TEACHING SPEAKING THROUGH PROJECT-BASED LEARNING WITH ICT

Lilis Suryani
English Education Study Program, Institut Keguruan dan Ilmu Pendidikan Siliwangi, Cimahi, Indonesia
Email: lis-suryani@ikipsiliwangi.ac.id

Ningtyas Orilina Argawati
English Education Study Program, Institut Keguruan dan Ilmu Pendidikan Siliwangi, Cimahi, Indonesia
Email: tyas.orilina @yahoo.com

Abstract: Information and communication technology (ICT) has developed recently, becoming a part of the teaching and learning process. Many studies reveal that ICT can help students learn well, including speaking. This research involved ICT and project-based learning in teaching speaking. Thus, this study aims to know the implementation of project-based learning with ICT in teaching speaking as well as the students' reactions to project-based learning with ICT in learning speaking. There were 30 participants in this study, which used classroom action research. Students from a university in Bandung who are in their second semester participate. There were two cycles in this study. Each cycle consists of four steps of action, observation, and reflection. Data were gathered through observation, a speaking test, and an interview. The study's conclusions showed that using ICT to execute project-based learning could improve students' speaking skills through project involvement. The results of the students significantly increased between the first and second cycles. The students gave great feedback, particularly after finishing the project. They could work in groups, became more active, learned new things, and were very motivated. They were able to actively discuss their project as well as help one another finish it. PBL can consequently boost students' enthusiasm to speak up and offer support.
Keywords: *classroom action research; Information and Communication Technology*; *project-based learning; speaking.*

INTRODUCTION

The use of information and communication technology (ICT) in teaching and learning has become crucial. It can be proven by some of the research related to ICT and learning (Wiranda *et al.*, 2020; Ilham, 2022; Argawati & Suryani, 2020). In addition, Ilham (2022) suggested integrating ICT into the teaching method used by teachers to support its effectiveness. It can also meet different needs resulting from individual differences.

ICT usage trends are a frequently discussed subject. ICT implementation for academics in higher education is not only in the case of delivering material but also in the stage oassessingnt as it ca,n be used along with authentic material (Zahra *et al.*, 2019). ICT can therefore be a tool for evaluating the success of learning in education even though the use itsit still faced mafacesoblems (Aminullah, Loeneto, & Vianty, 2019). Implementing an approach is one of the many areas of education where ICT is applied.

Project-based learning is a learning approach, and it is not a new approach to learning. According to Sathappan and Gurusamy (2021), "Project-based learning (PBL) is a student-centered teaching approach that organizes learning around projects". Project-based learning has proven effective for learning. Project-based can improve students' comprehension and critical thinking abilities. Additionally, it has been discovered that using PjBL has improved the learners' moods. As their communication skills have improved, they are increasingly critical of cultural phenomena (Aguskin & Maryani, 2020). Teachers need to keep an eye on the work that students produce.

Additionally, PjBL can encourage learning in students and may be more effective than conventional ways (social studies, science, math, and literacy instruction (Kingston, 2018). The students are allowed to participate actively in the learning process. In other words, Project-based learning is beneficial and should be used, and students are expected to work together to accomplish the learning objectives.

There are six steps of Project-based learning based on some research (Winasih *et al.,* 2019; Wulandari and Ahmad, 2020). First: it starts with the essential question: the teacher gives a

fundamental question integrated with topics that will make students fells curious. Second, designing a plan for the project: students and teachers develop a plan by actively sharing ideas. Third, creating a schedule: Both teachers and students create a schedule to decide the time allocation for working on the project and the deadline to submit the project. Fourth, monitoring: the teacher observes the progression, guides the students during the project development, facilitates the learning process, and ensures every student is involved. Fifth, assessing the outcome: teacher will determine the product made by students by giving feedback. Last, evaluating the experience: teacher and students reflect on the project they have done by sharing their knowledge of conducting the project to get perfection in the next project.

