Applying Project-Based-Learning to improve English speaking skills of remote learners at tertiary education

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ARTICLE INFO	ABSTRACT
	English speaking skills are important in global communication and interaction. To speak English effectively at an acceptable level for a non-native speaker, various sub-skills are considered such as lexical resources, grammatical structures, pronunciation, rhythm, intonation, and the like. Nevertheless, a vast number of remote learners at Ho Chi Minh City Open University (HCMCOU) seemed to struggle in representing their thoughts and speaking sub-skills. Thus, this study aims to explore the challenges encountered by remote learners, the effectiveness of Project-Based Learning (PBL) applied in teaching speaking skills online, and learners' attitudes towards the applied project. To do this, a mixed research method was employed. Twenty-two remote learners participated in responding to the survey questionnaire, and five of them were randomly selected for interview in depth. The finding shows that the most of remote learners had problems of speaking sub-skills, inadequate environments for speaking practice, communication, and interaction. Also, PBL is found as a unique method that enables learners to solve their existing problems, and improve their speaking skills, and all remote learners expressed their positive attitudes of towards PBL applied in their learning process.

1. Introduction

With the significant development of scientific technology and the increase in lifelong learning demand (Bui, Nguyen, Tran, & Nguyen, 2020; Crow, 2006), online learning mode is getting popular and attracting numerous learners participating in this learning system. At Ho Chi Minh City Open University (HCMCOU), hundreds of learners yearly join an online English learning system through LMS (Learning Management System) for various individual reasons. Nevertheless, when participating in an online learning system, learners have no lively classroom due to non-physical contact and geographical distance and diversity of problems such as insufficient facilities, high investment cost, language barriers, culture and education, limitations in the ability of instructional design, planning plans, regulations, policy, management, and evaluation, learners'characteristics, task analysis, instructional objectives and strategies, content sequence, designing a message, development of instruction, and assessment tools (Jabbarifar, 2011). Also, various factors of learners such as insufficient time investment in the learning process, inadequate learning motivations, communicative and interactive development, and supports from the related departments, or unequal English level are the huge problems that greatly influence the success of online learning journey (Nguyen, Fehring, &Warren, 2014). Plus, the habit of passive learning, rarely taking part in lectures, and completing all learning activities as required cause

negative influences on learning quality (Nguyen, 2018). This shows that remote learners must face diverse difficulties of online learning systems and learners' learning characteristics. Indeed, learning English speaking course online, the learners have no opportunities to face to face contact with their peers and instructors in the classroom environment (just eye-to-eye through three video conferences). This makes remote learners lack communicative and interactive environments, and they even cannot naturally exchange their ideas for reasons of unstable wifi connection, small facial expressions, and without non-verbal language performance.

Additionally, to speak a language effectively, learners are required to have communicative capability, conversation ability, and environments for various learning activities displayed such as role-playing and activity stimulating (Lian & Mestre, 1985). Learners need to have good listening ability, great sociolinguistic competence, capabilities of applying and representing language, and necessary strategies of representing of speaker's thoughts or ideas, as well as other language matters such as pronunciation, intonation, word stress, rhythm, vocabulary, and grammar structures (Boonrasamee, Buripakdi, & Lian, 2019). Furthermore, remote learners are full-time workers and have no chances to directly study on campus as face-to-face learners (Rao & Giuli, 2010; Zayapragassarazan, 2020; Zhang & Nunamaker, 2003), so learners have difficulties in exchanging and communicating in English with their peers or classmates. Besides, the differences of learning approaches, cultural communication, learning conditions and geography (Li, Wang, & Zhou, 2010; Rao & Giuli, 2010) make the remote learners hardly succeed in learning English speaking skills through LMS.

Of all challenges presented above, and the truth that many HCMCOU remote learners could not represent their thoughts effectively and confidently at an acceptable manner of a non-native speaker, a PBL method was suggested to apply with the hope that PBL enables remote learners to solve their existing problems and enhance their English-speaking matters because PBLwas recognized as an effective tool to promote learners' autonomy, self-organization, and self-practice in a fulfilled manner. Thus, the topic "Applying Project-based-learning to improve English speaking skills of remote learners at tertiary education" was conducted to distinguish the difficulties encountered by remote learners and seek ways for problem-solving solutions. It also aimed to explore if PBL enables remote learners to enhance English speaking skills, and investigate their attitudes towards the project applied.

The main points referred in this study include research topic, research gap, research purposes, theoretical basis, research methods, research questions, research design, finding, discussion, and conclusion.

2. Theoretical basis

2.1. Online learning

The terminology of "online learning" has been widely used for years in the developed and developing countries, and defined in different ways such as "remote learning", "e-learning", "virtual learning" or "blended learning" (Anderson, 2008; Guy & Roberts, 1998; Khalifa & Kwok, 1999; Kirshner, 2020; Li et al., 2010; Pham, Thalathoti, & Dakich, 2014; Rao & Giuli, 2010; Zayapragassarazan, 2020). Despite this defined term being slightly varied in its usages and learning conditions, it is known as an innovative approach in learning models. In this paper, "online learning" is a form of remote learning which may have diverse meanings in the eyes of educational experts. Particularly, Masrom (2007) defined online learning as a learning mode that relies on a computer (computer-based training). Whereas, Gervacio (2011) expressed online learning is an effective working process between instructors and learners in online learning activities (Gervacio,

2011). To study online efficiently, learners must have adequate capabilities to take in, perceive, analyze and evaluate that academic knowledge (Boonrasamee et al., 2019). Until 2022, online learning is evaluable for providing high-quality education and widening learners' knowledge as well (Jacob, Pillay, MisituraOyundoyin, & Oyundoyin, 2022). At HCMCOU, online learning is known as the remote learning setting, which requires no physical classroom, but is instructor-led (Asynchronous e-learning). It means that remote learners need to have autonomous learning, self-engagement, and involvement in their learning process through LMS.

