nilsook, et al., 2021). By principle, project-based learning needs to be designed carefully so that students do the project in groups with appropriate numbers between 5-8 persons. Students must learn together in designing the methods for data collection and engaging in data analysis for writing the project themselves under the supervision of the instructor. Before implementing their projects, students must present them for approval and comment. Students must conduct their projects according to the plan, and some projects are involved with the target group, such as students at school or in communities. Students must evaluate the projects and present the results of the project-based learning. Project-based learning refers to learning through doing activities and producing creative products systematically and learning that supports students in self-development. The instructor designs the learning process step by step and plans the content, the objectives of learning, and the output, including outcomes. Students need the real situation for practice experiences. Project-based learning is appropriate for vocational education in Thailand since it develops skills in students appropriate for the 21st Century such as problem-solving, creativity, teamwork, critical thinking, and collaborative working including communication especially to be entrepreneurs. The researcher must collaboratively design project-based learning for students to learn from real situations by doing the project (Juuti et al., 2021). Project-based learning could be conducted by collaboratively working in normal classrooms and communities (Hasni et al., 2016).

Project-based learning is used at higher education levels to support students to develop thinking skills, problem-solving skills, and complex questioning (Pinto & Vasconcelos, 2021) including problem-solving in the

classroom and in practice situations. When raising questions as the main method project-based learning can also be the method for problem-based learning (English & Kitsantas, 2013). In addition, using simulation and demonstration in project-based learning seems also to be effective (Lee & Son, 2021).

This designed learning management model supported student learning based on experience in terms of course content through project-based learning, to raise awareness on the part of the career skill and entrepreneurship and encourage collaborative working skills. Project-based learning supports students to be active learners. The research aimed to examine the results of collaborative project-based learning that is specially designed for students engaged in the self-employment program course involving conducting a self-employment project for selling products at the Vocational Education and Wellness promotion department building near the Chiang Mai University Demonstration School, the students at this school will be the customers of the students' selling projects. The researchers specially designed the learning model to support these groups of teacher students following the objectives of the Business Education Program that aims to support students to be business teacher at the schools or/and to be self-employed and staff in the business sectors and to statement of the European Commission (2006) pointed out that future teachers should change their approach to education emphasizing learning and the provision of new out-of-classroom experiences to students. Teacher education should equip teachers with the skills, knowledge, and attitudes necessary to enable them to provide students with innovative curricula, pedagogies, and learning environments that facilitate the acquisition of entrepreneurial competencies. This course was also to cultivate an entrepreneurial spirit of the students through the knowledge contents and practical experiences regarding the sell products projects. In this research, we designed learning activities following the business education curriculum that aims to support students to have career skills: planning skills, decision-making skills, communication skills, collaborative teamwork skills, information searching skills, problem-solving skills, and management process, especially time management, financial management on investment. Thus, the research questions in the study were: 1) What were the results of collaborative project-based learning that was designed for 15 undergraduates who are teacher students? 2) Did the teacher students satisfy with the model of teaching and learning to develop career skills and entrepreneurship successfully?

2. Related Literature

The researchers studied and analyzed articles, documents, and related research on the development of career skills and entrepreneurship for students by a collaborative project-based learning management model as follows:

2.1 Career Skills Learning

Undergraduate education is an essential role in shaping students' worldviews, behaviors, and career paths. The experiences as undergraduates study assist them to deal intelligently with the world and with societal problems. As these days fast-paced, highly competitive, knowledge-based global economy puts pressure on students to master subject matter knowledge and competencies. Some students self-employ and use their expertise for their own businesses; others seek employment elsewhere. Indeed, they need skills, knowledge, attitudes, and behaviors with which they can pursue their work and careers (Fischer, 2014).

Higher education levels have been entrusted with the role of developing leaders for a global society (Astin et al., 2000). Today's fast-paced, highly competitive, knowledge-based global economy puts pressure on students to master subject matter knowledge and competencies. After graduating, some students self-employ and use their expertise for their businesses and others seek employment elsewhere. In either case, they need skills, knowledge, attitudes, and behaviors with that they can pursue their work and their careers (Suvedi et al., 2016).

