

CHAPTER 3

RESEARCH METHODOLOGY

This chapter presents the research methodology employed in this study. It begins with presentation of research design; population and sample; the research procedures which can be divided into four phases—the needs analysis, the development of the English oral communication course based on the Project-based Learning Approach, the implementation of the English oral communication course based on the Project-based Learning Approach, and the determination of the effects of the English oral communication course based on the Project-based Learning Approach on students' oral communication ability; and data collection instruments including each of the instrument's development process, validation process, administration, and data analysis.

Research design

The present study employed a quasi-experimental research design to investigate the effects of the English oral communication course based on the Project-based Learning Approach on the students' oral communication ability. In particular, the one-group pre-test-post-test research design was used. Even though this design is generally considered a weak design, due to certain limitations including the number of KU students allowed to take the English oral communication course and inability to perform random sampling or random assignments of the subjects, it was selected as it is suggested by Wasanasomsithi (2004) that the one-group pre-test-post-test design at least allows researcher to know whether any change has occurred after the intervention or the implementation of the treatment. In addition to the quantitative methodology, the qualitative methodology was also employed. To elaborate, qualitative data gathered by means of the learner logs, student interviews, and teacher's diary were utilized to increase the breadth and depth of the quantitative findings.

Population and sample

Population

There were two sets of population in this study: the population of the needs analysis survey and the population of the main study.

The population of the needs analysis survey

The population of the needs analysis survey consisted of KU students from every faculty who had completed the three foundation courses and who would enroll in any one of the 16 elective courses offered each semester by the university.

The population of the main study

The population of the main study was KU students from every faculty who already attended the three foundation courses and who were enrolled in an English oral communication course offered by the university.

Sample

There were two sets of samples. The first was composed of the students who participated in the needs analysis survey, and the second consisted of those who participated in the experiment or the main study.

The sample of the needs analysis survey

The sample of the needs analysis survey was 165 KU students from every faculty who had completed the three foundation courses. Richards (2001) states that the sample for the needs analysis survey should be the representative of the population and random sampling was preferable to ensure representativeness; however, as random sample was impractical for this study due to the unavailability of the population lists, a convenient sampling was used to obtain the sample group. According to Pugh (2005), convenient

sampling is appropriate when the context of the participants is relevant to the research objectives and there is a sound rationale for using such group of participants.

As regards the sample size, in general, the minimum number of sample which provides a desired precision at a lower cost is 100 if the study is a descriptive study, as pointed out by Frankel and Wallen (2000). However, it is undeniable that the larger number would give a better result. Finally, 200 sets of questionnaire were distributed among the target group at the end of the second semester in 2005. Of these, 165 copies were returned for data analysis.

The sample of the main study

There were two groups of samples in the main study—quantitative sample and qualitative sample.

1. The quantitative sample

The number of students who took the oral English communication course was small as the Foreign Languages Department, the Faculty of Humanities, KU, allowed only 20-24 students to study in a listening and speaking class to ensure that each student would have enough time and chances to practice speaking in class to improve his/her oral ability. Twenty two students were enrolled in the English oral communication course entitled 'Listening-Speaking I (Oral Communication by Using Project Work)' in the second semester of the academic year 2006, and they constituted the quantitative sample of the main study.

These 22 students were assigned into five groups for project work instruction. These five intact groups remained unchanged all through the semester. Before the students were assigned into groups, they were separated into three groups according to their levels of language proficiency—high, average, and low, using their final grades of the Foundation English III course in the previous semester as the criterion. Simply put, the students who got an A were classified as high ability students, whereas those who attained the grades of B or C were grouped as average, and those who got a D were considered students with low language abilities. As the total number of students who were enrolled in the course was 22, there were three groups with four members and two with five members, with one student being randomly selected from the high group, another one from the low group, and the remaining two or three from the average group.

To observe the group homogeneity in order to prove the reliability of the research methodology, the average oral ability scores of each group were compared. Besides, the students' oral abilities were observed to assure that the members of the groups had different levels of oral proficiency as this factor was required to ensure that the cooperative tasks and scaffolding among the group members would take place.

To ensure that each group consisted of the students with mixed abilities, the pre-test scores of the students were calculated and considered. It was found that every group had average oral ability scores of about $47.11 \pm 4.5\%$. (See Appendix Q for the pre-test scores of the students in each group.)

2. The qualitative sample

One group of students, Group I, comprising five students with different levels of language proficiency was randomly selected as the focus group from whom qualitative data were gathered.

Research procedures

In this study, the research procedures could be divided into four phases as follows:

1. Needs analysis
2. The development of the English oral communication course based on the Project-based Learning Approach and the findings from the students' needs analysis
3. The implementation of the English oral communication course based on the Project-based Learning Approach and the findings from the students' needs analysis
4. The determination of the effect of the English oral communication course based on the Project-based Learning Approach and the findings from the students' needs analysis

1. Needs analysis

Objective

The objective of the needs analysis was to elicit data regarding the KU students' needs to develop and practice English oral communication skills including the topics of their interests.

Construction of the instrument

In this study, the needs analysis was conducted by means of a self-administered questionnaire to be completed by KU students. The questionnaire was adapted from the needs analysis questionnaire of Chan (2001) which was designed to elicit EFL undergraduate students' English needs. The items in the questionnaire were categorized into six parts: background information, the needs of particular language skills in the academic and professional domains and students' self rating, students' needs of English skill(s), students' preferences for practicing listening and speaking skills, students' abilities and needs for practicing the additional skills required for doing project work, and students' topics of interest, which are explained in detail below.

Part I: Background information

The background information section aimed at eliciting the data regarding the students' demographic characteristics to establish the students' profile for the study. There were six items in this part.

Part II: The needs of particular language skills in the academic and professional domains and students' self-rating

The objective of the second part was to shed light on how students rated their own competence in particular skills in the academic, professional, and social domains. This part consisted of 12 items which asked the students to assess their proficiency and their needs of the four skills in their present academic, future academic, and future professional domains. The responses were presented in a five-point Likert scale with the following descriptors: 1 = poor, 2 = not so good, 3 = quite good, 4 = good, and 5 = very good, for

the items on their proficiency, and 1 = low, 2 = low to moderate, 3 = moderate, 4 = moderate to high, and 5 = high, for the items on their needs to develop these skills.

Part III: Students' needs of English skill(s) and reasons

This part was composed of four closed-ended items which asked the students to choose the language skill(s) that they wanted to develop in their chosen elective course and the reasons for their decision. Also, the students were asked to rate the reasons why the listening and speaking skills or the oral communication skills were important to them. The responses were presented in a five-point Likert scale with the following descriptors: 1 = unimportant, 2 = not very important, 3 = quite important, 4 = important, and 5 = very important.