The researchers used ICT and project-based learning in this study. To address the needs of students in Industry 4.0, ICT is integrated into Project-based learning. The majority of students use their devices regularly and are comfortable with technology. Additionally, teachers incorporate various applications into their lessons to achieve the learning objective. ICT is expected to help the learning process effectively, which is in line with previous research that ICT can support teaching to improve the effectiveness of the learning process (Suryani *et al.,*2019). Therefore, it is hoped that project-based learning and ICT can solve the learning gap.

Many learning gaps can cause learning issues. Speaking is one of the issues, and it is an essential skill that belongs to the category of productive skills. To communicate effectively, you must have this ability. To improve communication among target language learners, speaking ability must be developed equally as much as other skills (Aziz & Kashinathan, 2021). The learners are expected to master speaking because it is an essential language ability for foreign language learners to master. This is in line with Sabina (2018), Rao (2019), and Rani (2020); speaking is the most important of the four language skills to communicate effectively. Sadly, the students still require assistance with their speaking. Acquiring a language is not always simple (Riadil as cited in Khatoony and Rahmany, 2020).

Speaking becomes a problem since it is undoubtedly tricky for non-native speakers and is frequently attributed to various factors. Speaking English is challenging since speakers need to be knowledgeable in a wide range of skills, such as pronunciation, grammar, vocabulary, fluency, and comprehension (Aziz & Kashinathan, 2021).

Besides, the speakers are unable to actively participate in verbal conversation due to individual circumstances and cultural barriers (Abrar, 2019). It is confirmed by some previous studies that demonstrate that learning to talk might be challenging (Ratnasari, 2020; Geria, 2022; Oktavia, 2022).

The suitable choice of the best language learning techniques will assist the students in developing their speaking abilities both inside and outside of the ESL classroom, where the language applies to real-world situations (Zakaria *et al.,* 2019). Speaking can be taught in a variety of strategies, either individually or in groups. One learning strategy that works well is project-based learning. Project-based learning can improve students' performance, including speaking (Winasih *et al.,* 2019). With this strategy, students can develop real things individually or in groups. Project-based learning is an innovative approach, and it allows students to think critically and creatively by building initiatives to produce real products in the form of goods or services (Ukah *et al.,* 2023).

Almulla (2020) says that the findings demonstrate that the project-based learning technique enhances student involvement by facilitating knowledge, information sharing, and discussion. On the other hand, project-based learning triggers the students' participation but also collaborates the students to work in a group. In the end, the students can achieve the purpose of learning. The PBL technique is also strongly advised for usage in the classroom by students and should be promoted at universities.

Regarding the explanation above, this research would like to implement project-based learning with ICT in teaching speaking and knowing the students' responses. In this research, some applications for creating video projects were used to design the research project.

METHOD
In this study, which aims to understand how project-based learning using ICT is implemented in speaking, classroom action research was chosen as an appropriate method. It also serves as a tool for understanding how students feel about PBL with ICT.

Students' difficulties with speaking are addressed through classroom action research, which also reveals how PBL and ICT have improved students' speaking abilities. Teachers conduct classroom action research to enhance teaching and learning, identify issues, and develop

solutions. Some experts define it (Meesuk *et al.,* 2020; Mertler, 2021; Lufungulo *et al.,* 2021). Classroom action research is a collaborative, participatory method that enhances education by incorporating change and involving educators in improving their own practices. Therefore, this type of research is suitable for use in this study. In this study, the primary researcher took on the role of the lecturer, while the secondary researcher served as the observer.

The lesson plan and other materials for the teaching and learning process in the classroom are first prepared through planning. Most students experienced speaking issues, which the researchers and the lecturers discovered when they first identified the problem they faced in the classroom. After identifying the problem, the researchers set out to identify a solution. PjBL using ICT may be one of those answers. The second step in implementing the lesson plan into practice is to take action. To do this, the lecturer utilized PBL and ICT, and an observer observed the class to draw the classroom context. Thirdly, learning processes can be understood by observation. Last, reflection is utilized to improve the teaching's flaws so students learn more effectively. Each cycle involves carrying out those steps.