A nationwide comparative analysis of soft skills such as communication skills, decision-making, and problem-solving skills, self-management skills, teamwork skills, professional skills, experiences, and leadership skills (Crawford et al., 2011). Learning and thinking skills include dispositions, such as positive thinking, clarity in communication, inquisitiveness, questioning, and problem-posing, innovation, motivation, perseverance/grit, self-esteem, flexibility, creative thinking, responsibility, and self-directed and engagement in lifelong learning (Conley, 2014; Partnership for 21st Century Skills, 2009).

During the 21st century, the role of education especially higher education levels in preparing students have expanded beyond the local community to the global economy. Future citizens will need to be equipped with the knowledge, skills, and dispositions that are essential for successful entry into the 21th century workplace (DiBenedetto et al., 2016).

2.2 Entrepreneurship Learning

The entrepreneur technical term is defined as an individual undertaking risks, making plans, supervising and

monitoring, organizing and controlling the business him/herself (Viramgami, 2007). Being an entrepreneur or business person, one who is self-employed and who starts, organizes, manages, and assumes responsibility for a business him/herself, offers a personal challenge that many individuals prefer over being an employee working for others or someone else. Entrepreneurs accept the personal financial risks that go with owning a business but also benefit directly from the potential success of the business. Being an entrepreneur is viewed as an aversive career choice where one is faced with everyday life and work situations that are fraught with increased uncertainty, impediments, failures, and frustrations associated with the process of new firm creation (Campbell, 1992). As for the integration of entrepreneurship education into higher education, studies (Yemini, 2010, Barba-Sánchez & Atienza-Sahuquillo, 2018) point out its importance, so that 21st-century universities can become important engines of technological development and economic growth. Organize a special lecture by the outstanding entrepreneurs or field trip visit company that they are interested in, it is a good opportunity to get socialization to be entrepreneurs or change their attitude. Role models, in particular, can stimulate individual self-efficacy by providing vicarious experiences to students and by increasing positive emotional reactions to entrepreneurship (Karimi et al., 2013).

Shulman and Shulman (2004) suggested that learners at any level need to develop a wide vision of possibilities for accomplishment. They need the motivation to initiate and persist in those learning, the understanding to pursue such learning, and the skill to negotiate the complex participant structures of any serious and organized to instruction; such structures are all necessary for accomplished learning.

2.3 Project-Based Learning

The project-based learning is appropriate for teaching and learning management, especially for higher education levels (Alamri, 2021). The benefits of project-based learning were found for more demanding tasks or tasks that students likely had the least experience in performing practice or doing. Additionally, project-based learning showed advantages in facilitating engagement with content and learning resources located outside the classroom or university (Randazzo, Priefer, & Khamis-Dakwar, 2021). Le, Janssen and Wubbels (2018) proposed the five principles of collaborative learning, there are: 1) learning where students should engage in mutual assistance to achieve defined learning objectives 2) students working on an assignment as a working team 3) students working on an assignment to develop skills associated with social interaction 4) students preparing a work process analysis 5) students' learning outcomes - both individual and the group being inspected and evaluated under supervision. Educational institutions use collaborative learning as an appropriate tool for assisting problem-solving learning and innovation (Baloche & Brody, 2017). Falcione et al. (2017) pointed out that collaborative learning supports assignment tasks and activities, as well as allows clarification of both instructor and student roles. Moreover, collaborative learning supports student learning because students will work actively and will learn with a high degree of responsibility in an atmosphere that supports learning (Estébanez, 2017). The shared learning during a small group discussion in each group gives students the opportunities to engage in discussion, take responsibility for their own learning, and thus become critical thinkers (Camayang et al., 2021). Every element of each course, especially assignments and activities, is expected to occur step-by-step to support students to learn appropriately and gain important 21st Century skills, especially in the case of online collaborative learning via online social media (Abdul et al., 2020).

3. Objective of Research

This research aimed to study the results of collaborative project-based learning and learning activities specially designed for students engaged in the self-employment program course involving students' conducting self-employment projects for selling products both on-site and online.