2.2. Speaking skills

In online English learning conditions, speaking skills seem to be more challenging than the others for reasons of their typical characteristics. Speaking is the way that speakers represent their thoughts by using their voice, pronunciation, and intonation, together with accurate lexical resources and grammatical structures (Burns, 1998). To have English speaking fluency and communicative effectiveness, speakers need to have more environments for regular communication and interactions (Boonkit, 2010; Clark, Moore, & Carlson, 2008; Zaremba, 2006). They are required to have good communicative skills (i.e., learners are taught with communicative language), have conversation ability (i.e., speakers need to have conversation class-common form of practice at the university level), and create more learning activities (such as role-plays or stimulating other activities) during the learning process (Lian & Mestre, 1985). Also, speakers must have good listening skills and other matters of the language such as pronunciation, intonation, word stress, rhythm, vocabulary, and grammar points. Besides, speakers must be well-equipped with the sociolinguistic competence, abilities to apply and express language, and the necessary strategies to deliver the speaker's ideas as well (Bachman, Palmer, & Palmer, 2010). Nevertheless, learning online is more challenging because of having no lively classrooms as face-to-face learning on campus (Rao & Giuli, 2010; Zayapragassarazan, 2020; Zhang & Nunamaker, 2003), lacking communicative environments with their peers and instructors, and challenging in diverse learning conditions, geography, cultural communication, and approaches made the remote learners more problematic (Li et al., 2010; Rao & Giuli, 2010). Furthermore, remote learners just have eye-to-eye contact on screen through video conferences, and cope with various common distractions (such as noises from outside, and unstable wi-fi connection) (Pham, Luu, Mai, Thai, & Ngo, 2022), so these lead to negative effects on quality of learning speaking skills online.

2.3. Project-Based-Learning (PBL)

PBL is founded in the 1900s and focuses on learning by doing by John Dewey (Bender, 2012). It is helpful in creating more learning environments to help learners identify difficulties and challenges within the learning process (Bender, 2012; Cao, 2018; Chua, 2014; Nguyen, 2011; Thomas, 2000; Wolk, 1994). With a project conducted, learners could develop their autonomous learning, and this skill is improved if learners are more responsible for their own learning (Skehan, 1998). PBL enables learners to develop useful skills such as collaboration, social contact, and teamwork building. It helps to enhance the collaborative relationships of group members, and promotes cooperation among learners, instructors, and other members of the learning community (Coleman, 1992). With the final product produced, learners have a more positive attitude toward the project conducted (Diana, 2002). They are more confident, independent, motivated, and interested in their learning process thanks to practical tasks performed in the project (Lee, 2002). PBL is a flexible educational method because numerous skills are developed simultaneously in an integrated, meaningful, and approachable activity (Beckett, 2002). It is considered as an instructional method because it requires a prolonged period (several weeks) to conduct, and learners are asked to develop diverse essential elements such as language use, content, and other

vital skills. Moreover, with the aims of project-based instruction, learners are more developed in owning to making their own intellectual outcome product (Thomas, 2000).

In the language learning aspect, PBL helps to create an opportunity for foreign language learners to integrate four language skills (Listening, Reading, Speaking, and Writing) in a harmonized and natural manner (Stoller, 2006). As Markham (2011) described PBL is the connection between knowing and doing, so learners not only take in knowledge and necessary elements of the learning program, but also apply the accessed knowledge to solve the practical problems to get the results as expected. PBL focused on educating learners in a way of connecting with the real world, and do not depend on the teaching program, so learners have more motivation, passion, creativity, optimistic feeling, and sharing willingness (Markham, 2011, p. 23). This illustrates that PBL is an approach to a student-driven, teacher-facilitated in the learning process (i.e., learners must raise the problems to access knowledge and these problems must be developed and instructed through self-study with the facilitating of the teachers (Bell, 2010)). In 2015, PBL is admitted to be helpful for learners in developing their communication, problem-solving, and learning centered, and their Listening -Speaking skills as well (Shanthi & Rao, 2015).

However, to apply PBL effectively in the teaching process, two fundamental factors are concerned consisting of having practical projects and meeting the training purposes. It means that the projects must be well-designed and well-implemented (Abubakar, 2015; Efstratia, 2014; Florez, 1999; Larmer & Mergendoller, 2010) and it is a positive teaching method when it helps to create a learning environment in which learners are centered, so the learners enable to construct knowledge and develop critical-thinking skills (Behizadeh, 2014). In 2015, PBL is confirmed to be successful in developing learners' intellectual and social knowledge, and learners were more energetic and active in accessing knowledge and skills thanks to their own autonomous learning ability instead of relying on their instructors (Kettanun, 2015). PBL enables learners to resolve complex open-ended design problems, so teachers need not spend much time dedicating to every learner in solving their own problems (Sola-Guirado, Guerrero-Vacas, & Rodríguez-Alabanda, 2022). It means that learners play important and center roles in dealing with challenges met. This is completely appropriate with the characteristics of remote learners, so applying PBL in teaching English speaking skills is reasonable.