This research is implemented on second-semester students at one university in Bandung. The participants of the study were 30 students. The students learned general English, and the main focus of this subject was speaking. The research was conducted in two cycles, while every cycle was done in four meetings.

An observation sheet, an interview, and a test were utilized to gather the data. The teaching and learning process was observed using an observation sheet. It was utilized to inform the students how project-based learning was implemented in the classroom. After the last cycle, an interview was conducted to learn how the students think about PBL with ICT. Then, the test was used to measure the students' speaking skills based on the speaking score rubric by previous research (Helmanda & Nisa, 2019). Four categories of speaking performance exist fluency, pronunciation, grammar, and vocabulary. Each element has a score from 1 to 20. These standards would evaluate each student and measure their performance from one cycle to the next. Afterward, triangulation was used to analyze the data. It is utilized to understand the differences and similarities among each instrument (observation, interview, and test).

RESULTS AND DISCUSSION
Implementation of project-based learning in teaching speaking with ICT
The research was carried out in two cycles, each with four meetings. Here are the specific findings for each cycle.

First cycle
At the beginning of the meeting, the first researcher, as the lecturer, explained project-based learning. The lecturer also explained some steps of project-based learning. Giving essential questions is the first step. This step is implemented in meeting 1. The lecturer introduced the topic that was interesting facts about me and my personality. Then, the lecturer asked the students about their personalities several times, and the students answered the questions. The lecturer introduced some words related to personality. Then, the students described their personalities. They shared their strengths and weaknesses that they had. There was an observer who observed the process of learning.

Next meeting, the lecturer drilled about personality; it was because some of the students still had problems saying their personality in English and were unfamiliar with those words. Then, the lecturer gave a worksheet and asked the students to fill in the blank based on their characters. Next, the lecturer showed two videos related to the topic that was interesting facts about me. The videos were downloaded from a YouTube channel. The students watched those videos and were asked to identify the personality mentioned in the videos.

Then, the lecturer asked the students to work in a group to discuss the project. Designing a plan is the second step of PjBL. Each group consisted of five students, and there were six groups. The students tried to share their personalities. The lecturer asked the students to make a video and asked them to make the video entitled the interesting facts about us. The students tried to drill each other into a group, and then they could discuss and revise each other. They shared and helped in making the video. The lecturer also explained some applications that can be used in creating the video, such as FilmoraGo, KineMaster, InShot, etc. The lecturer also asked the students to make a YouTube channel for the class. In the project, the students needed help deciding who was the first, the second, or the last speaker. The students discussed the story of their video. The next step is for the students and lecturer to create the schedule. The students are going to submit their videos in meeting 4. The next

step is monitoring; the lecturer tried to see the students' progress and asked them about the project's challenges. At the last meeting, the students finished their job and uploaded their projects to the YouTube channel class. Assessing is done by the lecturer. After uploading, they watched together and gave comments about the video. Here is the detailed data from cycle 1:

Table 1. *Cycle 1*

Meeting 1	● Explaining project-based learning steps ● Giving essential questions ● Introducing about interesting facts about me
Meeting 2	● Showing some videos related to exciting facts about me ● Drilling some vocabulary and answering worksheets ● Identifying their personality ● Designing a plan and creating a schedule
Meeting 3	● Sharing their personality ● Explaining some applications that can be used in creating video ● Monitoring
Meeting 4	● Finishing video ● Uploading video ● Assessing the project ● Evaluating

Second cycle

The lecturer introduced another topic in the second cycle: my favorite place(s) and its unique culture. She also discussed four related issues: conversation, verbal and non-verbal communication, display of emotion and affection, dress, punctuality, and formality, and asked the students about their hometowns and tried comparing them and the topic. This is called the first step of PjBL, giving essential questions.

Next meeting, the lecturer showed some videos related to the topic. The students were asked to give comments about the video that they watched. After that, the students worked in a group and were asked to make a concept about their video. They shared and revised each other. They talked about their hometown and its culture.