4. Hypothesis of Research

- 1) The results of collaborative project-based learning and learning activities that were designed for 15 undergraduates who are teacher students at the Business Education Program showed satisfaction of the students at a high level.
- 2) Teacher Students are satisfied with the model of teaching and learning to develop career skills and entrepreneurship that is specially designed for them.

5. Scope of Research

Period of Study: the second-semester start from October 2020 – March 2021.

6. Methodology

Population: The population in this research consisted of 15 undergraduates who are teacher students who

studied in the Business Education Program, the Department of Vocational and Wellness Promotion, the Faculty of Education, Chiang Mai University, Thailand. All students had no experience in conducting any self-employed program especial selling products individually and with a group, so they were pleased, excited, and volunteers that an instructor assigned and planned in the second semester of 2020, it was the last semester before they will be taking the internship at the school for 1 year, for sure, they will teach the school students about career subjects.

Research Instrument: The instruments used in this study were: 1) Lesson plans for the 45-hour self-employment program course focusing on the meaning of self-employment, the objectives, the importance, the process of self-employment, and the method of doing the self-employed project, selling project evaluation, conclusion, and results. 2) An observation form on students' learning behavior, students' assignments, and questionnaires on student satisfaction with collaborative project-based learning. 3) Journal form after teaching focuses on student learning behavior, teaching problems, and problem-solving. 4) Student assignments and student self-reflection journals. 5) In-depth interview and focus group on every step of learning and 6) Questionnaire on student satisfaction regarding collaborative project-based learning and learning step by step based on a five-point Likert scale (from highest to lowest). All research tools were approved by three experts from the Business Education Program and the faculty. The researchers improved the tools according to the experts' suggestions before use.

7. Data Collection and Analysis

The results of the student's assignments and journals, journal content after teaching including students' responses to the distribution of the in-depth interview, focus group, and questionnaires regarding the self-employment projects conducted by the students were analyzed to conclude the research objectives that studying the outcome based on collaborative project-based learning and self-employed projects management. Data were analyzed by using content analysis, statistical calculation, and percentage, and were presented in the form of a description and table.

8. Results

To manage the collaborative project-based learning for the students who were teacher students, the instructor/researcher checked the student's readiness and experiences for learning, then realized that 15 teacher students enrolled in this course without experience in conducting self-employment projects and they have to teach school students on career subjects at school during their internship for 1 year (May 2021 – March, 2022). As the instructor teach this course for 20 years, all semester students were enrolled from different faculties, so the instructors considered individual differences of the students so each term the learning pedagogy was a different method to integrate into the collaborative project-based. For this semester, it was extraordinary that there were only teacher students enrolled in the course, and the instructor would like to support these students (who have to teach school students in career subjects) with their teaching techniques so the instructor designed more activities in the course than in other semesters. The instructor taught the content and skills required for the business students and the self-employment program course to be followed by lesson plans emphasizing student participation and work collaboration. The instructor observed the attitude and character of the students in the classroom process. The study found that, in terms of student outcomes, they could adjust well to the course and work with other classmates. The instructor explained the details and shared former experiences of working in business firms and self-employment for selling products in a former time and the experiences of the senior students who enrolled in this course before had done the selling products projects, with the use of pictures, and encouraged students to ask questions.

As the instructor used collaborative project-based learning and learning activities, students had an opportunity to do many activities within the semester, to make career surveying, listen to the selected entrepreneurs invited, and interviewed the interested entrepreneurs that they preferred. Collaborative project-based learning in this research allowed students to work together at every step of the project-based learning process. Student outcomes showed that they gained knowledge and skills, not only from the contents of the course that aimed to develop a self-employment project for selling products but also 21st Century skills such as communication, information and technology, critical thinking, planning, data collecting, and concluding, presentation, and working as a team especially career skills and entrepreneurship. For this collaborative project-based learning process, the 8 steps of students' learning were as follows:

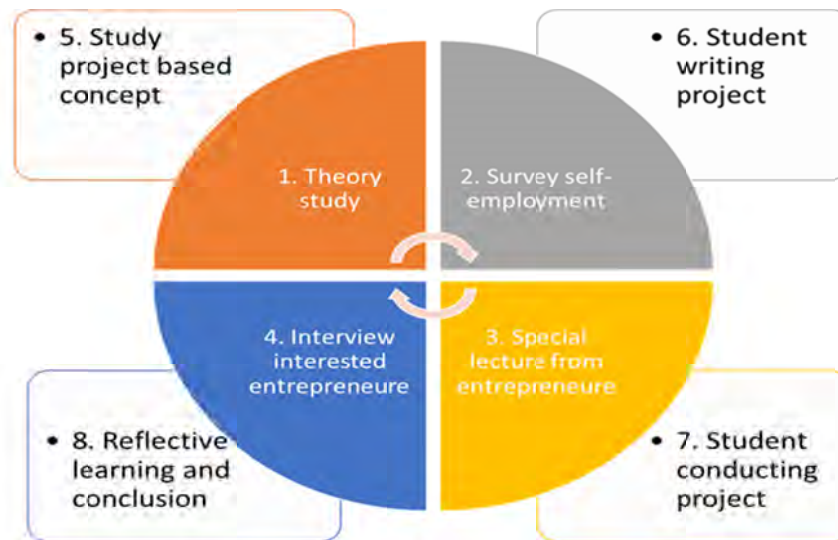


Figure 1. Career skills and entrepreneurship for students by collaborative project-based learning management model

Step 1. Students studied the theory of self-employment programs or small business conducting following the lesson plan as designed.

Step 2. Students did the assignment by surveying the self-employment or small businesses located in their dormitories area where students live, then each student presented in form of mapping. With this technique, students can learn the numbers of self-employment (frequency) and the kind of self-employment located around the university area or city, or community.

Students presented the self-employment survey and they learned about the kind of self-employment or small businesses conducted in the community near the university.

Step 3. Students listened to a special lecture from an entrepreneur in which students were interested. The entrepreneur was a woman who owns the Celadon factory and she has an additional career by making Thai traditional sweets, called “khāotom mat” (glutinous rice steamed in banana leaf). This business makes a lot of income and profit each day. Students had to ask the questions after that they had to summarize the content and learning outcome of the special lecture.

Step 4. Students did the second assignment by interviewing the entrepreneur that each student was interested in and easy to gain data. Before students did this task, they had to study the technique of the interview and skills and the appropriate manner for the interview. Students presented the task on interview the entrepreneur, starting with an entrepreneur’s information, and history of business setting, business management, success, and obstacle of the business, and students’ conclusion the interviewed business with the 7 Ps. (product, price, place, promotion, process, people, physical evidence).

Step 5. After mid-term, students studied the content of teaching self-employment program at school, the techniques for teaching career subjects, and designed the activities appropriate for students at the secondary level both lower and higher secondary levels, self-employment project writing, and project evaluation.

Step 6. Students were separated volunteer into 3 groups and students in each group worked collaboratively in writing the self-employment project depending on their interests and capacity. Students in each group had to present their draft of the project for approval. Students took suggestions on board from the instructor and classmates about improving the end product.

Step 7. Students conducted the self-employing project, 2 groups preferred to sell products on-site and 1 group preferred to sell products online. In the past semesters, students practiced selling products only onsite, right now online selling is very famous and updated. The money for investment in the practice, students borrowed from the instructor 1,000 baht (about 34 USD) for each group the students could invest more by sharing their own money, by the condition for practicing to be entrepreneurship, they had to make a profit of at least 20 %.

Step 8. Before finishing the course, students had to conclude and reflected on the self-employment projects and

presented the outcome of the projects, and gained the feedback from instructor and classmates.

For the practice of entrepreneurship, students from group 1 conducted a self-employment project for selling “Odeng”, poke, fish, and chicken balls. These two groups sold products on-site in the area of the Vocational Education and Wellness Promotion department building. The customers were school students of Chiang Mai University Demonstration School, instructors, and students of the department. The third group of students conducts a self-employment project on selling chili paste online for 3 days. The customers also were students’ university friends and instructors.

