Effectiveness of Project-based Learning Implementation to Enhance Rangsit University Students' 4Cs of 21st Century Skills in Learning English
ประสิทธิภาพของการจัดการเรียนรู้แบบโครงงานเพื่อเพิ่มพูนทักษะ 4Cs แห่งทักษะศตวรรษที่ 21 ในการเรียนรู้ภาษาอังกฤษของนักศึกษามหาวิทยาลัยรังสิต

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บทคัดย่อ

งานวิจัยฉบับนี้เป็นงานวิจัยเชิงทดลองและพัฒนา มีวัตถุประสงค์ของงานวิจัย คือ 1) เพื่อสร้างเครื่องมือการจัดการความรู้แบบโครงงาน (Project-based Learning) ในการเพิ่มพูนทักษะศตวรรษที่ 21 (ทักษะ 4Cs) ผ่านการเรียนรู้ภาษาอังกฤษ 2) เพื่อทดสอบประสิทธิภาพและหาหลักฐานเชิงประจักษ์ของการเรียนรู้แบบโครงงานที่สร้างขึ้นในการเพิ่มพูนทักษะ 4Cs 3) เพื่อประเมินความพึงพอใจของนักศึกษาที่เข้าร่วมในการจัดการเรียนรู้แบบโครงงานที่สร้างขึ้น กลุ่มตัวอย่างเป็นนักศึกษามหาวิทยาลัยรังสิต ที่เรียนรายวิชา English at work โดยการสุ่มแบบเจาะจง จำนวน 75 คน แบ่งเป็นกลุ่มย่อย 12 กลุ่มตามความสมัครใจ เพื่อทดลองประสิทธิภาพการเรียนรู้แบบโครงงานที่ผู้วิจัยสร้างขึ้นจำนวน 5 โครงงาน หลังการเรียนทำการประเมินทักษะ 4 Cs โดยผู้วิจัย และการประเมินตนเองของผู้เรียน รวมทั้งผู้เรียนทำการประเมินความพึงพอใจและสะท้อนความรู้สึกต่อการจัดการเรียนรู้แบบโครงงานที่ผู้วิจัยสร้างขึ้นโดยการสัมภาษณ์เชิงลึก (in-depth interview) วิเคราะห์ข้อมูลเชิงปริมาณโดยใช้สถิติ ANOVA ที่ระดับนัยสำคัญทางสถิติ =0.05 และสถิติพรรณนาและวิเคราะห์ข้อมูลเชิงคุณภาพโดยวิเคราะห์เชิงเนื้อหา ผลการวิจัยพบว่า 5 โครงงานซึ่งเป็นประโยชน์ต่อการพัฒนาทักษะ ได้แก่ โครงงานเกมคำศัพท์ โครงงานด้านไวยากรณ์ โครงงาน A Talk of Technology, Education, and Design (TED) โครงงานด้านการฟังจากสื่อ และโครงงานการนำเสนอผลิตภัณฑ์ (Product Pitch Presentation) โครงงานที่นักศึกษาเข้าร่วมมากที่สุด คือ โครงงานการนำเสนอผลิตภัณฑ์ โครงงานเกมคำศัพท์ โครงงานด้านการฟังจากสื่อ โครงงาน TED และ โครงงานด้านไวยากรณ์ ตามลำดับ โครงงานด้านไวยากรณ์ และโครงงานด้านการฟังจากสื่อ เป็นสองโครงงานที่พัฒนาทักษะ 4Cs ได้มากที่สุดถึง 100 เปอร์เซ็นต์ ในขณะที่โครงงานการนำเสนอผลิตภัณฑ์ และโครงงานเกมคำศัพท์นั้น สนับสนุนให้นักศึกษาเพิ่มพูนทักษะการทำงานร่วมกันได้ 97.75 และ 96.5 เปอร์เซ็นต์ ตามลำดับ โครงงาน TED พัฒนาทักษะด้านความคิดสร้างสรรค์ได้มากที่สุดถึง 98.5 เปอร์เซ็นต์ จากสถิติพบว่า นักศึกษาพัฒนาทักษะอย่างหลากหลายวิธีการโดยไม่มีความแตกต่างอย่างมีนัยสำคัญจากผลสถิติ ANOVA ผลจากการสัมภาษณ์เชิงลึกพบว่า นักศึกษาส่วนใหญ่มีความพึงพอใจและเปิดมุมมองที่กว้างขึ้น นักศึกษาพบว่า สามารถนำทักษะ 4Cs ไปประยุกต์ใช้ในการทำงาน พัฒนาความสามารถในการรับฟังผู้อื่น และสามารถนำแนวความคิดและความรู้ไปประยุกต์ใช้ได้