In Vietnam, PBL has been attracted by some researchers for its essential characteristics. First, PBL enables learners to solve the problems encountered in the English learning process when it chiefly focuses on learner-centered and teacher-facilitiated (Cao, 2018; Chua, 2014; Nguyen, 2011). Second, PBL is an active teaching approach that enables learners to explore their true problems or challenges encountered, and obtain the expected knowledge (Nguyen, 2011). Third, PBL is distinguished with other traditional learning methods which are completely textbook-centered learning (Nguyen, 2011). Four, PBL helps learners maintain their lifelong learning, have more inspiration and enthusiasm in their learning period, enhance their problem-solving abilities, research skills, sense of collaboration and resource management skills, improve communicative capability, share information through the real experience with difficulties encountered and these experiences make their life simpler (Nguyen, 2011). Nevertheless, when applying PBL, instructors and learners need to take these key factors into consideration including: curriculum issues, time frame and materials, real-world connection (Nguyen, 2011), teachers' support and enthusiasm (Nguyen & Bui, 2022), as well as the challenges of "finding IT tools, authentic magazine resources, writing in magazine conventions, and collaborating with peer" (Nguyen & Bui, 2022, p. 153). Apparently, ten fundamental steps of PBL need to be considered: (1) project theme, (2) final outcome, (3) project structure, (4) & (5) demands of information gathering, (6) & (7) compile

and analyze information, (8) language demands of the final activity, (9) & (10) presenting & evaluating the final product (Nguyen, 2011).

2.4. Self-Organized Learning Environments (SOLEs)

As mentioned above, PBL helps to create Self-Organized Learning Environments (SOLEs). SOLEs refer to the condition of self-study, self-access, self-contact, and connection with other learning activities. SOLEs are learning forms in which learners need to have self-determination and self-discovery. It means that learners are required to involve in a diversity of information and engage in various complex activities in daily life (Boonrasamee et al., 2019). Creating SOLEs is aimed to encourage the ability of self-directed education (Mitra, 2012). Likewise, Boonrasamee et al. (2019) admitted that learners need to discuss with their peers in diverse learning environments to access various sources of information because SOLEs are learning environments of openness and flexibility (i.e., children (learners) freely and autonomously learn without the presence and interference of adults (instructors)) (Mitra et al., 2005). In 2022, SOLE is admitted to playing important role in increasing learners' motivation and learning outcomes (Effendi, Joyoatmojo, & Indrawati, 2022).

Although PBL has been discussed in a vast number of previous studies with different definitions, characteristics and its applications in various teaching and learning contexts (including face-to- face and online training conditions). PBL brings both benefits for drawbacks to teachers and learners in the specific training process. However, the advantages and effectiveness of applying PBL in teaching English speaking skills online for remote learners have not been exploited, so this study aims to illustrate how PBL is applied in a remote learning settings and its efficiency in enhancing the English speaking skills of remote learners.

Overall, the theoretical basis chiefly focuses on four fundamental theories: (1) Project-Based-Learning (PBL) (Markham, 2011); (2) Self-Organized Learning Environments (SOLEs) of Boonrasamee et al. (2019); (3) Online learning by using LMS of Morrison, Ross, Kalman, and Kemp (2011); (4) Speaking skills of Lian and Mestre (1985) and Bachman et al. (2010). These theories are well-organized in the following diagram with some assumptions:

- When participating in online English-speaking courses, remote learners need to have ICT skills and abilities to complete exercises on LMS, meet requirements of assignments, connect with peers through discussion boards, and give their feedback or comments on their peers' work (Morrison et al., 2011) (1).

- To reach the sucess of learning English-speaking skills online, remote learners need to have Self-Organized Learning Environments (SOLEs). It means that learners have self-decision and self-exploration (i.e., learners need to perceive a diversity of information sources, and self-engage in various complex learning activities in a daily context (Boonrasamee et al., 2019)) (2).

- To have SOLEs, a PBL method should be applied because PBL is based on a constructivist approach, focuses on learners-centered (student-driven and teacher-facilitated), and helps learners to connect between their knowing and doing, apply knowledge to solve practical problems and lead to the final outcomes (Markham, 2011, p. 23) (3).

- When PBL applied, learners have more opportunities to improve their sociolinguistic competence (including communicative ability, environments for practicing English speaking skills, verbal language expression, non-verbal language performance, and ability to monologue and interact with others (Lian & Mestre, 1985)) (4).

• Whenever learners improve their sociolinguistic competence, their language competence and other matters of speaking skills (such as listening skills, vocabulary, grammar, pronunciation, intonation, rhythm, and language functions (Bachman et al., 2010)) are also developed and vice-versa (5).