Part IV: Students' preferences for practicing listening and speaking skills

There were 12 items in this part which required the students to rate how they liked to develop their listening and speaking skills, e.g. in a big group, by using a textbook, etc. The items were arranged in a five-point Likert scale with the following descriptors: 1 = low, 2 = low to moderate, 3 = moderate, 4 = moderate to high, and 5 = high.

Part V: Students' abilities and their needs for practicing the additional skills required for doing project work

This part was composed of four closed-ended questionnaire items. The students were asked to rate their abilities and their needs for learning the skills that were basically necessary for doing projects and for expanding their vision that constituted an important foundation for their thinking such as the ability to use the Internet dictionary websites. The responses were presented in a five-point Likert scale with the following descriptors: 1 = poor, 2 = not so good, 3 = quite good, 4 = good, and 5 = very good, for the items on their abilities, and 1 = low, 2 = low to moderate, 3 = moderate, 4 = moderate to high, and 5 = high, for the items on their needs to develop these skills.

Part VI: Students' topics of interest

This part was a closed-ended questionnaire which required the students to choose five out of the 20 given topics that they were interested in the most. The students were also able to suggest the topics they liked that were not included in the list provided.

Validation

To validate the questionnaire, the conformation of item contents and objectives of the questionnaires were evaluated by three experts in the field of language learning and teaching by using a checklist marking agreeable, disagreeable, or questionable items. Afterward, Item Congruence Index (IOC) was used to calculate its content validity in accordance with the experts' comments and suggestions. Some items were revised if their IOC value was lower than 0.67. For example, the experts did not agree with the question that elicited the students' age, commenting that the information about age was not necessary or relevant to the objectives of the study. The IOC value of this item was low at 0.33, so it was eliminated from the final version of the questionnaire.

There were also other suggestions given by the experts for the revision of the needs analysis questionnaire. It was suggested that more questions about students' background could be added to the first part, e.g. extra English classes taken outside the university classroom. However, as the needs analysis was conducted one semester prior to the main study, the students of the needs assessment were not the ones who would participate in the experiment. Therefore, only necessary simple characteristics to prove that the sample was representative of the population of this study were sufficient to confirm this. As a result, no additional statement about the students' background information was added to the questionnaire. Besides, in terms of clarity, it was also suggested that item 6 was ambiguous because the students would not know the period of time meant by the questionnaire writer. Therefore, the period of time 'before studying at KU' was added to the statement to ensure clarity; hence, the statement was changed from '6. Years of studying English ____.' to '6. Years of studying English before studying at KU ____.'

Moreover, the experts commented that the design of the second part of the questionnaire was impractical. The questions about students' opinions toward the importance of the four language skills and their ability in three domains: academic study, future career, and personal pleasure were asked separately. To improve the design, these two questions were integrated into a table of two columns. Besides, it was suggested that the rating scales to investigate the students' opinions toward the importance of the four skills were not appropriate, so they were changed from 1 = Poor, 2 = Not so good, 3 = Quite good, 4 = Good, and 5 = Very good to 1 = Unimportant, 2 = Not so important, 3 = Quite important, 4 = Important, and 5 = Very important.

Administration

After revision, 200 questionnaires were distributed to the target students in their classrooms on the last day of the English Foundation III course. Out of 200, 165 questionnaires were returned. The data were then analyzed, and the IOC Index was calculated. The content validity value of the needs analysis questionnaire was 0.88. Furthermore, this questionnaire had its reliability tested by means of the Cronbach Coefficient Alpha. The level of reliability was .924. The needs analysis questionnaire is shown in Appendix A.

Analysis

The data collected from the 165 questionnaire were analyzed and interpreted using the SPSS computer program to calculate descriptive statistics of frequency, percentage, mean, and standard deviation.

2. The development of the English oral communication course based on the Project-based Learning Approach and the findings from the students' needs analysis

The needs analysis revealed that KU students who completed their Foundation English III course had shown a high tendency toward improving their oral or speaking skill in their elective courses. The data gained from the needs analysis were then interpreted and transferred into the instructional course goals and objectives. The data helped contextualize how teaching and learning should take place and thereby increasing the likelihood that the developed speaking course would be perceived as effectively catered to the students' needs and practical to the students' future studies and future career.

The process of translating needs into course development of this study can be summarized as follows:

1. *Conducting the needs analysis.* The instrument used to collect data regarding KU students' needs was a self-administered questionnaire. A convenient sample of 165 KU students was approached and asked to complete the questionnaires.

2. *Analyzing the data obtained from the needs analysis to determine the students' needs.* Data were analyzed by using descriptive statistics of frequency distribution, mean, and standard deviation.

3. *Developing the learning and teaching objectives for the oral communication course.* The learning and teaching objectives were constructed with their focuses placed on the skills that the students needed to master before doing the first projects; that is, skills to use the Internet dictionary websites, researching skills by using a computer network, presentation skills, oral communication skills, and the topics selected from the needs analysis.

4. *Identifying and sequencing tasks to be included in the course.* Contents and tasks for the course were sequenced based on the necessity and priority of the needs as indicated through the needs analysis. However, the topics that the students would like to explore could be negotiated and selected during the first period of each project.

5. *Developing appropriate classroom materials and tasks.* Materials were developed to practice the dictionary skills, researching skills by using a computer network, presentation skills, oral communication skill, and the topics selected from the needs analysis.

6. *Validating the course.* Three experts in the field of language learning and teaching, especially in the oral communication or curriculum development areas, were invited to validate the course including the objectives, materials, lesson plans, the sequence of tasks, and the amount of time planned for each task.

7. *Assessing the effectiveness of the course.* The effectiveness of the course was first determined using the improvement in the students' oral communication ability as evidenced by the gain scores in the post-test. Qualitative data from learner logs, student interviews, and teacher's diary also yielded data that could help confirm the effectiveness of the course developed in the present study.

Course goals and objectives

It was discovered from the needs analysis that KU students would like to improve their oral or speaking skill in their elective courses. Then, this finding was further interpreted to determine the goals and objectives of the course. Apart from defining the students' needs, there were five more concepts derived from the three learning approaches, namely social constructivism, cooperative learning, and the learner-centered

approach, which were also incorporated into the course development. They were as follows:

- a. Learners should engage in the social learning activities.
- b. Learners need the skills to expand their vision that is an important foundation for their thinking.
- c. The environment and the social relationships among group members help learners construct their own knowledge as called learning from others.
- d. The process when learners work together can take place in both small and large groups to accomplish the shared goals.
- e. Learners are closely involved in the decision-making process and have considerable control of and responsibility for activities.