Students from group 1 conducted a self-employment project for selling “Odeng”, poke, fish, and chicken balls. They could earn a profit of about 520 baht. The products finished very quickly. The students said: “We should invest more than this, we did not know that we could sell it very quickly within 1 hour. Very excited that the school students bought us at the same time.” The data can be shown in Figures 2–4.



Figure 2. The first group of students sold “Odeng”; poke, fish, and chicken balls

The second group of students conducted a self-employment project on selling Grass jelly; an herb soft drink.

This group of students could earn 450 baht. The observation, the member of the group set the table was not attractive and kept quiet not invite the school students to visit their shop, so the instructor had to advise them again during practice (even told before practice), so school students bought the products.



Figure 3. The second group of students sold grass jelly; herb soft drink

The third group of students conducts a self-employment project on selling chili paste online for 3 days. The customers also were students' university friends and instructors. This group could earn a profit of 1,200 baht. Firstly, on the first day of selling, they used personal Facebook for selling the product, and less well-designed content on the Facebook page. The instructor and classmates gave the comments. The group created a new Facebook page for special selling the chili paste only and everyone had to post the content.



Figure 4. The third group of students sold chill paste online for 3 days

From the results of the analysis of the model of teaching and learning to develop career skills and entrepreneurship for students, the data can be seen in Table 1: Students' satisfaction with collaborative project-based learning and Table 2. Students' evaluation on career skills and self-employment project conducting.

Table 1. Students' satisfaction with the model of teaching and learning to develop career skills and entrepreneurship on different tasks

Model of Teaching and Learning to develop career skills and Entrepreneurship	Level of students' satisfaction					Total
	Highest	High	Moderate	Less	Least	
Survey self-employment	14 (93.33)	1 (6.66)	(0) 0	(0) 0	(0) 0	15 (100)
Listening the Special lecture from entrepreneur	13 (86.66)	2 (13.33)	(0) 0	(0) 0	(0) 0	15 (100)
Interview interested entrepreneur	15 (100)	0 (0)	(0) 0	(0) 0	(0) 0	15 (100)
Group working and conducting the project	15 (100)	0 (0)	(0) 0	(0) 0	(0) 0	15 (100)
Project conducting for career skills and entrepreneurship	15 (100)	0 (0)	(0) 0	(0) 0	(0) 0	15 (100)
Collaborative project-based learning	15 (100)	0 (0)	(0) 0	(0) 0	(0) 0	15 (100)

For the satisfaction with the model of teaching and learning to develop career skills and entrepreneurs, students showed satisfaction on tasks; interviewed interested entrepreneurs, a group working and conducting the project conducting for career skills and entrepreneurship collaborative project-based learning at the highest level (100%). For tasks on surveying self-employment and listening to the special lecture from selected an entrepreneur at the highest level (93.33% and 86.66% respectively).

Table 2. Students' evaluation of career skills and self-employment project conducted

career skills and self-employment project conducted	Level of students' evaluation					total
	Highest	high	moderate	less	least	
Planning skills	14 (93.33)	1 (6.66)	(0) 0	(0) 0	(0) 0	15 (100)
Critical thinking and information searching	14 (93.33)	1 (6.66)	(0) 0	(0) 0	(0) 0	15 (100)
Time management	15 (100)	0 (0)	0 (0)	(0) 0	(0) 0	15 (100)
Decision making	15 (100)	0 (0)	(0) 0	(0) 0	(0) 0	15 (100)
Teamwork and collaboration communication	14 (93.33)	1 (6.66)	(0) 0	(0) 0	(0) 0	15 (100)
Self-employment Project writing	14 (93.33)	1 (6.66)	(0) 0	(0) 0	(0) 0	15 (100)
Food producing	12 (80.00)	3 (20.00)	(0) 0	(0) 0	(0) 0	15 (100)
Food selling	15 (100)	0 (0)	(0) 0	(0) 0	(0) 0	15 (100)
Problem-solving	15 (100)	0 (0)	(0) 0	(0) 0	(0) 0	15 (100)

For the evaluation of career skills and self-employment projects conducted, students showed self-evaluation on all skills learned at the highest level. Separated into skills in time management, decision making, teamwork and collaboration, product selling, and problem-solving at the highest level with a full score (100%). For the skills in planning, critical thinking and information searching, communication, and self-employment project writing at the highest level (93.33%). For the skill of product producing, students showed the highest level (80.00%).