From (1), (2), (3), (4), (5), it is easy to conclude that remote learners are able to enhance their English-speaking skills online if PBL is designed because PBL helps learners have more SOLEs which contribute to the success of online learning on LMS. Whenever learners have good skills in online learning through LMS, their language competence and other matters of speaking skills are improved, and this leads to the development of social language competence and vice-versa. Additionally, PBL helps to create learning environments, so learners have more chances to develop their social language competence and other matters of speaking skills, so their English-speaking skills are enhanced.
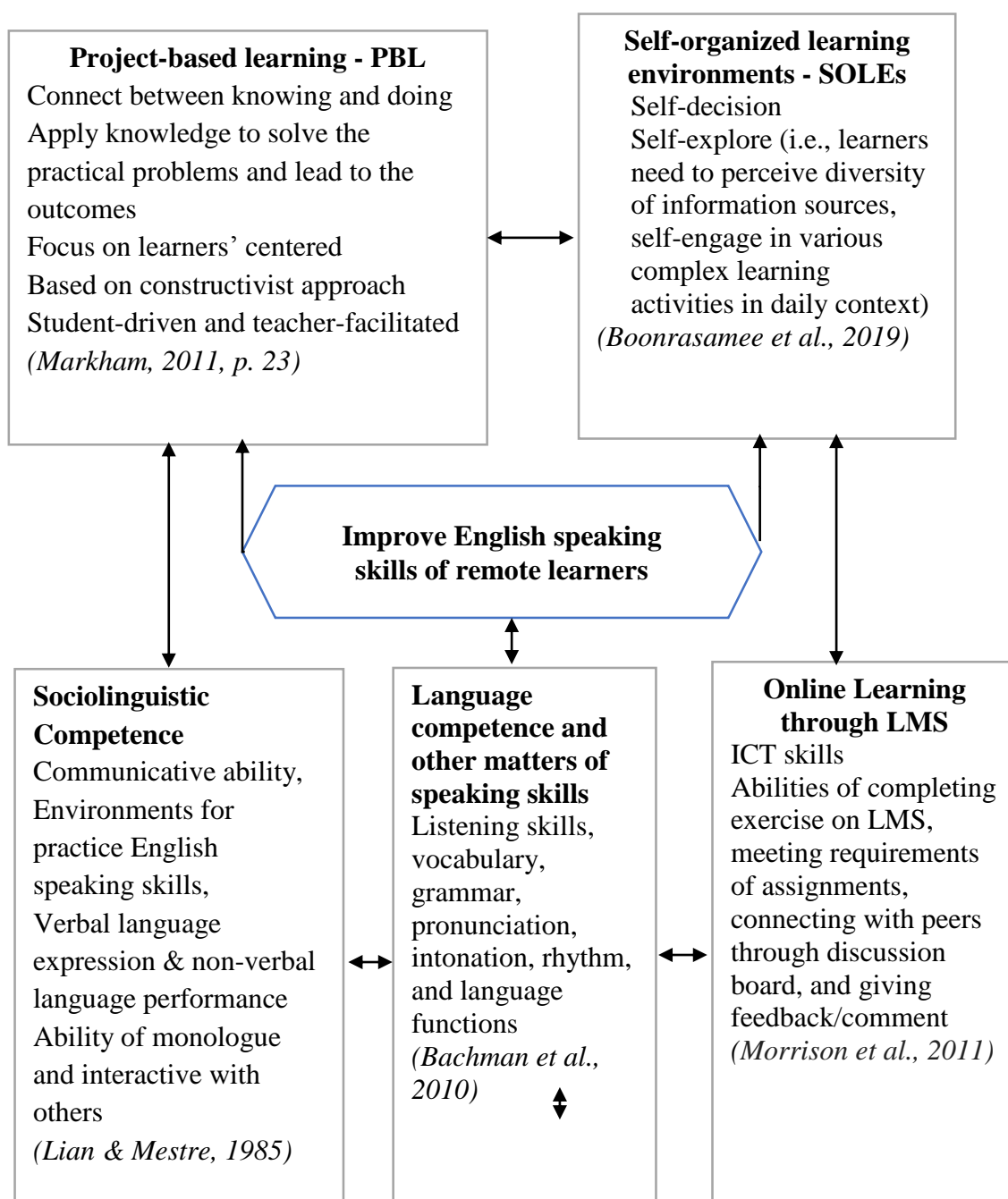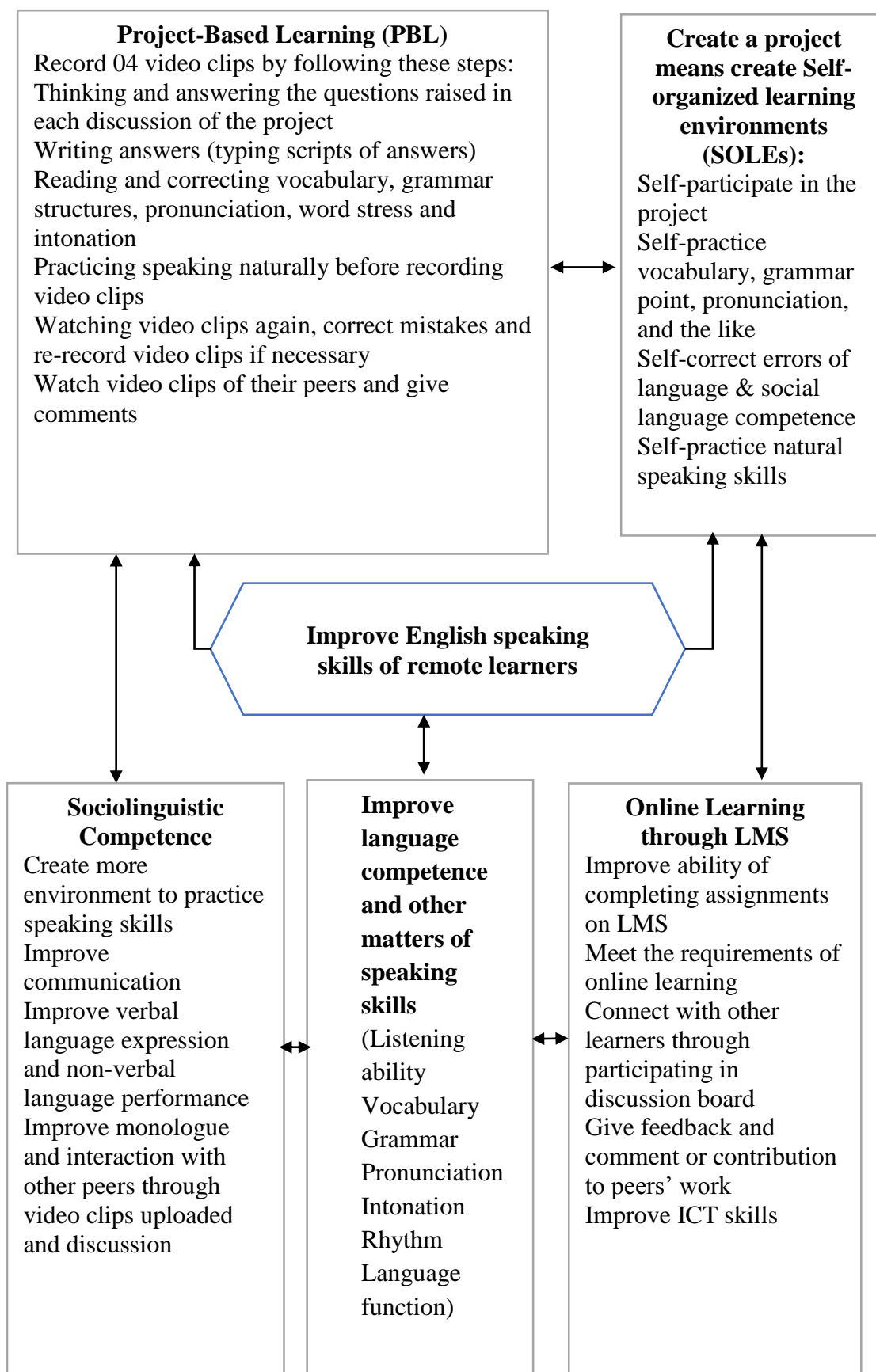
3. Methodology