In addition to the findings from the needs analysis and the aforementioned five concepts, the six applications derived from the Project-based Learning Approach were integrated into this interpretation and then transferred into the instructional course goals and objectives. They were as follows:

1. Project work is learner-centered. As it focuses on content learning rather than on a specific language target, learners will have a significant voice in selecting the content areas or topics of interest and the nature of the projects that they do.
2. Project work is learner-centered as learners are actively engaged in ‘doing’ things rather than in ‘learning about’ something. Learners are required to produce a product, presentation, or performance.
3. Project work is cooperative rather than competitive since, most of the time, learners work in small groups to complete a project.
4. Project work requires multiple stages of development to be successful in producing a final product. The collections of the sequenced and integrated tasks are added up to the final project.
5. Project work provides learners with the opportunities to practice the four language skills in real-life situations and real-world tasks. The real goal of project work in language education is to create authentic contexts for language learners to achieve comprehensible input and producing comprehensive output by interacting and communicating with one another, as well as with the speakers of the target language, with information, documents, or texts in English in real-life situations.

6. Project work is not only motivating but also empowering and challenging. As learners take control of their own learning, they are able to work not only inside the classroom but also outside.

Table 2 presents the goals and objectives of the English oral communication course derived from the Project-based Learning Approach and the findings of the students' needs analysis.

Table 2: Goals and objectives of the English oral communication course

Goals	Objectives
1. Students will learn the basic skills that are necessary for developing projects, e.g. learning how to use online dictionary websites, researching techniques, and presentation skills.	By the end of the course, students should be able to: 1. find the information by searching the dictionary websites on the Internet; 2. search for information by using search engines as a tool to obtain the data from the Internet; 3. deliver the presentation orally and effectively;
2. Students can evaluate themselves, peers, and group performances collaboratively for their improvement.	4. complete the assessment questionnaires and learner logs; 5. reflect on the information from the questionnaires and learner logs for their own improvement;
3. Students will learn how to develop a project.	6. plan the projects; 7. develop the projects as planned;
4. Students are able to improve their oral communication ability.	8. present the final outcomes orally; 9. evaluate and reflect on their own performance and peers' performance.

Course contents

After the course goals and objectives were defined, the contents of the course were constructed. There were two types of contents. The first was the topics for practicing certain skills necessary for project development and for expanding their vision that were important foundations for their thinking; the other was the topics for the projects. Table 3 shows the contents or the topics of the developed course.

**Table 3: Contents of the course**

Content I	Content II
<ul style="list-style-type: none"> - Online dictionary websites - Online search engine websites - Presentation skills <ul style="list-style-type: none"> - Introducing oneself - My favorite free time activities - News report - How to deliver a good oral presentation - The procedures for managing a project - Assessments: self-assessment, peer assessment, and project assessment 	Project topics derived from the students' needs analysis: <ul style="list-style-type: none"> - sports - entertainment-music-movie - travel - future - career - food - daily life

Tasks or instructional activities

All of the activities emphasized that students had to actively involve in the process of learning. Students were required to complete a series of activities as illustrated in Table 4 below.

Table 4: Tasks or instructional activities

Task	Activities	Lesson plans
1	Student' self introduction	Week 1
2	Online dictionary exercises	Week 1
3	Presentation on the topic 'My favorite free time activities'	Week 2
4	Research skills exercise by using the Internet search engines	Week 2
5	Self-assessment and reflection	Week 2
6	News report	Week 3
7	Peer evaluation task	Week 3
8	Presentation skills workshop	Week 3
9	How to develop a project	Week 4
10	Reflection task	Week 7
11	Group project	Week 8-14

After identifying the tasks or instructional activities for the course, the next step was to design the tasks or activities in more details by integrating the objectives, students' needs, and the principles derived from the Project-based Learning Approach which emphasized working cooperatively in groups to accomplish a series of tasks and student involvement in decision making and expansion of their vision through the process of learning and working. The design of the tasks is shown in Table 5.

Table 5: The design of tasks for the English oral communication course

Objectives	Project principles	Students' needs	Tasks
<p>By the end of the course, students should be able to:</p> <ol style="list-style-type: none"> 1. find the information by searching through the dictionary websites on the Internet; 2. search for information by using search engines as a tool to obtain the data from the Internet; 3. deliver the presentation orally and effectively; 	<ol style="list-style-type: none"> 1. Students need the skills to expand their vision that are important foundations for their thinking. 	<ol style="list-style-type: none"> 1. Students prefer learning by: <ul style="list-style-type: none"> - giving presentations, - discussing in class, - listening to teachers, and - using computers. 2. Students prefer to practice the online dictionary websites and computer skills and develop evaluation skills although they already have moderate abilities in these skills. 3. Students realize that they are not very good at giving an oral presentation and want to study and practice this skill. 	<ol style="list-style-type: none"> 1. Introduction and Dictionary skill <ul style="list-style-type: none"> - self introduction - doing a task by using the online dictionary on the Internet to search for answers 2. Researching skills <ul style="list-style-type: none"> - doing tasks by using the search engines on the Internet to search for answers 3. Presentation skills <ul style="list-style-type: none"> - attending a presentation workshop

Table 5: The design of tasks for the English oral communication course (continued)

Objectives	Project principles	Students' needs	Tasks
<p>4. complete the assessment forms and learner logs; 5. reflect on the information from the forms and logs for their own improvement;</p>	<p>1. Students need the skills to expand their vision that are important foundations for their thinking. 2. The environment and the social relationships among group members help learners construct their own knowledge as called 'learning from others.' 3 The process when learners work together could happen in both small and large groups to accomplish shared goals.</p>	<p>1. Students prefer learning in small groups or with a partner and by discussing in class and practicing evaluation skills.</p>	<p>Self-evaluation and peer evaluation - learning to complete the assessment forms, complete learner logs, and reflect on their own and peer's performances</p>
<p>6. plan the projects; 7. develop the projects as planned;</p>	<p>1. Learners should engage in the social learning activities. 2. Students need the skills to expand their vision that are important foundations for their thinking. 3. The environment and the social relationships among group members help learners construct their own knowledge as called 'learning from others.'</p>	<p>1. Students prefer learning in small groups.</p>	<p>Project development skills - discussing a topic - discussing outcomes - planning the project - completing job descriptions - researching the information - preparing for the oral presentation development - giving oral presentations</p>

Table 5: The design of tasks for the English oral communication course (continued)

Objectives	Project principles	Students' needs	Tasks
	<p>4. The process when learners work together could happen in both small and large groups to accomplish shared goals.</p> <p>5. Learners are closely involved in the decision-making process and have considerable control of and responsibility for activities.</p>		
<p>8. present the final outcomes orally;</p> <p>9. evaluate and reflect on their own performance and peers' performance.</p>	<p>1. Students need the skills to expand their vision that are important foundations for their thinking.</p> <p>2. The environment and the social relationships among group members help learners construct their own knowledge as called 'learning from others.'</p> <p>3. The process when learners work together could happen in both small and large groups to accomplish shared goals.</p>	<p>1. Students prefer learning in small groups or with a partner and by discussing in class, by giving presentations, and by practicing evaluation skills.</p> <p>2. Students realize that they are not very good at giving an oral presentation and want to study and practice this skill.</p>	<p>Presentation</p> <ul style="list-style-type: none"> - giving oral presentations <p>Self-evaluation, peer evaluation, and reflection</p> <ul style="list-style-type: none"> - viewing their presentations from the video records and learning to give comments

Assessment

As previously mentioned, this study focused on the improvement of students' oral communication ability comprising general oral communication ability and oral presentation ability. Therefore, the students' general oral communication which was a linguistic component was measured rather than their non-linguistic abilities. In the oral presentation category, students' oral presentation, linguistics-wise, was measured rather than their presentation competency. In brief, the two main objectives of the assessment were the following:

1. To evaluate students' general oral communication
2. To evaluate students' oral presentation

Course instruction and lesson plans

After the components of the course which included the instructional materials, tasks, and assessment were designed based on the tasks depicted in Table 5, the main components of the course were finalized, as illustrated in Table 6.