In addition, the finding from in-depth interviews and focus groups showed students' different perceptions towards their learning and how they thought about the experiences in the practice projects.

Example of student statements:

Student 1 presented: *"I am very glad to practice on the self-employed program on selling product the herb soft drink, we have planned, divided duties, time, of course, we are tired when many students buy our products at the same time. When it was finished, we are so happy to do this activity."*

Student 2 said: *"We have realized that to be an entrepreneur that does and sell products like a snake -poke, fish and chicken balls by ourselves have to use a lot of energy and strong mental health. We sell only one day, we get a good profit, so if we sell many days or a long time, indeed many profits return. This experience that we get from this course will be useful for us to teach school students during an internship at school in the next semester."*

Student 3 took a journal: *"Thank you so much that letting us sell chill paste online, we learn how to write the content and respond via Facebook, so excited that many friends support us by making many orders. So glad to get many profits from this activity."*

Student 4 reflected note: *"I am very happy to work on the selling product project that we have planned ourselves. To be excited to sell them out very quickly. The school students said our products were diligent. We were proud to do this practice. Thank you, professor, for designing the learning method, we were pleased"*.

Student 5 presented the project: *"We evaluated our project at a high satisfaction level because we could get a*

profit of over 20%. We had learned to work as a team, planning, doing, problem-solving, critical thinking, communication among the team and school students who were our customers.”

Student 6 added more data during the presentation: *“Studying this course, we had the confidence to teach school students about career and doing a small business. This course provided many teaching and learning techniques, including a career survey, listening to the selected entrepreneur, interviewing the interested entrepreneurs, and presenting and practicing section. We learned a lot of knowledge and experiences. Thank you so much, professor”.*

9. Discussions

In terms of managing collaborative project-based learning by group working or teamwork in this research, firstly, students in this study had no experience, knowledge, or skills relevant to conducting the self-employment program. However, when they understood that they could learn the theory and practice by following the process in the form of a collaborative working group, the students were able to develop and conduct the self-employment project themselves in line with the concepts of Chen et al., (2015), that they argue that collaborative learning is a part of project-based management since it needs mutual support and collaboration to achieve success. Students shared learning during small group work, this allowed students to engage in discussion, and take responsibility for their learning and duties, thus students became critical thinking and collaborative working (Camayang & Bautista, 2021). When students have an opportunity to conduct a self-employment project with team members, these experiences encourage students to develop social skills and teamwork (Ghavifekr, 2020). Concerning the results of this project-based learning, students were divided into three groups to conduct a self-employment project for selling products that aimed to support each student to take action in the self-employment project. Students worked together as small groups and had to brainstorm, exchange, sharing information and data to finish assigned tasks which was the goal of learning. In collaborative learning, instructors usually separate students into small groups and use a range of tools to support the activities (Halili et al., 2015). Collaborative learning and project-based learning can be used together. Research conducted at the higher education level indicates that collaborative learning supports students' learning processes; however, instructors must design it in such a way as to be challenging and set the appropriate activities for the selected students (Scager et al., 2016). Students can implement their experiences in their real life and future occupations because collaboration is also affected by the modes of communication that students use to collaborate with another (Yang et al., (2021). Research that studied collaborative learning among adults in the form of online learning found success using appropriate management and activities (Abedini et al., 2017). The instructor motivated the students in a kind manner and shared experiences about self-employment projects, while the students conducted many assigned tasks career survey on self-employment, listening to a special lecture and interviewing selected interested entrepreneurs with outstanding entrepreneurs attitudes. These role models, in particular, can stimulate individual self-efficacy by providing vicarious experiences to students and by increasing positive emotional reactions to entrepreneurship (Karimi et al, 2013). The students also presented the tasks and shared and brainstormed. The learning environment was one of discussion and sharing, supporting, and promoting students to learn and respond effectively to their duties in each group. It created social skills in line with the findings of Chatwattana and Nilsook (2017), project-based learning is appropriate for enabling students in vocational education in Thailand to develop 21st Century skills because this learning method helps them develop skills such as problem-solving, creativity, teamwork, critical thinking, collaborative working, and communication, especially to collaborative working on self-employment project (Isa & Azid (2021). Student satisfaction was shown at the highest level because collaborative learning creates positive experiences for students (Trongtorsak et al., 2021). Students expressed the opinion that they felt nervous at first about the self-employment project and the selling product, but finally, they found that they could collaborate well together because the instructor taught through project-based learning, step-by-step from theory to practice and assigned tasks. Indeed, the project-based learning method is a suitable teaching and learning practice in line with the development of education that requires skills to solve real-world problems among students. Students conducting the self-employment projects for selling products in this study were especially impressed by their experiences. The self-employment projects for selling products emphasize supporting students' career skills and especially entrepreneurship skills that which is an important skill in 21 Century skills (Bjursell, 2019). Project-based learning supported the students in terms of working collaboratively with classmates, and when they saw the customers buying their products and paid interest while participating in the projects, these behaviors encouraged positive thinking on the part of the students (Lynch et al., 2015). All members of the groups worked together enjoyably, engaged in good teamwork and effective planning, and were able to solve problems together under the supervision of the instructor, achieving all the objectives of the planned project with dignity (Mitchell & Rogers, 2020). Managing project-based learning in the classroom supports students in learning by doing, enabling them to produce results