คำสำคัญ : *การจัดการเรียนรู้แบบโครงงาน ทักษะ 4Cs แห่งทักษะศตวรรษที่ 21 การเรียนรู้ภาษาอังกฤษ*

Abstract

The objectives of this research were to 1) create a Project-based Learning tool to enhance students' 4Cs through learning English 2) assess the effectiveness and find the evidence of the created PBL projects to enhance the 4Cs of 21st century skills 3) study the participant's satisfaction with the created PBL projects. The sample was a purposive group of 75 undergraduate students at Rangsit University of English at Work Course. The sample was divided voluntarily into 12 groups to assess the effectiveness of the five created PBL projects. After finishing the course, the students' 4cs skill was evaluated both by the teacher and by the students' self-evaluation, including the participant's satisfaction and reflection on the created PBL projects through the questionnaire and the in-depth interview. The analysis of variance (ANOVA) was applied to the quantitative data at the level of statistical significance =0.05 while descriptive statistics were applied to the qualitative data. The results showed that the five beneficial projects were the Vocabulary Project, the Grammar Project, the TED Project, the Listening Media Project, and the Product Pitch Presentation Project. The projects that the students chose to join the most were the Product Pitch Presentation Project, the Vocabulary Game, the Listening Media Project, the TED Project, and the Grammar Project, respectively. The Grammar Project and the Media Listening Project were the top two projects that enhanced the students' all-around 4C skills the most, with a 100% success rate. Whereas the Product Pitch Presentation Project and the Vocabulary Game Project encouraged the students to improve their collaboration skills the most with a 97.75% and 96.5% rate, respectively, the TED Project improved students' creative thinking the most with a rate of 98.5%. According to the statistics, all students developed their skills in diverse ways, with no significant change according to the ANOVA result. The result from the in-depth interview showed that the majority of students felt satisfied and widened their perspectives. They discovered that they had applied many of the 4Cs skills to work, developed their ability to listen to others, and applied more concepts and analytical knowledge.

Keywords: Project-based Learning, the 4Cs of 21st Century Skills, Learning English

Background

To overcome any challenges from the 21st century, Thailand 4.0, an economic model aimed to unlock the country's multiple economic challenges, has a new era of education. 21st century skills are defined as knowledge clusters of knowledge learning, skills, and working habit which are crucial for lifelong learning (Phonok, 2014). Furthermore, a 21st century skills alliance has emerged via the collaboration of well-known companies and numerous instructors around the world. Creativity, innovation, critical thinking, and analytical skills are, therefore, highlighted in education in Thailand. According to the announcement of the Office of Higher Education (2014) the standard of English in higher education must be upgraded and a new higher target

must be set at every level to develop skills, competency, and the ability to use English to ensure that all graduated students will be equipped with both academic and competency with English as a working knowledge along with their international knowledge to be acknowledged among nations. As a result, the skills listed in the 21st century and related to 4.0 frameworks known as the 4Cs: critical thinking, communication, collaboration, and creativity and innovation are emphasized in English teaching and learning to encourage students to prepare themselves for English, working skills, and 21st century skills.

According to the course description, the English at Work Course was selected to be the subject of this study. Students will learn the terminology, idioms, and language necessary to communicate in global workplaces. They will get the chance to put their speaking, listening, reading, and writing skills to use both inside and outside of organizations. Additionally, this course covers the use of technology and interpersonal relationships to communicate in a variety of circumstances. According to the course description, students must have 4 Cs.