Table 6: Main components of the course

Week	Goals & Objectives	Activities	Materials	Assessments	Types of activities
1.	<p>Goal 1: Dictionary, Researching, and Presentation Skills</p> <p>Objectives: By the end of the course, students should be able to:</p> <p>1.1 find the information by searching through the dictionary websites on the Internet.</p>	<p>Introduction:</p> <ul style="list-style-type: none"> - description of the course syllabus - self introduction - doing a task by using the online dictionary websites on the Internet to search for the answers 	<ul style="list-style-type: none"> - course syllabus - worksheet 	<ul style="list-style-type: none"> - checking students' answers orally 	<p>Note: Pre-test after the first class during the first week</p>
2.	<p>Goal 1: Dictionary, Researching, and Presentation Skills</p> <p>1.2 deliver the presentation orally and effectively</p> <p>1.3 search for information by using search engines as a tool to obtain the data needed on the Internet</p> <p>Goal 2: Assessment of self improvement</p> <p>2.1 complete the assessment questionnaires</p> <p>2.2 use the information from the questionnaires for self-improvements</p>	<p>Researching skills</p> <p>Self-evaluation</p> <ul style="list-style-type: none"> - presentation on 'My favorite free time activities' - doing tasks by using the search engines on the Internet to search for the answers - whole class discussion 	<ul style="list-style-type: none"> - peer assessment worksheet - oral presentation evaluation worksheet - worksheet 	<ul style="list-style-type: none"> - doing oral presentation - checking students' answers orally and checking the assignment completed by students - evaluating whole class discussions 	

Table 6: Main components of the course (continued)

Week	Goals & Objectives	Activities	Materials	Assessment	Types of activities
3.	<p>Goal 1: Dictionary, Researching, and Presentation Skills</p> <p>1.3 deliver the presentation orally and effectively</p> <p>Goal 2: Assessment for self improvement</p> <p>2.1 complete the peer evaluation form and learner logs</p> <p>2.2 reflect on the information from the evaluation form and learner logs for self-improvement</p>	<p>Presentation skills, self-evaluation, and peer evaluation</p> <p>- a news presentation</p> <p>- presentation workshop</p>	<p>- oral presentation evaluation worksheet</p> <p>- workshop worksheet</p> <p>- learner logs</p>	<p>- evaluating oral presentation</p> <p>- reading learner logs</p>	<p>- individual work</p> <p>- whole class workshop</p>
4.	<p>Goal 3: Project management</p> <p>3.1 plan the projects</p> <p>3.2 develop the projects as planned</p>	<p>Project development skills (Project 1)</p> <p>- discussion for a topic and outcomes</p> <p>- project planning</p> <p>- job descriptions</p> <p>- researching the information</p>	<p>- planning sheet</p> <p>- learner logs</p> <p>- peer evaluation</p>	<p>- checking the planning sheet</p> <p>- checking the learner logs and reading peer evaluation</p>	- pair work
5.	<p>Goal 3: Project management</p> <p>3.2 develop the projects as planned</p> <p>3.3 present the final outcomes orally</p>	<p>Project development skills</p> <p>- giving oral presentations</p>	<p>- oral presentation evaluation worksheet</p> <p>- learner logs</p> <p>- videotape records</p>	<p>- evaluating oral presentation</p> <p>- checking the learner log and listening to comments</p>	- pair work

Table 6: Main components of the course (continued)

Week	Goals & Objectives	Activities	Materials	Assessment	Types of activities
6.	<p>Goal 4: The improvement of students' oral communication abilities</p> <p>4.1 evaluate and reflect on their own performance and peers' performance</p>	<p>Self-evaluation, peer evaluation, and reflection</p> <ul style="list-style-type: none"> - viewing their presentations and giving comments 	<ul style="list-style-type: none"> - learner logs - video-tape player - TV set 	<ul style="list-style-type: none"> - listening to comments - checking the learner logs and reading peer evaluation 	<ul style="list-style-type: none"> - whole class discussion
7.	<p>Goal 3: Project management</p> <p>3.1 plan the projects</p> <p>3.2 develop the projects as planned</p>	<p>Project development skills (Project 2)</p> <ul style="list-style-type: none"> - discussing for a topic - discussing for outcomes - planning the project - writing job descriptions - researching the information 	<ul style="list-style-type: none"> - planning sheet - learner logs - peer evaluation form 	<ul style="list-style-type: none"> - checking the planning sheet - checking the learner logs and reading peer evaluation 	<ul style="list-style-type: none"> - group work
8.	<p>Goal 3: Project Management</p> <p>3.2 develop the projects as planned</p>	<p>Project development skills</p> <ul style="list-style-type: none"> - searching for the information - reporting the progress 	<ul style="list-style-type: none"> - learner log for progress report 	<ul style="list-style-type: none"> - checking learner logs - listening to the report 	<ul style="list-style-type: none"> - group work

Table 6: Main components of the course (continued)

Week	Goals & Objectives	Activities	Materials	Assessment	Types of activities
9.	Goal 3: Project management 3.3 present the final outcomes orally	Project development skills - giving oral presentations	- oral presentation evaluation worksheet - learner logs - videotape recorder	-evaluating oral presentation - checking the learner logs and listening to comments	- group work
10.	Goal 4: The improvement of students' oral communication abilities 4.1 evaluate and reflect on their own performance and peers' performance	Self-evaluation, peer evaluation, and reflection - viewing their presentations and making comments	- learner logs - videotape player - TV set	- listening to comments - checking the learner logs and reading peer evaluation	- whole class discussion
11.	Goal 3: Project management 3.4 plan the projects 3.5 develop the projects as planned	Project development skills (Project 3) - discussion for a topic - discussion for outcomes - planning the project - job descriptions - researching for the information	- planning sheet - learner logs - peer evaluation	- checking the planning sheet - checking the learner logs and reading peer evaluation	- group work

Table 6: Main components of the course (continued)