Mixed research method was applied to conduct this research paper. For the quantitative research method, a survey questionnaire was sent to thirty remote learners who took part in English speaking course -level 1 and completing all the requirements of the course, but only 22 of them responded the survey in an appropriate manner. The survey questionnaire was designed to collect ideas of learners towards their difficulties in learning English speaking skills online, their perspectives, feelings, attitude, reflections, and suggestions when PBL method applied, and then these collected data were described and analyzed to find out the practical research results. For the qualitative research method, a tool of semi-interview structure was used to randomly interview 05 remote learners participating this English-speaking course to explore the advantages and challenges of learners after completing the designed project, and then their perceptions and attitude toward the projects were also gathered. The collected data was categorized and evaluated to draw out a practical conclusion.

Regarding to research participants, all of them were selected based on the total number of 46 remote learners participating in two online English-speaking classes (level 1) at HCMCOU. Two these classes were distributed to the teacher who is also the main researcher of this paper and responsible for teaching speaking skills-level 1 online. To meet the criteria of PBL method applied in two these online classes, and to assure the ethics of this research conducted, only remote learners who have fully attended the classes and completed all requirements of the project were selected to be research participants. There were forty-six remote learners join in two speaking classes (level 1) as distributed at HCMCOU. However, for various individual reasons, just thirty remote learners maintained their course until the end and all of them were asked to complete the survey questionnaire after the course finished, but just twenty-two of them responded the survey in an appropriate way, so this explained why only 22 remote learners responded to the questionnaire for quantitative research. And among these 22 learners, five of them were randomly selected as the qualitative research participants to semi-interview in depth. All these participants learned English as a foreign language and aimed to obtain the BA in English for many reasons. Most of them are at the age of 22 to 45 and came from various places of Vietnam. To reach the bachelor's degree of English, remote learners were compelled to complete 06 levels of speaking skills within 06 semesters. For this speaking course, learners had to complete 04 units (from unit 1 to unit 4) in the book "Q skill for success - Listening & Speaking 3". Learners studied this speaking level based on the lectures recorded and uploaded on LMS and completed the tasks distributed in a definite period. All self-practice exercises for learners mostly focused on vocabulary, grammar, pronunciation, listening skills, and the like. Also, learners took part in 03 video conferences and conducted the project that contained 04 discussion topics in Discussion Board. All these participants conducted the project within a 3-month semester. The designed projects required the remote learners to record four video clips through answering the questions related to 04 units learned in this speaking course. Before recording each video clip, learners had to make a script of their answers and then uploading their scripts and video clips on LMS to get further discussion of their peers.

Based on the purposes of this study, four following research questions taken into consideration:

1) What difficulties do the remote learners often encounter when learning English speaking skills online?

2) Why is it necessary to apply PBL method in teaching English speaking skills online?

3) Does the PBL method help to enhance English speaking skills of remote learners?

4) What attitudes of the remote learners towards the project applied within the online English-speaking course?

And the research design is displayed as follow:

Project-Based Learning (PBL)
Record 04 video clips by following these steps:
Thinking and answering the questions raised in each discussion of the project
Writing answers (typing scripts of answers)
Reading and correcting vocabulary, grammar structures, pronunciation, word stress and intonation
Practicing speaking naturally before recording video clips
Watching video clips again, correct mistakes and re-record video clips if necessary
Watch video clips of their peers and give comments

Create a project means create Self-organized learning environments (SOLEs):
Self-participate in the project
Self-practice vocabulary, grammar point, pronunciation, and the like
Self-correct errors of language & social language competence
Self-practice natural speaking skills

Improve English speaking skills of remote learners

Sociolinguistic Competence
Create more environment to practice speaking skills
Improve communication
Improve verbal language expression and non-verbal language performance
Improve monologue and interaction with other peers through video clips uploaded and discussion

Improve language competence and other matters of speaking skills
(Listening ability
Vocabulary
Grammar
Pronunciation
Intonation
Rhythm
Language function)

Online Learning through LMS
Improve ability of completing assignments on LMS
Meet the requirements of online learning
Connect with other learners through participating in discussion board
Give feedback and comment or contribution to peers' work
Improve ICT skills

As seen in the diagram of the research design, PBL was designed and the outcome product of this project is four video clips recorded with all steps in detail (such as thinking and answering the questions raised in each discussion topic in the project; writing answers (typing scripts of answers); reading and correcting vocabulary, grammar structures, pronunciation, word stress, and intonation; practicing speaking naturally before recording video clips; watching video clips again; correct mistakes and re-record video clips if necessary; watching the video clips of their peers and giving comment on their peers' work). Whenever the project is designed, learners have self-organized learning environments (SOLEs) in which learners can self-participate in the project, self-practice their language competence (vocabulary, grammar point, pronunciation, intonation, rhythm, word stress), self-correct errors of language competence and social language competence, and self-practice natural speaking skills as well. When learners have a good awareness of SOLEs, they can improve their ICT skills, the ability of completing assignments on LMS, meet the requirements of online learning, connect with other learners through participating in the discussion board, and give feedback and comments or contributions to peers' work. All of these contribute to enhancing the English speaking skills of remote learners.