Project-based Learning is implemented in the assessment to encourage students for problem-solving skills (Pangsri, 2018) and to gain knowledge from both their mind and their brain. The instructor plays a mentor role in PBL to facilitate and give advice throughout the process, from doing to presenting. There are 6 steps of PBL which are giving background knowledge, stimulating the interests, team cooperation, conclusion, and presentation.

Stimulating the learning process of students is a very crucial element for students' success; therefore, this research aims to study student performance in using PBL as a tool to enhance their 4C skills. Both quantitative and qualitative methods will be applied in this research.

Objectives

1) To create a Project-based Learning tool to enhance students' 4Cs through learning English
2) To assess the effectiveness and find the evidence of the created PBL projects to enhance the 4Cs of 21st century skills
3) To study the participant's satisfaction with the created PBL projects

Hypotheses

Students' 4cs scores would be increased after completing the Project-based Learning of English at Work Course.

Theories and Related Literature

The 21st Century Skills

Students' 4cs scores would be increased after completing the Project-based Learning of English at Work Course. Transversal skills are defined as groups of knowledge, skills, and working habits in the twenty-first century. These are considered to be critical factors in lifelong

learning. The 21st Century Learning Framework, supported by the Partnership for 21st Century Abilities, contributed to the skills specified. The competencies in the 21st Century Learning Framework were divided into three sections, according to the World Economic Forum (2016)'s Fostering Social and Emotional Learning through Technology Report:

1. Foundation Literacies: Literacy, Numeracy, Scientific Literacy, ICT literacy, Financial Literacy, and Cultural and Civic Literacy

2. Competencies: Critical Thinking, Creativity, Communication, and Collaboration

3. Character Qualities: Curiosity, Initiative, Persistence, Adaptability, Leadership, Social and Cultural Awareness

The second group, Competencies, is the key skill associated with the Thailand 4.0 Framework and is also known as the 4Cs of 21st century skills. Each of the four Cs has been defined as follows (National Education Association, n.d.) :

1. Critical Thinking Skill

Learners can express their reasons effectively using inductive and deductive methods in a challenging situation, think systematically in a complicated situation, make decisions based on the process of analyzing, assessing, synthesizing referring to their prior knowledge and background, solve unfamiliar problems and come up with a better solution.

2. Communication Skill

Learners can effectively communicate across cultures by speaking, writing, and using appropriate gestures. They can also receive messages efficiently, understand the meaning, attitude, and intention of the message, classify the communication's goal, and use technology to evaluate the effects of communication.

3. Collaboration Skill

Learners can constructively work as a team with expectations, flexibility, and compromise to achieve the goal and also organize and distribute work in a team.

4. Creativity and Innovation Skill

Leaners can express their own creativity derived from the original or new ideas then elaborate, exemplify, analyze, assess to come up with a better idea, share and exchange ideas with others, be a good listener, be open to other ideas, reflect on their thought, understand the reality and limitation, see a mistake as a lesson, implement their idea into practice.

Figure 1
Source: Mazzola (2020)

Project-based Learning

Project-based Learning (PBL) is a teaching approach in which students participate in a project that is connected to the real world in order to improve problem-solving skills, responsibility, collaboration, self-regulation, analytical skills, time management, cross-culture communication, and confidence in students. The appropriate project should increase students' motivation; prepare students to be citizens; enhance students to achieve the goal and meet the standard through deep knowledge and thinking process; increase teacher's satisfaction in teaching; and find a new way to communicate and connect knowledge gained from the projects to students' family, community, and wider society (Lenz & Lamer, 2015). In accordance with Aksela and Haatainen (2019); Essien (2018); Wongdaeng and Hajihama (2018) their findings revealed that PBL can boost student enthusiasm, serve as a tool for collaboration in the classroom and at the university level, be a student-centered approach, provide a variety of abilities as well as be more enthusiastic about the projects that were tied to real-life situations.