Week	Goals & Objectives	Activities	Materials	Assessment	Types of activities
12.	Goal 3: Project management 3.2 develop the projects as planned	Project development skills - searching for the information - reporting the progress	- learner logs for progress report	- checking the learner logs - listening to the report	- group work
13.	Goal 3: Project Management Objective: 3.3 present the final outcomes orally	Project development skills - giving oral presentation - viewing presentation and giving comments	- oral presentation evaluation worksheet - learner logs - videotape recorder	- evaluating oral presentation - checking the learner logs and listening to comments	- group work
14.	Goal 4: The improvement of students' oral communication abilities 4.1 evaluate and reflect on their own performance and peers' performance	Self evaluation, peer evaluation and reflection - viewing their presentations and giving comments	- learner logs - videotape player - TV set	- listening to comments - checking the learner logs and reading peer evaluation	- whole class discussion
15.	Goal 4: Oral communication ability improvement (Post-test)		- post-test		

In summary, the 15-week lesson plans were designed with their focus on the first three weeks when the students were equipped with the knowledge and skills that would be used as tools for doing projects, such as the skills to use online dictionary websites to search for the definitions of unfamiliar words and their correct pronunciation. Besides, the lessons provided the students with opportunities to practice skills necessary for developing, presenting, and evaluating projects individually, in pairs, and in groups. Students were required to do three projects within a period of 11 weeks. The detailed descriptions of the activities and materials used in the classroom and the lesson plans are presented in Appendix C.

Validation

To ensure the content and construct validity of the teaching materials, lesson plans, and instructional activities, all of the instruments were validated by a panel of three experts in the fields of English language teaching and instruction and language assessment who were also experienced English instructors. The teaching instruments were revised according to the experts' comments and suggestions, and the overall IOC value of the content and construct validity of the teaching materials, lesson plans, and the instructional activities was .88.

Pilot study

The pilot study was conducted with 13 KU students who were enrolled in the English oral communication course entitled Listening & Speaking I course in the second semester of 2005 to try out the instruction developed based on the Project-based Learning Approach and the findings from the KU students' needs analysis. However, even though the lessons in the English oral communication course in the pilot study was similar to that implemented in the main study, the instruments used to assess the students' oral communication ability in the pilot study and the main study were different. In the pilot study, an oral interview was conducted by only one rater who was an English speaker with years of experience in teaching English and who was also an IELTS speaking rater, and the oral test used to measure the students' oral communication ability was similar to the IELTS, an interview test which measured

students' oral proficiency. The findings from the pilot study could be divided into two categories as follows:

1. Instruction

Firstly, the tasks that were provided to the students should be based on the Learner-centered Approach which emphasized the students' roles in actively involving in the process of thinking and learning. Secondly, the students had some problems with grammar structures and using functional language to initiate a talk. As a result, extra exercises to practice using the past simple tense to explain the past events and to practice how to approach strangers and to ask for their permission for interviewing were given to the students for practice in class to help eliminate the problems. Having realized this, a plan to facilitate the students in the main study was arranged. The students in the main study were informed that they were able either to report the problems to the teacher or to use the Self-access Learning Laboratory as a resource for practicing their abilities if needed. Lastly, the evidence about learning and assessment should be recorded so that the researcher was able to view the records if necessary.

2. Assessment

It was discovered that the oral interview was not an appropriate method to assess the students' oral communication ability. As the students practiced their general oral communication and oral presentation skills while they were in the process of learning, the assessment should reflect both of these two tasks rather than using the oral interview task only. As a consequence, the Simulation Oral Test to evaluate the students' general oral communication ability and their oral presentation ability was developed. Besides, it was revealed from the pilot study that that the qualitative data collection and analysis should be added to triangulate the quantitative data from the test. Lastly, to ensure the reliability of the findings, three raters were required for the pre-test and post-test, and inter-rater reliability had to be measured to confirm the reliability of the test scores.

In short, the findings from the pilot study led to certain revisions and improvements in the lessons and assessments implemented in the main study.

3. The implementation of the English oral communication course based on the Project-based Learning Approach and the findings from the students' needs analysis

Course implementation

The main study was conducted in the first semester of the academic year 2006 with 22 KU students as described previously. A well-equipped classroom with computers and the Internet access, comfortable seats that were easy to move around, and a big space for group work and project presentations were arranged. Moreover, two videotape recorders and five audiotape recorders were set to record the students' performances. The instruction lasted 15 weeks, and both of the quantitative and qualitative data were collected as planned.

The students were pre-tested by using the GPST in groups during the first week of the instruction. The first task to develop the students' ability to use the online dictionary websites was then implemented. Besides, the students learned how to introduce themselves in the first session as well. At the end of this session, the students had to complete the learner logs, and they were assigned to prepare for delivering an oral presentation on the topic "My favorite free-time activities" in the next session.

In the second session, the students started the lesson by giving their presentations on the assigned topic. While a student presented his/her presentation, the rest acted as raters who evaluated their friend's oral presentation ability by using the analytical form for evaluating oral presentation which the teacher had distributed and explained to them. After all students had given their presentations, they went on practicing how to use the Internet to search for the desired information by using the worksheet given (see Appendix C). At the end of the session, the students completed the learner logs, and they were assigned to prepare to report a news event. The students were able to select the news that they liked and that could be reported within two to three minutes.

In the third session, the students started the lesson by reporting the news. Similar to the previous activity, while a student presented his/her presentation, the rest acted as raters who evaluated their friend' oral presentation ability by using the same analytical form. After all students had delivered their presentations, they attended a

workshop to develop their ability to give a good presentation. The students were assigned to prepare for a discussion in the next session on the topic for the first project—travel, entertainment-music-movie, food, daily life, future career, or sport. At the end of the session, the students had to complete the learner logs.

In the fourth session, the students started the lesson by learning about the project process in order to increase their understanding of how to manage a project, what they should do during working on the project, how to collect and analyze the information, and what to present in the final product and how. Later on, the students had a whole class discussion, while the teacher was trying to motivate them to talk and to give opinions and suggestions. They decided to choose ‘entertainment’ as their topic for the first project. Then, they worked in small groups to define their final outcome and plan for the whole tasks in order to complete their goal. After that, they assigned the responsibilities to the group members. At the end of the session, the students once again completed the learner logs, and they were told to prepare to report the progress of their projects in the next session.

In the fifth session, the students from each group reported the progress of their projects and the problems they encountered such as problems with a Power Point presentation. At the end of the session, the students completed the learner logs.

In the sixth session, the students gave their presentations on their final products. The first group did a game show entitled ‘Fan Pun Tae.’ The other groups presented the findings from their surveys. While a group of students delivered their presentation, the rest acted as raters who evaluated their classmates’ oral presentation ability by using the same analytical form. All of the presentations were recorded with videotape recorders. At the end of the session, the students completed the learner logs.

In the seventh session, all of the students viewed their presentations group by group from a TV set. During viewing, the teacher elicited comments on good performances and performances that needed improvement. At the end of the session, the students completed the learner logs.