4. Result and discussion

4.1. Result

4.1.1. Table

Table 1

Personal information of learners

Gender	Number of learners	Percent (%)
Males	10	45.45
Females	12	54.54

In Table 1, the number of remote learners participating in English speaking course is twenty-two and the percentage of female learners are higher than male learners more than 9%.

Table 2

Personal information of learners

Age	Number of learners	Percent (%)
18 - 24	2	9.09
25 - 34	16	72.72
35 - 45	3	13.63
Over 45	1	4.5

Table 2 illustrates that most of the remote learners are between the age of 25 to 45 (86.35 %). Only two learners are from 18 to 24 years old and only one person is over forty-five. This implies that these remote learners are adults and working age, so they have definite advantages and disadvantages when taking part in learning English online as many previous researchers argued.

Table 3

Personal information of learners

English level	Number of learners	Percent (%)
A1	1	4.54
A2	7	31.8
B1	10	45.45
B2	3	13.6
C1	1	4.54

Table 3, remote learners were asked to self-evaluate their English level when participating in online learning course, 45.45% of them were in level B1, 31.8% were in level A2. Only one learner was in level A1, one in C1, and three in B2. This illustrates that most learners desire to improve their English skills at higher levels, so they join these online classes.

Table 4

Personal information of learners

Learning motivations	Number of learners	Percent (%)
Improve English to support their work	13	59.09
Improve English to study at the higher level	6	27.27
Improve English for other purposes (traveling, communication, …)	3	13.63

Table 4 demonstrates learners' motivations. More than half of remote learners 59.09% expressed that they took part in the online English training system of HCMCOU to improve their English language skills to support their work, while 27.27% of them prefer to improve their English for studying at higher level (master's or doctor's degree). Nearly 14% of learners improve their English for other purposes such as traveling, teaching their children, and worldwide communication and so on. This shows that remote learners have a strong determination in enhancing their English skills with clear purposes.

Table 5

Self-evaluate speaking ability of learners

Self-evaluation	Number of learners	Percent (%)
Excellent	2	9.09
Good	4	18.18
Average	13	59.09
Poor	3	13.63

In the table 5, remote learners self-evaluated their English-speaking ability. Only 9.09% learners admitted they could speak English well (excellent) and 18.18% of them were at a satisfactory (good) level. Whereas 60% of learners believed their speaking skills were at an average level and 13.63% of them need to improve (poor). This implies that improving the English speaking skills of remote learners is necessary.

Table 6

Challenges encountered in English speaking skills of remote learners

Challenges	Number of learners	Percent (%)
Lack of ideas	14	63.63
Limited Vocabulary	17	77.27
Insufficient listening comprehension	6	27.27
Inaccurate pronunciation	15	68.18
Poor intonation and rhythm	11	50.0

Table 6, the challenges encountered of learners in process of learning English speaking skills online are presented. Most of the learners revealed that they had the problems having a limited vocabulary, inaccurate pronunciation, lack of ideas, and poor intonation and rhythm with percent of 77.27%, 68.18%, 63.63%, and 50% respectively. Only 27.27% learners expressed they were in trouble with insufficient listening comprehension. This proves that learners cope with various problems in learning English speaking skills as Lian and Mestre (1985) mentioned.

Table 7

Information of the project conducted

Statements	Totally Agree (%)	Agree (%)	Disagree (%)
The conducted project holds 04 discussion topics related to 04 units learned within speaking course	50.0	50.0	0
The questions in 04 discussion topic require learners to have critical thinking in 4 aspects of sociology, nutritional science, psychology, and marketing	63.63	36.36	0
All discussion questions are varied, helpful and meaningful when learners can think critically and answers in different approaches	54.54	45.45	0
Project theme and discussion topics are appropriate with learning program and learners' abilities	86.36	27.27	9.09
Tine for conducting project is completely reasonable	59.09	40.9	0
The outcome product of this project is 04 video clips recorded by each remote learner	63.63	36.36	0
Project structure is clear with the fulfilled content	54.54	45.45	0
All activities of the project are performed in English	63.63	36.36	0
The outcome product (04 video clips recorded) is given marks and comments based on a clear marking scheme	63.63	36.36	0

In Table 7, remote learners agree on the information of the designed project in the Discussion Board on LMS at HCMCOU (based on the 5-point Likert scale). 100% of them agree discussion topics (in the project) are connected to learning program, and the questions raised in each discussion topic are critical, varied, helpful, and meaningful because learners could think and

answers in different approaches (100%). Time for conducting project was reasonable. The outcome product of this project (four video clips) was proper (100%). All of the learners appreciated the clear structure and the fulfilling content of the project. 100% of them recognized that all activities of the project were conducted in English and all their outcome products were assessed based on a clear marking scheme. 86.36% of learners totally agreed that the project theme and discussion topics were appropriate for the learning program and learners' abilities, and only 9.09% of learners disagreed with this point. This collected data illustrates that PBL is well-designed and well-implemented as Abubakar (2015); Efstratia (2014), Florez (1999), and Larmer and Mergendoller (2010) presented.