Apart from that, PBL has encouraged habits of mind that are analytical, problem-solving, reflective skills, accepting feedback, reflection, and failure, as well as time-management, all of which are necessary for many workplaces and mentioned as 21st century skills. According to Kavlu (2017) utilizing PBL in English as a Second Language (ESL) can help students acquire both language and 21st Century Skills like communication, critical thinking, lifelong learning, and problem-solving skills. After completing PBL, Essien (2018) discovered that English major students performed better in English and had more motivation as well as improved analytical skills, autonomous learning, and responsible towards themselves and society. Additionally, Halvorsen, Duke, Strachan, and Johnson (2018) mentioned that PBL could be applied in the English classroom to enhance the 4Cs by the following steps: seeking the background knowl-

edge (Critical Thinking, Communication, Collaboration); concluding from the found knowledge (Critical Thinking, Communication, Collaboration); creating new things (Creativity); and presenting (Critical Thinking, Communication, Collaboration, Communication). As a result, project-based learning (PBL) is an ideal strategy to use in an English lesson to help students develop 21st century abilities.

According to the data presented above, project-based learning is one of the effective ways to improve students not only students' English abilities but also their 4Cs skills. Thus, the following three research questions are established to guide this study: What is the appropriate tool to improve students' 4Cs? How effective is the tool? And what are the teachers' and students' attitudes toward the tool?

Research Methodology

This study was a research and development design that combined quantitative and qualitative methods. To collect the data for the applicants' 4Cs skills improvement and their satisfaction with the projects designed by the researcher, the analysis of variance (ANOVA) and descriptive statistic was used to analyze the data. Meanwhile, the data from the in-depth interviews were analyzed using the qualitative method.

Sample Group

The 75 undergraduate students of Rangsit University who enrolled in the English at Work Course were selected as the participants of this study by means of purposive sampling.

Research Instruments

The 4Cs projects for enhancing students' 4Cs

The 4Cs projects are designed to enhance students' ability to improve their 4C skills. The major research tools were five initiatives that were created and implemented. The five projects were: The Grammar Project, a strategy-based flipped classroom project; The Vocabulary Game, a game inspired by the students' enthusiasm; The TED Project, a TED Talk Watch Based on Students' Interests; The Media Listening Project, a media listening project focusing on particular areas of interest; and a Product Pitch Presentation, a demonstration of a product design captivating the audience's attention.

The 4Cs projects effectiveness and satisfaction assessment

The definitions of 4Cs were analyzed and generated in the form of questionnaires in order to determine the effectiveness of the projects and find out the students' satisfaction with them. The assessment tool was divided into four sections: The 4Cs assessment form through observation by the researcher to find out the relevant factors influencing the student's 4Cs improvement; the 4Cs checklist form for participants to self-evaluate their progress in the 4Cs; the questionnaire of students' satisfaction with the projects to improve their 4Cs; and the

in-depth interview to reveal the students' attitude, obstacles, and outcome in detail as well as the relevant factors to the assessment form.
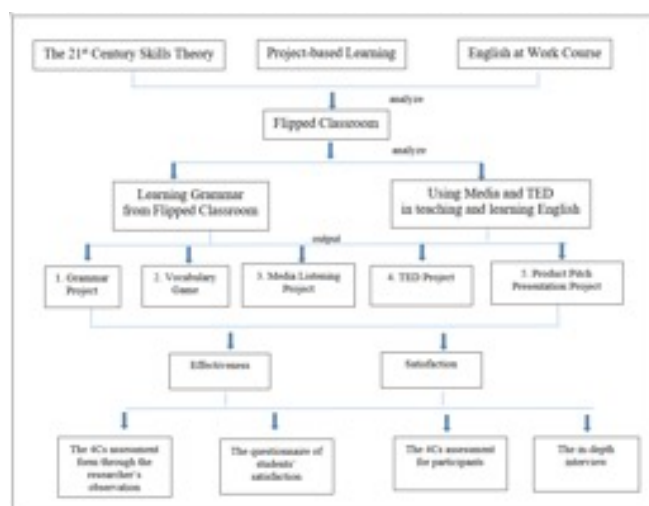
Research Procedure

Conceptual Framework

Figure 2: Conceptual Framework

The four steps of conducting this research are preparation, designing, developing, and implementing.

1.   Preparation:

Topics were reviewed as follows:

1.1 English at Work curriculum and content: to create the necessary tool

1.2 Project-oriented Learn theory: to design and create a project that encourages the learning process.

1.3 4Cs of 21st century skills: to create a project that can enhance students' 4Cs

2. Designing:

The tool was created in three stages.