using creative thinking on the part of the individual or the group. Additionally, students can develop skills such as planning, critical thinking, task management, problem-solving, and practicing skills (Eckardt et al., 2018). They can also transfer knowledge and skills from their learning in the classroom to self-employment projects (Granado-alc et al., 2020). Through conducting self-employment for selling products in three groups, the students' outcomes indicated their increased awareness and willingness to have career skills and entrepreneurship for teaching school students in the next semester that they had to internship course at school for 1 year, and teacher students were impressed with collaborative learning and working so, future teachers should change their approaches to education emphasizing learning and the provision of new out-of-classroom experiences to students. Teacher education should equip teachers with the skills, knowledge, and attitudes necessary to enable them to provide students with innovative curricula, pedagogies, and learning environments that facilitate the acquisition of entrepreneurial competencies (European Commission, 2006).

10. Conclusion

This study integrated collaborative project-based learning by students and the conduct of self-employment projects for selling products benefits the teacher students. One aspect of collaborative learning was the decision to divide students into three groups to conduct self-employment projects for selling products. The instructor had to let students choose group members based on varying levels of knowledge and ability under specific criteria. Additionally, to create active learning through collaboration, the instructor must also integrate other teaching methods to fulfill the aims of project-based learning. In conducting a self-employment program may be arranged for this activity in the schools for school students who still need these activities like this also. As the present research integrates two objectives, the outcomes appear to be both efficient and beneficial, and also relevant to the real world, as nowadays career skills and entrepreneurship are very important following the demanded 21 st Century skills. The study found that collaborative project-based learning had proven to positively influence the learning process of students. The students could master the content taught and had a positive impact on learning process in improving their learning achievement through project-based learning. In this learning that based on collaborative project-based learning, the instructor acted as a facilitator and motivator, so the main role in the learning process was the students themselves.

Recommendations for use of research findings

This article is useful for educators as the model can be implemented in the business education. The study can be applied with the development of collaborative project-based learning, to make teacher students learners learn career techniques and how to be entrepreneurs. However, the findings from this study focused on the self-employment project practices for the teacher students in the business education program only. The application of the research findings needs to be considered in terms of the particular context of each course or university because there might be some differences in the instructional management for students in different majors or sometimes, students who enroll in this course as a free elective, they might need less activity.

Recommendations for Further Study

For any other related studies, the researchers may study the collaborative project-based learning designed about the students in other majors or other courses like Mathematics, Sciences or Social Sciences, etc.

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