The activities that were conducted in the eighth to 11th sessions were similar to the ones carried out in the fourth to seven sessions. The students completed the second project on the topic ‘travel.’ The last project was conducted in the 12th to 14th weeks on the topic of ‘future career.’ The final session was reserved for the administration of the post-test.

4. The determination of the effects of the English oral communication course based on the Project-based Learning Approach and the findings from the students' needs analysis

To evaluate the English oral communication course based on the Project-based Learning Approach, the focus was placed on the effectiveness of the instructional materials and the oral test which were evaluated by the three experts in the fields of English language instruction and language assessment who had experienced teaching English for at least ten years. The evaluation forms were used to collect the data from the experts to validate the course objectives, the content validity and construct validity, and the quality of the assessment instruments. The IOC Index of each item of the instruments was higher than 0.66, and the IOC Index for content validity and construct validity were higher than 0.75, as reported in the previous section.

Besides, the effectiveness of the instruction to enhance the students' oral communication ability was confirmed by comparing the mean scores of the students' oral communication ability pre-test and post-test. The mean gain scores calculated with the paired sample *t*-test were significant at the .05 level.

In addition, the improvement of students' oral communication was triangulated by using the learner logs, student interviews, and teacher's diary. Some qualitative data supported the results of the oral test. The following table summarizes the instruments employed to evaluate the course effectiveness in the present study.

Table 7: Instruments used to evaluate the effectiveness of the developed course

Focus	Audience	Participants	Instruments	Measurements	Implementation	Timeframe
Instructional materials and GPST	Three experts	Teacher	Lesson plans, Lesson plan evaluation form, GPST oral test	Measuring the validity of the instructional materials, lesson plans, and tests	The instruments were validated by three experts and later revised based on the experts' comments and suggestions.	Before the treatment
Pre-test and Post-test	Researcher	Students	GPST test	Measuring students' oral communication and presentation abilities	The gain scores were used to measure students' improvement in oral communication ability.	Before the treatment and immediately after the end of the treatment
Descriptive measurement	Teacher	Students	Learner logs	Describing students' performances	The results were used to triangulate the results from the oral test.	After each lesson every week
Descriptive measurement	Teacher	Students	Student interviews	Describing students' performances	The results were used to triangulate the results from the oral test.	At the end of the implementation
Descriptive measurement	Teacher	Teacher	Teacher's diary	Describing students' performances	The results were used to triangulate the results from the oral test.	During the implementation

Data collection instruments

The instruments used to collect data in this study were composed of five instruments as follows:

1. Simulation Oral Communication Test or Group Project Simulation Task (GPST)
2. Learner logs
3. Student interviews
4. Teacher's diary

5. Opinion questionnaire

Each of the instruments can be explained in detail as follows.

1. Simulation Oral Communication Test or Group Project Simulation Task (GPST)

The Simulation Oral Communication Test or Group Project Simulation Task (GPST) was used as the pre-test and post-test in this study to see if the gain scores indicated the effectiveness of the English oral communication course based on the Project-based Learning Approach. The oral communication scores consisted of the general oral communication scores and the oral presentation scores.

The GPST was an achievement as well as a performance assessment test which simulated a process to manage and present a project work. As the students learned how to manage a project, practiced managing projects, and presented final outcomes orally throughout the course, it was assumed that assessing how well they had learned by using the same process would appropriately reflect and be relevant to their learning.

When the GPST was adopted, a group of four to five students worked together to complete a mini-project with a given topic and situation. The test was composed of two stages—preparation and presentation. It was carried out in approximately 60 minutes. In the first stage, the students had to discuss to refine the topic into a sub-topic, which would be suitable for the time given for doing a series of tasks. The students would collect data, analyze the derived data, write a script for an oral presentation, and prepare for visual aids if necessary, within 45 minutes in a room where computers and resource books were available. Then, all members of the group had to orally present the final product which was the result of the tasks in the first stage to the tester within 15 minutes. The students' general oral communication ability would be evaluated while they were discussing and interacting in the first stage. Their oral presentation ability would be evaluated while they were giving the presentation orally in the second stage.

In constructing the GPST, a task and two sets of scoring criteria or rubrics were designed. For the first part which was the test task, the instruction, topic, situation, condition, and evaluation were described. The students were asked to perform a discussion on the stage as a group of guest speakers being invited to talk

about the topic of 'How to get a good job.' One of the members would be the moderator, and the rest were guest speakers. Table 8 describes the procedure of the GPST.

Table 8: The procedure of the Group Project Simulation Task

Stage	Procedure	Assessment
1. Preparation	<ol style="list-style-type: none"> 1. Read the instruction and situation 2. Discuss the sub-topic 3. Plan the tasks and assign the roles to the members 4. Complete the tasks 5. Prepare the visual aids for an oral presentation (if necessary) 6. Practice for the presentation 	Each student's general oral communication ability is assessed by three raters using the Analytical Rubric for the General Oral Communication.
2. Presentation	All students give an oral presentation.	Each student's oral presentation ability is assessed by three raters using the Analytical Rubric for the Oral Presentation.

For the second part, two sets of scoring criteria or rubrics and band scales were defined. The band scales of different levels of oral ability were ranged from 1 which was the lowest score to 5 which was the highest. For the first rubric, The Analytical Rubric for the General Oral Communication, the criteria involved five dimensions of comprehensibility, fluency, pronunciation, grammar, and vocabulary. The description of the rubrics or descriptors were adapted from the SOLOM Teacher Observation (Student Oral Language Observation Matrix) developed by San Jose Unified School District, San Jose, California (2000) as the objective of the SOLOM measurement was to measure language learners' oral communication ability which was similar to the objective of this study. However, some descriptors were adapted to suit the levels of KU students. The criteria to measure general oral communication were composed of five dimensions as follows:

1. Comprehensibility

It is the ability to express ideas clearly when communicating orally, to get the intended meaning across, and to respond to other interlocutors in the course of conversation and classroom discussions effectively.

2. Fluency

It refers to the ability to deliver the intended message easily, smoothly, expressively, effectively, and fluently during the course of the conversation and in the classroom discussions. It also refers to the ability to support opinions and to develop arguments in each conversation.

3. Pronunciation

Pronunciation refers to an acceptable standard of sound and syllable stress patterns and intonation of words.

4. Vocabulary

Vocabulary refers to the accurate or appropriate use of the words or terms to convey the intended message. It also refers to the richness and the variety of the words or terms that are chosen for their precise and accurate meaning in the context.

5. Grammar

It refers to the accurate use of the structure and word order in conversations and classroom discussions.

The descriptors are shown in Appendix G.