2.1 The projects were made using content from English at Work and interesting English media from 75 students. The fascinating media were chosen to build the projects after the interview results were examined. The selection criteria are students' interest, appropriate length of time for English at Work class, and appropriate content related to the subject,

2.2 The 4Cs enhancing initiative had chosen the English at Work material. There were three groups of the content: vocabulary, grammar, and 21st content.

2.3 Project assessment, 21st century skills assessment, questionnaire, questions for interview were set as follows:

2.3.1 Each 4Cs definition was organized into the list for assessment.

2.3.2: All information was defined as a 21st century skills assessment for both researchers and participants.

2.3.3 Questionnaire of satisfactory and interview questions were conducted to gain students' attitudes toward PBL and 4Cs.

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3. Development

Five tools were developed for this study.

3.1 4Cs projects for enhancing 4Cs

3.2 4Cs assessment form through observation by the researcher

3.3 4Cs checklist form for participants

3.4 Questionnaire of satisfaction

3.5 In-depth interview questions

4. Implementation

The following was given as the procedure:

4.1 Participants selected the initiatives that appealed to them.

4.2 The researcher served as a project mentor the entire time.

4.3 The presentation and the work method were how the researcher gathered the data.

4.4 Students finished the assignment and reviewed their 4Cs.

4.5 Other groups provided feedback to the students.

4.6 The survey was finished by the students.

4.7 A student interview took place.

The following open-ended questions were used to interview the participants:

1. How important of 21st Century Skills?

2. Which 4Cs have improved the most as a result of this project?

3. What are PBL's benefits for enhancing the 4Cs?

4. What challenges do you have in enhancing your 4Cs?

5. What are the suggestions of using PBL to enhance students' 4Cs?

From the first to the last operation, the researcher gathered all the data.

Data Collection

Participants were divided into groups and provided five projects to choose from. Preparation was the first step. The content and presentation were to be planned by the group. Throughout the procedure, the students were able to consult with the project mentor, the researcher. Following that, each team presented their work to the class in the presentation step. The assessment stage is the final step. Following the team's presentation, the students completed the 4Cs checklist, completed the project satisfaction questionnaire, and joined the

in-depth interview to reveal their attitudes, obstacles, and project outcomes, as well as the progress of their 4Cs skills. The researcher collected data using a checklist to demonstrate the progress of the students' English ability and 4Cs skills and then used descriptive language to synthesize the data from the in-depth interview. All process was conducted as shown in figure 3.
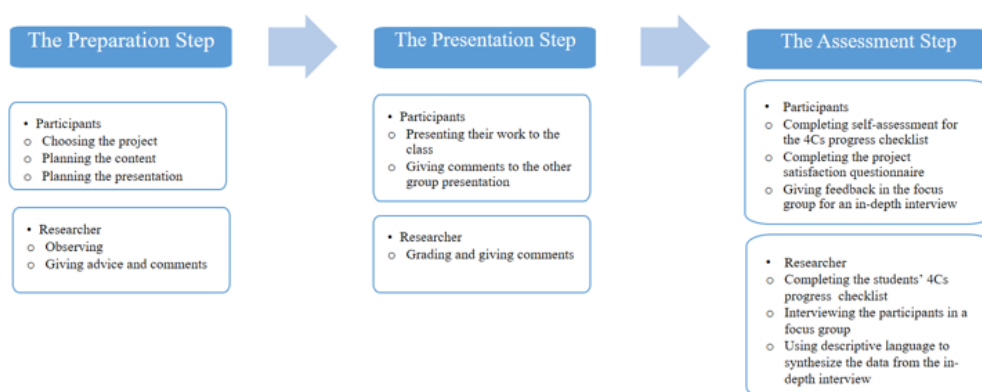

Figure 3: Data Collection

The data were analyzed in four sections as seen in Table 1.