Table 8

The effectiveness of PBL applied in online English-speaking classes

(1 - Totally Agree (%); 2 - Quite Agree (%); 3 - Agree (%); 4 - Quite Disagree (%); 5 - Disagree (%))

Statements	1	2	3	4	5
Participate in online learning, learners autonomously study, learners-centered	59.09	0	40.91	0	0
Remote learners have autonomous learning, so creating learning environment for learners' self practice is necessary	59.09	0	40.91	0	0
PBL helps learners improve their autonomy	68.18	0	31.81	0	0
PBL enables learners to have more connection, discussion, with their peers	54.54	0	40.91		4.54
PBL enables learners to improve their social communication and interaction	27.27	0	68.18	0	4.54
PBL helps to connect between knowing and doing	45.45	0	54.54	0	0
PBL helps learners apply their knowledge to solve the problems met and reach their goals as expected	40.90	0	54.54	0	4.54
PBL helps learners have constructivist approach and create their own products	45.45	0	54.54	0	0
PBL helps learners have good awareness of student-driven and teacher-facilitated	45.45	0	54.54	0	0
PBL helps to develop Self-organized learning environments (SOLEs)	54.54	0	45.45	0	0
Once leaners have SOLEs, they can self -decide, self-explore their learning journey, self-perceive diverse information sources, and self-engage in their learning activities	63.63	0	36.36	0	0

Table 8 illustrates the agreement of remote learners on the PBL applied in the online learning environment. 100% of learners expressed their agreement with three levels (agree, quite agree and totally agree) on the following viewpoints: (1) remote learners need to study autonomously (learners-centered), so creating a learning environment for learners' self-practice is necessary as Bender (2012), Cao (2018), Nguyen (2011), Wolk (1994) revealed; (2) designing a project in Discussion Board on LMS helps learners improve their autonomy (Skehan, 1998) (due to trying to complete the project as required); (3) PBL helps to connect between knowing and

doing (Markham, 2011) so this enables learners have a constructivist approach, create their own products (recording video clips) and have a good awareness of student-driven and teacher-facilitated (Bell, 2010). 95.45% of learners agreed that the project design helps learners have opportunities to connect, discuss and learn with their peers (Shanthi & Rao, 2015) through the activities of reading scripts, watching video clips, giving comments, and correcting mistakes for language improvement, but 4.54% of them disagreed. Likewise, 95.45% of learners admitted that designing a project helps learners improve their social communication and interaction (Shanthi & Rao, 2015), and most of learners (95.45%) could apply their knowledge to solve the problems encountered (Sola-Guirado et al., 2022) and attain their goals as expected.

Table 9

Feedback of remote learners in completing the project in the discussion board on LMS

(1 - Totally Agree (%); 2 - Quite Agree (%); 3 - Agree (%); 4 - Quite Disagree (%); 5 - Diagree (%))

Statements	1	2	3	4	5
Completed all steps of the project in discussion board	100.0	0	0	0	0
Think critically, brainstorm and select the most proper ideas → sharpen their mind in seeking great ideas	68.18	0	31.82	0	0
Write the scripts of their answers → more time to consider the vocabulary and grammar structures used → improve lexical resources and grammar points	72.72	0	27.28	0	0
Read the scripts many times to grasp the main ideas and get familiar with pronunciation of the unfamiliar words, word stress, grammar structures, intonation and rhythm → speak naturally and fluently	77.27	0	18.19		4.55
Watch the clips, notice verbal language expression and non-verbal language performance, self-correct errors of vocabulary and grammar structures, adjust inaccurate pronunciation, intonation, and word stress → improve language competence and social language competence	63.64	0	31.82	0	4.55
Upload both scripts and video clips for other learners reading, watching, and giving comments → distinguish strengths and weaknesses and have more chances to improve their English-speaking skills	59.09	0	40.9	0	0
Give marks and comment on the clips recorded with the clear marking criteria → learners draw out experience and correct their mistakes to develop their speaking skills	59.09	0	40.9	0	0

Table 9 presents feedback from remote learners in completing the designed project. 100% of them agreed that they have completed all steps of the project including reading and thinking about the questions, writing scripts, recording video clips, uploading both scripts and video clips on LMS, reading scripts and watching clips of other peers and giving comment and discussing together (Morrison et al., 2011). To answer the questions in the project, learners had to think critically, brainstorm, and select the most appropriate ideas so which helped to sharpen learners' minds in seeking great ideas to represent their thoughts (Lian & Mestre, 1985) shared (68.18% totally agree and 31.82% agree with this point). Besides, learners had to write the scripts of their

answers so they could select proper vocabulary and grammar structures. These enabled learners to widen their lexical resources and grammar points as Bachman et al. (2010) argued (72.72% totally agree and 27.28% agree). More than 77% of learners totally agreed that after writing the script of the answers in the project, learners had to read their scripts many times to grasp the main ideas and get familiar with the pronunciation of the unfamiliar words, word stress, grammar structures, intonation, and rhythm in order to speak naturally and fluently in process of video clips. After the video clip recording, learners had to watch them again to adjust their verbal language expression and non-verbal language performance, then they themselves had to self-correct and re-recorded other video clips. This matched with the idea of Self-Organized Learning Environments (SOLEs) - learners have self-decision and self-exploration (i.e., learners need to perceive the diversity of information sources, self-engage in various complex learning activities in daily context (Boonrasamee et al., 2019)). Through these activities, learners improve their language competence and social language competence (Bachman et al., 2010) (63.64% totally agree, 31.82% agree, and only 4.55% disagree). Similarly, all of the learners agreed that by uploading both their scripts and video clips for getting feedback and comments from their peers and receiving the assessment from the instructor, learners could recognize their strengths and weaknesses, and this contributed to improving their English-speaking skills.