Designing the project was the next step; they discussed and identified the topic. They talked and planned, then created the video; every student in their group had to participate in the project. The students decided on the application that could be used to make a video. Here is the second cycle, so the students were more familiar with the video application they would use. Then, creating a

schedule was the next step; the students would make a video based on the agenda. While the students were doing the project, the lecturer monitored the project.

Finishing the project and uploading the project is the following step. After editing, the students had to upload it. The students were easier to finish the second video, and they also uploaded it to their class YouTube channel. The students knew better how to do the second project.

Table 2. *Cycle 2*

Meeting 1	● Giving essential questions about the favorite place and its unique culture ● Discussing the topic
Meeting 2	● Providing some videos related to the topic ● Drilling some vocabularies ● Talking about their hometown ● Designing a project ● Creating the schedule
Meeting 3	● Sharing about their hometown ● Monitoring
Meeting 4	● Finishing video ● Uploading video ● Assessing ● Evaluating

After conducting two cycles, here is the following result of students' speaking scores based on five criteria of the speaking rubric from cycle 1 to cycle 2:
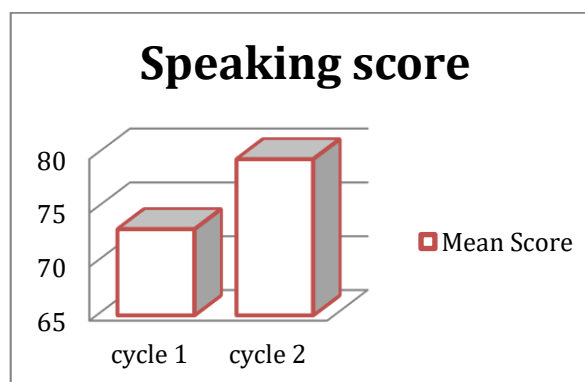

Figure 1. *The mean score of cycles 1 and 2*

The figure shows that cycle one's mean score was 72, and cycle two's was 79. According to the mean score, there was an improvement in the students' speaking. It was reported that the students' speaking scores were good when project-based learning was implemented. The students' lowest speaking exam score in the first cycle was fluency, according to the results. It was due to particular students' pauses and continued usage of their first language. Drilling deeper in cycle two may be the answer. The fluency aspect's overall score rose in the second cycle, while grammar

received the lowest mark. It was clear that the students provided inappropriate phrases or sentences in their responses. Based on the scoring rubric criteria, the students showed good progress from cycle 1 to cycle two. So, Project-based learning can improve students' speaking skills, which is supported by a previous study (Riswandi, 2018; Sirisrimangkorn, 2018; Mafruudloh & Fitriati, 2020).

Students' responses in learning to speak using project-based learning with ICT
According to the student's responses, project-based learning with ICT for teaching speaking has both positive and negative aspects. The following is the result.

The first is collaboration, which aligns with Astuti *et al*.'s research (2021) that the students can work with their friends. The students gained a variety of abilities, including group teamwork and negotiating. The majority of the students could share and collaborate well, as seen by the observation in the classroom. For example, when the students were uncertain of the video's story, they could negotiate with their friends to determine the story. Additionally, the result of the interview supports it.

> Interviewer : "What are the advantages of project-based learning?"
> Student 7 : "I can share and do a collaboration with my friends in a group. Then, making and taking videos to finish the project with my friends were exciting experiences"
> Student 3 : "I can work with friends, and it is easier."

The second is motivation. PBL considerably and favorably increased the accomplishment motivation (Sari, 2018). The students enjoyed discussing and doing the project (Abubakar, 2015). They also got more confidence in speaking (Pratiwi, 2016). When the students worked on a project in their group, they were motivated to discuss it. The observation reveals that the majority of students completed them with enthusiasm. This is in line with the result of the interview.

> Student 1 : "I am interested in doing the project with my friends"
> Student 5 : "it is more fun."