Data	Data Analyzing Method	Objective
1. Assessment of 4Cs 2. 4Cs checklist	ANOVA	To conclude and determine the relation of each element.
3. Questionnaire of students' satisfaction	Percentage	To demonstrate the level of satisfaction.
4. In-depth interview	Descriptive language	To reveal the attitude, and obstacles, toward Project-based Learning

Results and Discussion

In accordance with the research questions, the following results and discussion are presented. According to the first question: what is the appropriate tool to improve students' 4Cs? After interviewing 75 students about their favorite media to use to improve their English, the results could be divided into two categories: videos such as TED and international series, and audio such as English music and radio. The criteria for creating the projects were set using three factors: media in the students' preferences, the appropriate length of time provided by the English at Work Course, and the relevant material for the course. Five projects were developed based on these requirements to strengthen three skills: vocabulary, grammar, and English listening and speaking.

1. Vocabulary Project: Allow students to choose the most fascinating terms from the lessons, make a game out of them, and present it to the rest of the class.

2. Grammar Project: Apply the flipped-classroom approach to the class to enable students to learn grammar from the list and deliver it to the class.

3. TED Project: Allow students to choose the most appealing and deliver it to the rest of the class.

4. Listening Media Project: Allow students to choose from a variety of audio media that the team like. A song, a broadcast, or any voice channel can be used.

5. Product Pitch Presentation: Summarize and deliver to the class the content and language usage from their selected one.

Depending on their interests, students were free to select the project. According to the results, as shown in Figure 4, 55.13% of students chose the Product Pitch Presentation Project, followed by the Vocabulary Game, the Listening Media Project, the TED Project, and the Grammar Project. The majority of students indicated that the Product Pitch Project was more advantageous to the actual world and their future jobs, and therefore it was their top choice.
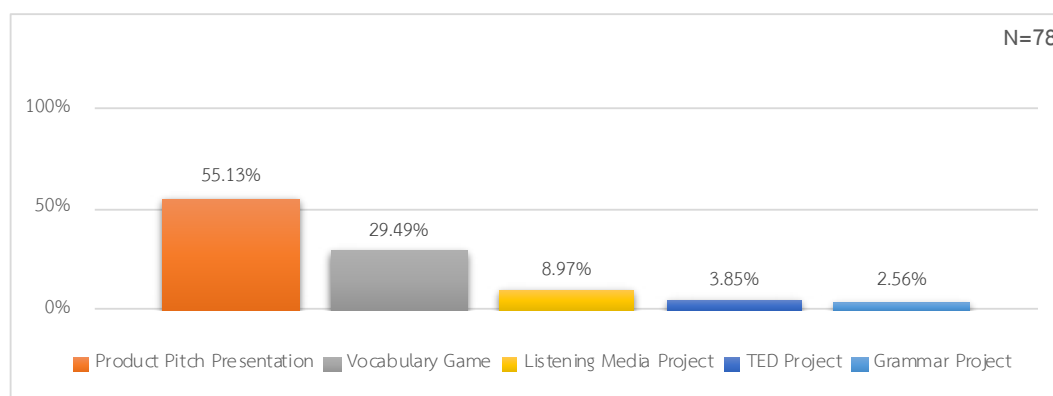

Figure 4: Number of students joining each project

Along with the second research question: how effective is the tool? The instrument was shown to be quite effective as a result of the findings. The information was gathered in three parts: the increase in the students' ability in 4Cs observed by the teacher; the student self-assessment checklist to identify the increase in their 4Cs ability and their satisfaction with the projects; and the in-depth interview.

The increase in the students' ability in 4Cs observed by the teacher

While collecting data in the qualitative method, there was evidence to support that the students' 4Cs skills were dramatically increased. The results of their improvement in each skill were as follows:

Critical thinking skill: The observation of each group's process, including drafting content, editing content, and improving after obtaining consultation, provided evidence of these skills. Every student was able to analyze their information and deliver it in a precise, detailed manner. Communication skill: Evidence of these skills was observed in each group's communication with members, the researcher, and the audience in the class. All students made an effort to speak in suitable ways and avoid using hurtful words. They had a clear understanding of both the content of the communication and the presentation.

Collaboration skill: In completing the project, students highly expressed this ability. Shared accountability and encouragement for language and problem-solving provided abundant proof. They sought to find a solution and showed sympathy for their teammate's issues.