The second rubric used was The Analytical Rubric for the Oral Presentation. The rubric had its focus on the students' linguistic abilities rather than their presentation competency. It concerned four main dimensions which were content, delivery, language, and fluency. The descriptors were adapted from the oral presentation rubric of the Fairfax County Public Schools–PALS Performance Assessment for Language Students (1999) as the objective of the Fairfax measurement was to measure learners' oral presentation ability which was similar to one of the objectives of this study. However, some dimensions were eliminated such as visual aids or non-linguistic performances as they were not relevant to the objectives of this study which was to measure students' linguistic oral ability without a concern with the non-linguistic ability. The rubric of this measurement was divided into six dimensions of content-organization-coherence, volume-rate, articulation-pronunciation, fluency, vocabulary, and grammar, as described below.

1. Content, organization, and coherence

The content rating was concerned with the amount of content related to the tasks (a presentation, a role play, a TV program, and a news report), the relevance of the content to the task, and the adaptation of the content to the situation.

This rating was concerned with content in terms of quantity, relevance, and adaptation. It did not concern accuracy of the content.

The organization and coherence ratings focused on how the content of the message was structured. It was also concerned with the sequence and the relationships among the ideas in the message.

2. Delivery

The delivery rating focused on the transmission of the message. The scoring of this trait was divided into two categories: (a) volume and rate and (b) articulation and pronunciation.

2a. Volume and rate

Volume was the degree of sound intensity or audibility of loudness. Rate referred to the speed of the oral speech.

2b. Articulation and pronunciation

Articulation is related to the act or manner of producing distinct and clear speech sounds. However, articulation should be rated with respect to the understandability of the message that was delivered, not the social acceptability of the accent. This component referred to how the student spoke, not what the student said. Some examples of poor articulation included mumbling, slurring words, stammering, and/or stuttering. Pronunciation referred to an acceptable standard of sound and syllable stress patterns and intonation of words.

3. Language

The language rating dealt with the language which was used to convey the message. It was concerned with choice of words and grammar.

In the language produced by students for whom English was a foreign language, performance should be rated with respect to the understandability of the message, not the social acceptability of the communication style. If a speaker's use of incorrect or non-standard English grammar interfered with the understandability of the message, this fact should be reflected in the rating. For this component, the student was not rated on what he or she said, but on how he or she conveyed the message through vocabulary and grammar.

3a. Vocabulary

Vocabulary referred to the accurate or the appropriateness of the words/terms that conveyed the intended message. It also referred to the richness and the variety of the words or terms that were chosen for their precise and accurate meanings in the context.

3b. Grammar

As the students took different roles in their presentation, a variety of grammar usage and its complexity were selected to suit each of the role presented. Therefore, grammar referred to the correctness of the usage and structures in the context rather than its complexity.

4. Fluency

Fluency referred to the extent to which the speaker provided a skillful and effective presentation verbally.

Validation

Both of the descriptors were validated by three experts in the fields of English language teaching and instruction, English instruction and assessment, and a native speaker who had expertise in language teaching. The overall IOC value of the content validity and construct validity of the GPST was 0.81. The IOC value of the descriptors of the Analytical Rubric for General Oral Communication of the GPST was 0.96, and the IOC value of the descriptors of the Analytical Rubric for Oral Presentation of the GPST was 0.99. (See Appendix H.)

In terms of inter-rater reliability, there were three raters who received training before rating the recorded GPST pre-test and post-test. The raters were a native English speaker who was teaching English, a highly experienced Thai teacher who had been teaching English for more than ten years and was pursuing a doctoral degree in the area of speaking at a university overseas, and the researcher. The results of the inter-rater reliability estimated by Pearson's product moment correlation coefficient of the pre-test was 0.94, and that of the post-test was 0.88.

The GPST was administered to the students in the first week of the experiment as the pre-test to measure their oral communication ability and oral presentation ability. The two sets of the scores of each student were added up to set as the student's starting oral communication ability before the experiment. The same form of the

GPST was used again to evaluate the students' oral communication ability and oral presentation ability on the last day of the course as the post-test. The total scores of each student's oral communication ability and oral presentation ability in the post-test were calculated. A paired sample *t*-test was used to compare the mean scores of each student on the pre-test and post-test to determine whether there was any improvement in oral communication ability after the implementation. A paired samples *t*-test was also used to determine whether the mean scores of the pre-test and post-test were statistically significantly different.

The GPST was used to investigate the gain scores of the students' oral communication ability. However, to explore the students' insightful opinions toward the English oral communication course based on the Project-based Learning Approach and the improvement of their oral communication ability, their working skills, their cooperative learning, and their self-reflection more closely, the three instruments, namely learner logs, student interview, and teacher's diary were used to collect the data qualitatively. In addition, the opinion questionnaire was also used to collect students' opinions toward the English oral communication course based on the Project-based Learning Approach quantitatively. The construction of these three instruments is described in the following sections.

Henning (1986) contends that quantitative approach allows the researcher to draw formal inferences from the data about expected frequencies of occurrence; however, he does acknowledge that quantitative research is not the only way to study language acquisition. Tarone and Parrish (1988) suggest the use of a combination of quantitative and qualitative methods of data collection and analysis. They point out that qualitative methods would lead to a richer insight into the working of interlanguage. Both Henning and Tarone and Parrish agree that the data derived from the qualitative methods would provide further evidence and supplement the quantitative ones.

2. Learner logs

A learner log is an important tool to collect qualitative data because it feeds both the learners and the teacher with rich information that can be used to triangulate the results from the test scores and to reflect learners' linguistic and non-linguistic performances. Several terms are used to refer to the same tool for collecting this kind

of data. Brown (2004: 260) uses the term 'journal' that resembles a 'log' of one's thoughts, feelings, reactions, assessments, ideas, or progress toward goals, usually with little attention to structure, form, or correctness. To Brown, journal and log are similar as they are the tools that can be used by both learners and teachers to record data according to the listed objectives. For example, 'language learning logs' in English language teaching are used by learners to set their own goals and to monitor their own achievement.

In general, the main objective of the learner log is to ask learners to report on what they have learned from certain tasks, how they have learned them, what problems they have, and how they have solved those problems. Another objective is to stimulate learners by using the questions that help them reflect on what they have done, how well they have done it, and what they would do differently if the same situation reoccurs.

A learner log is one on the qualitative instrument that can be designed in a semi-structured format by providing a set of open-ended questions to stimulate learners' thinking process (Hart, 1994), so it is appropriate to be used to collect data from the students in this study because the students would need the questions as the guidelines for their reflection process while being able to add their own ideas into the logs. Besides, the information derived from the logs was viewed from different perspectives from the teacher's, so it could prevent the subjectivity that was inherent in the teacher's diary. The learner logs employed in the present study consisted of seven open-ended questions. (See Appendix I for more details.)

Validation

The learner logs were validated by three experts in the fields of English language assessment with one native speaker who had expertise in language teaching. Its content validity value measured by the IOC Index was 1.00. (See Appendix J.)

Administration

After validation, the learner logs were used to collect data from the students in the study during the course of the instruction. All students had to answer the questions in the log sheet after they had completed the assigned tasks every week. They had to

submit the log before studying in the next session. After the last session, the logs were selected for further analysis.