Table 10

Attitudes of remote learners towards PBL

(1 - Very satisfied; 2 - Quite satisfied; 3 - Satisfied; 4 - Less satisfied; 5 - Not satisfied)

Statements	1	2	3	4	5
Critical and appropriate questions rasied in the project	90.9	0	9.1	0	0
Appropriate time for discussion topics in the project	50.0	40.9	9.1	0	0
Improve remote learners' sub-skills of speaking skills	45.5	50.0	4.5	0	0
Have more habit of speaking and more confidence in English speaking fluency thanks to steps of writing scripts, selecting ideas, vocabulary, and grammar structures, …	59.09	27.27	13.64	0	0
Practice speaking repeatedly → adjust pronunciation, word stress, intonation, and rhythm, … and improve their natural speaking skills	59.09	31.82	9.1	0	0
Watch video clips again → more opportunities to self-correct their mistakes	50.0	40.9	9.1	0	0
Participated in the project → chance to learn, draw out experience, and improve speaking skills	54.54	40.9	4.55	0	0
With clear marking criteria, speedy feedback, and mark giving → more motivated in completing the project and improving their English-speaking skills	59.09	36.36	4.55	0	0

In the Table 10, all remote learners expressed their positive attitudes towards PBL through three levels of satisfaction (very satisfied, quite satisfied, and satisfied). 100% of learners were satisfied with the duration of conducting the project and the critical questions raised in each discussion topic of the project and all of them were pleased with their English-speaking sub-skill

enhancement after completing the project. They all were confident in speaking English and had good speaking habits thanks to various steps conducted in the project. These enabled them to speak English naturally. Besides, 100% of remote learners were satisfied with the activities of watching their recorded video clips again, discussing with their friends, and receiving feedback and comments from peers and instructors' evaluation because these helped learners self-correct their mistakes, draw out experience and improve their English-speaking skills.

4.1.2. Data collection of interviewing related to PBL applied in teaching English speaking skills

Five remote learners were randomly selected to interview in depth including Quang Linh, Quynh Anh, Minh Trung, Minh Ngoc and Yen Nhu. All of them were asked about the difficulties encountered in learning English-speaking skills online, the project applied and its appropriateness and learners' perception towards the PBL method applied. For the challenges encountered, five interviewees expressed in different ways, but with the same content. All of them had the problems of insufficient communicative and interactive environments (less video conferences, no face-toface classes), inadequate environments to practice speaking skills, and no condition for social contact with peers and instructors. They also lacked ideas, language competence, and other matter of speaking skills as Bachman et al. (2010) and Lian and Mestre (1985) described. For the project conducted, five interviewees highly appreciated its appropriateness in aspects of interesting project content, critical and meaningful discussion questions, proper project steps, reasonable timeline, and speedy and precise feedback from peers and instructors. These made learners sharpen their minds, improve their language competence and social language competence, speaking sub-skills, and other matters of oral communication thanks to the diverse activities required in the project. Also, these interviewees revealed their positive attitude towards the PBL method applied to own after finishing the project, their English-speaking skills have been enhanced and they hoped to have such projects in the next stages of learning speaking skills online. They also added the project in this Discussion board was more useful and practical than other parts of assignments on LMS because they were more motivated to satisfy the demands of the project, and these could develop their self-organization and autonomy in their online learning process as Boonrasamee et al. (2019) believed.

4.2. Discussion

As seen in Tables 1, 2, 4, remote learners were both female and male adult learners. They took online English courses for distinct individual reasons, but in general for English improvement to satisfy their personal demands. This implies that remote learners have clear set goals and strong determination to complete learning courses. However, the English levels of remote learners were not the same *(see Table 3),* and their English-speaking ability was varied *(see Table 4),* so their difficulties might be different and they decided to enhance their speaking skills. Nevertheless, studying online was more challenging due to no lively and face-to-face classrooms (Rao & Giuli, 2010; Zayapragassarazan, 2020; Zhang & Nunamaker, 2003), and other factors of different geography, communicative cultures, learning approaches and conditions, (Li et al., 2010; Rao & Giuli, 2010), so the remote learners had to cope with various challenges as Bachman et al. (2010) and Lian and Mestre (1985) described *(see in Table 6).* To solve the problem encountered, PBL was considered an effective method because PBL enabled remote learners fully aware of their active role (learners-centered) and teacher-facilitated (Bell, 2010). It helped learners have more learning environments for self-organization, self-practice, self-access knowledge, and problems solving. Besides, PBL enabled learners to connect between doing and knowing (Markham, 2011), to develop their communication, and enhance their listening and speaking skills (Shanthi & Rao, 2015) *(see in Table 8).* In Table 9, PBL is evaluated to be effective in enhancing the English

speaking skills of remote learners for reasons of conducting a project as required, so learners could improve their critical thinking, lexical resources, grammar structures, language competence, social language competence, ways of speaking naturally and confidently. These reflections of remote learners are completely matched with the theories of Markham (2011) with Project-based-learning (PBL); Boonrasamee et al. (2019) with Self-organized learning environments (SOLEs); Morrison et al. (2011) with Online learning conditions; as well as Lian and Mestre (1985) and Bachman et al. (2010) with speaking skills beliefs. Eventually, remote learners admitted that they were satisfied with the project design because they could enhance their English-speaking sub-skills and speaking habits *(see Table 10)*.

5. Conclusions & recommendations

The findings show that remote learners had to cope with various difficulties when participating in online English-speaking courses such as speaking sub-skills mentioned by Lian and Mestre (1985), inadequate learning environments, less communication and interactions with peers and instructors, so learners were challenged in language competence and social language competence (Bachman et al., 2010). To solve these problems encountered, the PBL method (Markham, 2011) was recommended, and the results illustrate that remote learners could enhance their English-speaking skills and they were cheerful with the designed project on LMS for its benefit in helping learners to self-organize learning environments (Boonrasamee et al., 2019). Thus, if possible, this PBL method should be widely applied in teaching speaking skills online. However, in this paper, PBL was just conducted in two speaking classes, so the research participants seemed to be limited and this may influence data collection, data analysis, and research results.

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