Creativity skills: Many students could develop original ideas that were more complex and engaging. They made an effort to make their limits evident while being aware of them. Media utilization in presentations served as empirical proof. They were enthusiastic to share a piece of knowledge and idea from their expertise.

In accordance with the quantitative data collection process, the checklist was applied. According to the 4Cs skills definitions, the criteria were divided into four parts: 9 items for critical thinking; 5 items for communication; 4 items for collaborating; and 6 items for creative thinking. One point was given for each item for the students presenting with 4Cs skills, whereas zero points were given for those without 4Cs skills. The outcome shown in Table 2 demonstrates that the Grammar Project and the Media Listening Project were the top two projects that enhanced the students in all 4Cs skills the most, with a 100% success rate. Whereas the Product Pitch Presentation and the Vocabulary Game encouraged the students to improve their collaboration skills the most with a 97.75% and 96.5% rate, respectively, the TED Project improved students' creative thinking the most with a rate of 98.5%. According to the statistics, all students developed their skills in diverse ways, with no significant change in the result.

In terms of critical skills, students who participated in the Grammar Project and the Listening Media Project scored higher on critical thinking skills than students who engaged in the Product Pitch presentations Project, the last of which was the Vocabulary Game Project. Therefore, the Grammar Project and The Listening Media Project are the most appropriate projects to improve critical thinking skills.

It was discovered that, when it came to communication skills, the Grammar Project and the Listening Media Project once again achieved the highest results, with a maximum, whilst the Product Pitch Presentation Project had the lowest score. Therefore, the Grammar Project and the Listening Media Project are the most successful efforts for enhancing communication skills.

For collaboration skills and creativity skills, the Grammar Project and The Listening Media Project received the highest and full scores. With that, the Product Pitch Presentation Project received the second rank in collaborative skills and the third rank in creative thinking skills.

Whereas the Ted Project ranked second in creative thinking skills. The Vocabulary Game Project, on the other hand, ranked last in both collaboration skills and creative thinking skills. In conclusion, the Grammar Project and the Listening Media Projects are the strongest tools to increase students' 4Cs, while particularly the Vocabulary Game required adaptation.

Table 2: Students' ability in 4Cs

4Cs skills	Projects enhancing 4Cs	Average Scores	Percentage	Statistic Result	
				F	Sig.
1. Critical Thinking	Product Pitch Presentation	8.60	95.56%	1.38	0.25
(9 items)	Vocabulary Game	8.14	90.44%		
	Listening media project	9.00	100%		
	TED Project	8.83	98.11%		
	Grammar Project	9.00	100%		
2. Communication (5 items)	Product Pitch Presentation	4.65	93%	0.45	0.77
	Vocabulary Game	4.71	94.20%		
	Listening media project	5.00	100%		
	TED Project	4.83	96.60%		
	Grammar Project	5.00	100%		
3. Collaboration	Product Pitch Presentation	3.91	97.75%	0.14	0.97
(4 items)	Vocabulary Game	3.86	96.50%		
	Listening media project	4.00	100%		
	TED Project	3.87	96.75%		
	Grammar Project	4.00	100%		
4. Creative Thinking	Product Pitch Presentation	5.84	97.33%	0.71	0.59
(6 items)	Vocabulary Game	5.57	92.83%		
	Listening media project	6.00	100%		
	TED Project	5.91	98.5%		
	Grammar Project	6.00	100%		

The student self-assessment checklist

Many students, as seen in Table 3, expressed great satisfaction with the projects. Better performance in English studies scored 4.47, improved creativity skills scored 4.46, and improved critical thinking skills and apply this knowledge in reading and writing English scored 4.45, while the least challenging degree of difficulty scored 4.26 out of 5.