The logs used in the analysis were collected from all of the students in the focus group which consisted of five students. The selection of logs which were kept after the students had finished ten tasks is shown in Table 9.

Table 9: Learner log tasks

No.	Tasks	Week
1	The presentation of 'My favorite free time activities'	Week 1
2	The presentation of 'News report'	Week 2
3	Group discussion for project 1	Week 5
4	The oral presentation of project 1	Week6
5	Self-reflection session 1	Week7
6	Group discussion for project 2	Week 8
7	The oral presentation of project 2	Week10
8	Self-reflection session 2	Week 11
9	Group discussion for project 3	Week 12
10	The oral presentation of project 3	Week 14

These five subjects were allowed to answer the questions provided on the log sheets either in Thai or in English according to their preferences. To write in Thai might be easier for some students to express their opinions and thoughts in their own language as there was no language barrier. If that was the case, the Thai answers were then translated into English by the researcher and later verified by another Thai instructor who had expertise in English language teaching.

Analysis

Content analysis was employed to analyze the data attained from the learner logs. After the researcher read through all of the logs for several times, the themes for the analysis were emerged. Therefore, the logs were categorized into the following themes—the improvement of oral communication, improvement of oral presentation, self-confidence, interaction, scaffolding, motivation, cooperative learning, reflection, and interpersonal skills. After the themes had been developed, the analysis of the logs was undertaken by adding the scripts from the logs under each appropriate theme. In order to ensure validity of the categorization, the member check technique was applied with an experienced instructor of English being invited to confirm the categorization.

3. Student interviews

Another instrument used to collect the qualitative data from the students in the focus group was the semi-structured student interview protocol. The purpose of the student interviews was to obtain more in-depth and broader information in addition to expand what the students had responded in the learner logs. The interview protocol was also utilized to further investigate the students' opinions toward the English oral communication course based on the Project-based Learning Approach. The interview protocol contained a list of 13 questions.

Validation

The interview protocol was validated by three experts in the fields of English language assessment including a native speaker who had expertise in language teaching. Its content validity measured by the IOC Index was 1.00. (See Appendix K.)

Administration

The subjects were interviewed in Thai after they were post-tested. All the interviews, which lasted approximately one hour, were videotaped and transcribed. The transcripts of the interviews were shown to the students for clarification and verification. After that, key extracts of the transcripts of the interviews were translated into English, and the transcription was submitted to an experienced English teacher for verification.

Analysis

Content analysis was used to analyze the data obtained from the student interviews. After verification of the interview transcripts was completed, the data attained from the interviews were categorized into themes according to the themes previously derived from the learner logs. Then, the categorized data from the interview instrument were used to elaborate and triangulate the data from the learner log analysis.

4. Teacher's diary

The last instrument to collect the qualitative data was the teacher's diary which was a free form instrument with no guiding questions formulated before its application. This instrument was used to collect data from the teacher's perspectives regarding the students' performances when engaging in the project work in the classroom setting. The teacher's opinions were usually subjective and tended to be biased to the expected results. However, the data from this instrument was triangulated by the data from other instruments. As a result, the data from the teacher diary in this study would be considered accepted and reliable.

Administration

The teacher's diary was recorded after the end of the 12 class sessions with the purpose of describing the evidence that particularly reflected the oral skill development of the students who participated in the study. Other data such as those

related to the students' performances which were the consequence of the project work instruction such as their interpersonal relationships were also recorded and added into the diary to increase the breath and depth of the data to determine the effectiveness of the English oral communication course based on the Project-based Learning Approach.

Analysis

To analyze the data from the teacher's diary, content analysis was employed. The key extracts were depicted to elaborate, explain, and triangulate the data from the learner logs and student interviews under each of the emerged themes as mentioned earlier.

5. Opinion questionnaire

Questionnaire is probably the most widely used instrument to collect data. Cohen and Manion (1994: 106) note that "an ideal questionnaire possesses the same quality as a good law," in it being "clear, unambiguous, and uniformly workable." In the present study, the questionnaire was used to collect the data regarding the students' opinions toward the English oral communication course based on the Project-based Learning Approach and project work instruction. It was designed in anticipation that the questions about the project work experiences would be able to elicit true answers that accurately reflected these students' opinions especially when the questionnaire was administered on an anonymous basis.

The opinion questionnaire was categorized into four parts: the students' achievement after studying in the English oral communication course based on the Project-based Learning Approach, their opinions toward the benefits and drawbacks of project work, their opinions toward cooperative learning, and other comments and suggestions. Both positive and negative opinions were outlined to elicit students' points of view in all related issues.

Validation

The opinion questionnaire was validated by three experts in the fields of English language assessment including one native speaker who had expertise in language teaching.

It was suggested by the experts that two items were similar; therefore, the redundant item was deleted. It was also suggested that some statements could be categorized under the students' attitudes toward the benefits and drawbacks of the project work and the students' attitudes toward cooperative learning. Thus, the items that could belong to both categories were added only to the first category—the students' opinions toward benefits and drawbacks of the project work.

The opinion questionnaire's content validity value measured by the IOC Index was 0.97. As for reliability, Cronbach's Coefficient Alpha of the opinion questionnaire was .70. The opinion questionnaire is included in Appendix M.

Administration

After revision, the questionnaires were distributed to the students on the last day of the course. The students were given explanation to ensure that they understood the questions included in the questionnaire. The questionnaire was self-administered, and it took the students approximately 15 minutes to complete the questionnaire.

Analysis

The SPSS program was employed to analyze the data obtained from the opinion questionnaire. Descriptive statistics of frequency, mean, and standard deviation were calculated to shed light on the students' opinion toward the English oral communication course based on the Project-based Learning Approach and project work instruction.



Summary of research instruments

The research and data collection instruments, their objectives, and the statistical analysis used with each instrument are summarized in Table 10 below.

Table 10: Summary of research instruments

Instruments	Research questions	Objectives	Administration	Statistics
1. Needs analysis questionnaire	1	To elicit KU students' needs for English oral communication skills	Before the implementation of the course	Descriptive statistics
2. The English oral communication course based on the Project-based Learning Approach	3	To develop students' oral communication ability	During the implementation of the course	-
3. The Group Project Simulation Task	3	To assess students' oral communication ability	The first and last days of the course	Descriptive statistics and paired sample <i>t</i> -test
4. Learner logs	4	To collect students' opinion toward the English oral communication course based on the Project-based Learning Approach	Upon completion of each project	Content analysis
5. Student interviews	4	To collect data regarding students' reflection of their engagement in the project work instruction and development of English oral communication ability	The last period of the course	Content analysis
6. Teacher's diary		To collect the teacher's opinions toward students' performance in the project work instruction and their development of English oral communication ability	Upon completion of each lesson	Content analysis
7. Opinion questionnaire		To collect students' opinion toward the oral communication course based on the Project-based Learning Approach	The last day of the course	Descriptive statistics