The third is that the students are more active. It is supported by Mafruudloh & Fitriati (2020) and

Argawati & Suryani (2020) that the students are actively involved in learning. The students are actively engaged in their group, and they can share. It can be seen that the students speak more in English with their friends; they can support one another. The result of the interview proves it.

> Student 4 : "It is easier to speak in English with friends in a group, and we can help each other.
> Student 6 : "I am involved in a learning project with my friends.

The fourth is new knowledge. The students learned some applications related to creating videos and uploaded the video to a YouTube channel. By facilitating knowledge and information sharing and discussion, the findings demonstrate how the PjBL technique enhances student involvement (Almulla, 2020). In addition, the result of the interview showed the same result as the observation result.

> Student 5: "I know more about some applications to make the video."
> Student 9: "It is interesting to do this project using ICT, it is interesting."

In addition, the project has two weaknesses: the first is the time limit, and the second is the storyline. The first is that the video editing process took longer than expected, so limited time can be challenging in implementing PjBL. It is supported (Sirisrimangkorn, 2021) that time constraints posed a significant challenge in the study. The issue might be resolved by assigning tasks to each group member. The second is a story told at the beginning; because everyone had various ideas, it took some explaining to figure out the story of the video. Negotiating among them could be able to find a solution.

CONCLUSION
Project-based learning with ICT could enhance students' speaking skills through involvement in the project. The scores of the students significantly increased between the first and second cycles. The students responded well, especially after they posted their project and allowed their friends to watch it. They might actively collaborate and support one another in completing their tasks. PBL may motivate kids to speak up and assist them in learning to talk effectively and energetically

REFERENCES
Abrar, M. (2019). Re-telling: A Narrative inquiry of

Indonesian graduate students' speaking experiences in a United Kingdom university. *Indonesian Journal of Applied Linguistics*, *8*(30), 588-596.

Aguskin, L., & Maryani. (2020). Investigating the use of project-based learning in enhancing Indonesian university students' cultural knowledge. *Humaniora, 11*(3), 203-210. https://doi.org/10.21512/humaniora.v11i3.6645

Almulla, M. A. (2020). The effectiveness of the project-based learning (PBL) approach as a way to engage students in learning. *Sage Open*, *10*(3), 2158244020938702

Argawati, N. O., & Suryani, L. (2020). Project-based learning in teaching writing: The implementation and students' opinion. *English Review: Journal of English Education*, *8*(2), 219-226.

Aminullah, A., Loeneto, B. A., & Vianty, M. (2019). Teachers' attitudes and problems of using ICT in teaching EFL. *English Review: Journal of English Education, 8*(1), 147-156.

Argawati, N. O., & Suryani, L. (2020). Project-based learning in teaching writing: The implementation and students' opinion. *English Review: Journal of English Education, 8*(2), 219-226.

Astuti, D., Syukri, S., Nurfaidah, S., & Atikah, D. (2021). EFL students' perceptions of the benefits of project-based learning in translation class. *International Journal of Transdisciplinary Knowledge*, *2*(1), 12–26.

Aziz, A. A., & Kashinathan, S. (2021). ESL learners' challenges in speaking English in Malaysian classroom. *Development*, *10*(2), 983-991.

Geria, A. A. J. A. (2022). Challenges faced students in speaking English in Indonesia: A literature study. *Jurnal Penelitian Mahasiswa Indonesia*, *2*(2), 123-126.

Helmanda, C. M., & Nisa, R. (2019). The analysis of students' oral performances by using a speaking scoring rubric. *Jurnal Dedikasi Pendidikan*, *3*(2), 76-86.

Ilham. (2022). Implementing project-based learning for EFL students' writing achievement at the tertiary level. *English Review: Journal of English Education, 10*(3), 1003-1012. http://doi.org/10.25134/erjee.v10i3.6470.

Khatoony, H., & Rahmani, L. (2020). Difficulties and weaknesses of speaking skill among Iranian EFL learners: a review article of speaking obstacles in applied linguistic students. *International Journal of Language, Literature, Culture and History Studies*, *2*(2), 59-69.