Table 3: Level of satisfaction with project-based learning for improving the 4Cs

4Cs List	Average of Satisfaction	Level of Satisfaction
Satisfaction with the Projects		
1. The project matches the lessons.	4.37	Very satisfied
2. The project is suitable for lessons	4.42	Very satisfied
3. The length of time is sufficient.	4.29	Very satisfied
4. The difficulty level is reasonable	4.26	Very satisfied
5. The content is useful.	4.37	Very satisfied
6. You have gained more knowledge after using Project-based Learning.	4.42	Very satisfied
7. You have a better performance in studying English.	4.47	Very satisfied
8. You can use the knowledge gained in the future.	4.42	Very satisfied
9. You are interested in practicing English outside the classroom.	4.36	Very satisfied
10. You can apply this knowledge in reading and writing English.	4.45	Very satisfied
Satisfaction to Enhance 4Cs		
11. You have enhanced your critical thinking skills.	4.45	Very satisfied
12. You have enhanced your communication skills.	4.42	Very satisfied
13. You have enhanced your collaboration skills.	4.32	Very satisfied
14. You have enhanced your creativity.	4.46	Very satisfied
15. You will recommend using Project-based Learning to enhance 4Cs for your friends.	4.36	Very satisfied

The in-depth interview

A focused group was interviewed in-depth for this study. Four significant topics are raised with the students, along with their own recommendations: the importance of the 4Cs" skills; the utilization of project-based learning; the benefits of project-based learning as a method for improving 4Cs skills, and the challenges to improving 4Cs.

The significance of the 4Cs skills: Many students realized the importance of the 4Cs and were eager to acquire them because they are essential for employment and are being promoted by leading organizations.

Using project-based learning as a strategy to improve the 4Cs: Students informed that the project was chosen using critical thinking. To achieve the goal, creativity, collaboration. and

communication was applied during the working process. The skills that were most utilized in completing the project were viewed differently by each group. While some groups relied more on communication and collaboration to complete the project, some students claimed that they employed critical thinking the most to assess the opinions of all members. Additionally, several groups made the most of their creativity to make their project unique.

The benefits of Project-Based Learning as a tool to Improve 4Cs: the majority of students felt satisfied and broadened their perspectives. They discovered that they had applied many of the 4Cs skills to work, developed their ability to listen to others, and applied more concepts and analytical knowledge.

Many students acknowledged that "time" was a challenge while working in groups, which was a barrier to improving 4Cs. The process of expressing thoughts, discussing them, and agreeing to a decision takes time. Some students had "language" difficulties. For instance, to ensure that their words were precise and exact, they eventually trimmed off some ideas. Many students want to develop this skill further by developing each skill independently.

The suggestion that the duration of time allocated in class to facilitate project completion was one of the insightful comments made by students. Students would like more consulting time throughout assignments, a team member screening process, and individual projects. Additionally, the 4Cs should be given more attention and set as a subject since they realized that these skills were crucial for their future.

Conclusion and Suggestions

This paper has clearly shown that Project-based Learning is a powerful tool for raising students' motivation and 4C skills, as seen by the improvement in 4Cs and satisfaction from utilizing it. This study builds on a prior one by Essien (2018) ; Kavlu (2017) that discovered PBL might be used as a technique to improve the 4Cs in English lessons. It is also proven that improving 4Cs is an excellent idea in an English class, Pardede (2020). Additionally, the grammar assignment that was done using the Flipped Classroom methodology received the highest ratings overall. This confirmed that the Flipped Classroom can boost students' interest in learning English. Additionally, it has supported Project-based Learning as Pudin (2017) found that flipped classrooms increase students' motivation more than a traditional classroom. Overall, it was significant to the level of satisfaction towards PBL. However, in order to improve students' 4Cs of 21st century skills, PBL must be implemented with careful project planning and time management.

Further research on project-based learning to enhance students' 4Cs is desirable and should be extended. Some suggestions are to be made to be more successful. According to the data from in-depth interviews, students require more guidelines and support in checking content, and expanding ideas. It is highly recommended to give more time allocation for this process. Grouping the proper level of students into the right groups should be well managed

since different levels of language is regarded to be a significant component of each team. Therefore, students should be grouped into different teams based on their language ability levels to maximize the group's learning opportunities. An online

beneficial to them, they requested a special session or class of 4Cs both in and outside the classroom. Therefore, research about designing a course to strengthen the students' 4Cs through English should be considered to be conducted.

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