Kingston, S. (2018). Project based learning & student achievement: What does the research tell us? *PBL Evidence Matters.* 1(1), 1-11. http://bie.org/x9JN

Lufungulo, E., Mambwe, R., & Kalinde, B. (2021). The meaning and role of action research in education. *Multidisciplinary Journal of Language and Social Science Education, 4*(2), 115-128.

Mafruudloh, N., & Fitriati, R. (2020). The effect of project-based learning on the student's speaking ability. *Celtic: A Journal of Culture, English Langauge Teaching, Literature and Linguistics*, 7(1), 57-64.

Meesuk,P., Sramoon, B. & Wongrugsa, A.(2020). Classroom action research-based instruction: the sustainable teacher professional development strategy. *Journal of Teacher Education for Sustainability*,22(1)98-110.

Mertler, C. A. (2021). Action research as teacher inquiry: A viable strategy for resolving problems of practice. *Practical Assessment, Research, and Evaluation*: Vol. 26 , Article 19.

Oktavia, F. (2022). The students' problems in learning English speaking at SMAN 1 Grati Pasuruan. *Enreal: English Research and Literacy Journal*, *2*(2), 212-228.

Ratnasari, A. G. (2020). EFL Students' challenges in learning speaking skills: A case study in mechanical engineering. *Journal of Foreign Language teaching and learning*, *5*(1).

Riswandi, D. (2018). The implementation of project-based learning to improve students' speaking skills. *International Journal of Language Teaching and Education*, 2 (1), 32 -40.

Rao, P. S. (2019). The importance of speaking skills in English classrooms. *Alford Council of International English & Literature Journal (ACIELJ)*, *2*(2), 6-18.

Rani, S. (2020). Factor analysis: The issues and challenges in English speaking skill of Bangladeshi EFL learners at tertiary level. *Journal of Critical Reviews*, 7, 6983-6993.

Sabina, Z. (2018). The importance of teaching listening and speaking skills. *World Science*, *7*(34), 52-55.

Sari, I. (2018). The effect of problem-based learning and project-based learning on the achievement motivation. *Jurnal Prima Edukasia,* 6 (2), 129-135.

Sathappan, R., & Gurusamy, P. (2021). The benefits of project-based language learning: A case study in a Malaysian secondary school. *Journal of Social Science Research*, *17*, 1–9.

Sirisrimangkorn, L. (2018). The use of project-based learning focusing on drama to promote the speaking skills of EFL learners. *Advances in Langauge and Literary Studies*, *9*(6), 14-20.

Sirisrimangkorn, L. (2021). Improving EFL undergraduate learners' speaking skills through project-based learning using presentation. *Advances in Language and Literary Studies*, *12*(3), 65-72.

Suryani, L., Syahrizal, T., & El Fauziah, U. N. (2019). Using ORAI application in teaching pronunciation. *Indonesian EFL Journal*, *5*(2), 93-102.

Ukah, Y., Ayewu, C., & Oworu, P. (2023). Improving students' language learning through project-based learning activities. *JELITA*, 9-23.

Wiranda, R., Petrus, I., & Vianty, M. (2020). The use of ICT in learning process by vocational teachers of English. *English Review: Journal of English Education, 8*(2), 283-290.

Wulandari, A. dan Ahmad, A. (2020). The effect of using project-based learning method on students' writing skill. *Journal of English Language and Education, 5*(1), 1-15.

Winasih, W. W., Cahyono, B.Y., & Prayogo, J. A. (2019). Effect of project-based learning using e-poster on Indonesian EFL students' speaking ability across personality types. *Arab World English Journal, 10* (1) 73- 83.

Zahra, W., Inderawati, R., & Petrus, I. (2019). The use of ICT in authentic assessment of the students' productive skills. *English Review: Journal of English Education, 8*(1), 81-90. doi: 10.25134/erjee.v8i1.2110

Zakaria, N., Hashim, H., & Yunus, M. M. (2019). A review of affective strategy and social strategy in developing students' speaking skills. *Creative Education*, *10*(12), 3082-3090.