CHAPTER 3

METHODOLOGY

3.1 Introduction

This chapter explains the research approach and design and instruments used in the data collection. The chapter also describes the context of the research and the participants. Finally, the chapter provides detail of the research procedures which include the HPBL process, and data analysis procedures.

3.2 The Research Approach

Otherwise known as research paradigm, research philosophy is defined by Guba and Lincoln (1994) as the "basic belief system or world view that guides the investigation" (P.105). Broadly, two major classes of research philosophy can be identified: Positivist paradigm and Interpretive paradigm (Bryman & Bell, 2007; Myers, 2009, 2013,). Also known as the scientific paradigm, positivism as a philosophical path, was championed by a French philosopher Auguste Comte (Koval, 2009; Mack, 2010, Moore, 2010). Positivism is a widely practiced paradigm in the social science (Neuman, 2011). In positivism, social reality is examined in isolation or independent of the researcher, (Scotland, 2012; Wimmer & Dominick, 2000). The basic assumption in positivism is that social life is always represented through quantitative means by the use of experimentation and correlation in order to ascertain the relationship of cause and effect between or among variables (Creswell, 2009).Put more succinctly, the positivists adduced the deductive procedure of inquiry (Tashakkori & Teddlie, 1998) in attempting to test hypotheses to show causal relationship between variables to supply in a way, empirical evidence and verify theories (Bryman & Bell, 2007; Perlesz & Lindsay, 2003). In addition, the essential objective of deductive research is mainly for inferences and drawing generalizable conclusion. Literally, this research procedure allows theories to be revised (Bryman & Bell, 2007; Neuman, 2011). The essence of positivism as aresearch procedure is a

value-free science seeking to establish accurate quantitative measures in testing theories.

On the other side, the interpretive research paradigm, otherwise called constructivist or anti-positivist approach is a philosophy propounded by a German philosopher, Edmund Husserl (Mack, 2010; Willis, 2007). Compared to the positivist paradigm, the constructivist or interpretive tradition philosophical research procedure contends that social life, though diverse in form of direct observation, case studies and interviews, etc., can be qualitatively studied (Neuman, 2011). They looked at social reality as socially constructed and subjective; a situation in which participants interacting, and the researchers understand a live phenomenon through the perspectives of individuals (Creswell, 2009; Guba & Lincoln, 1994). Therefore, the main purpose of this study being to determine how the HPBL framework can motivate the Libyan EFL learners to speaking English, the interpretative or qualitative approach is deemed suitable to undertake the inquiry. Mainly qualitative data collection tools were used, however, a quantative data collection tool was also employed to ensure the data obtained would be able to answer all the research questions.

The qualitative data were collected through qualitative research tools namely, observation, semi-structured interviews and audio and video-recording of the students' interactions during the HPBL process in order to examine the use of HPBL to develop the speaking performance of the students. The qualitative data helped in assessing the students' individual behaviour, feelings, thoughts and beliefs in order to display new paradigms of people and human cognition (Neuman & Robson, 2012).

The quantitative data were collected through a questionnaire and administered to the students at the end of the HPBL process. The questionnaire allowed for the exploration of the extent to which the students felt the HPBL model motivates them toward learning English. The questionnaire helped in gaining insights into the how the respondents felt the HPBL course has motivated them or otherwise in speaking English in the course.

3.3   Research Design

Creswell (2012) argued that the nature of the research objectives and the research questions in any particular research determine the type of design to be

employed in order to attain the objectives and answer the questions. Therefore, this research adopted the case study research design. This type of research design allows for an in-depth exploration of a bounded system based on extensive data collection by a researcher (Creswell, 2007). The research design was adopted in order to fully explore, explain and understand how EFL students in the selected Libyan public university are motivated to practice speaking English in the HPBL speaking course. The design provided a clear manifestation of how students worked in natural setting as HPBL provides simulation of real-life situations. The design also provides an opportunity of the in-depth investigation of the students' interactions during the HPBL implementation.

   This research design (case study) allows the researcher to explore the use of HPBL in a speaking classroom and answer the research questions. Adopting the case study design helps the researcher in the attainment of in-depth understanding of the research topic. This can be achieved through a combination of such methods of data collection as observation, in-depth interviewing and video recording to investigate the bounded case of how the HPBL can motivate the learners. Similarly, it also helps in validating the findings, thus making the findings more reliable and applicable. This can be seen in how the different methods are expected to corroborate the findings of one another further strenghthening both the validity and reliability of the results. It also helps in triangulating the collected data and allows the researcher to handle unexpected contradictions and divergences in the data (Creswell, 2012), as explained above.

3.4 Research Instrumentation

3.4.1 The Quantitative tool

        The questionnaire on motivation to speak English, adapted from Wang (2008), was employed to collect quantitative data of the students' motivation to speak English. Details on the questionnaire is provided in the following section and it is attached as Appendix 2. The questionnaire was designed on 5-point Likert scale, in which the students were asked to rate their motivation levels.
The questionnaire was used to collect the quantitative data of the study. It gave participants more anonymity, which allows them to provide honest and candid

responses (Cohen et al., 2005). The questionnaire was used because it allowed the researcher to collect quantitative data to describe the motivation of a complete class (30 students) (Mackey & Gass, 2005) on HPBL. The questionnaire was adapted from Wang (2008) to explore the students' motivation to speak English in the HPBL classroom. The questionnaire consists of 21 items designed on a five-point Likert scale (see Appendix 2) which includes the constructs (a) motivation for speaking English that is driven by curiosity and mastery, and (b) motivation to challenge, preference for hard or challenging tasks and striving for competence and mastery in intrinsic motivation. In the questionnaire, all aspects of motivation to speaking in classroom are covered which are extrinsic motivation: external utility regulation, and internal fulfillment regulation. The instrument was adapted from Wang's (2008) on motivation to learning English generally which was tuned to the focus of this study, i.e. speaking performance. The modification was done in order to suit the present study (see Appendix 2 for the modifications made on the Questionnaire). Three items from Wang's questionnaire, which are not related to speaking, are dropped. Item 4 (I like listening to English speech), item 5 (I like reading English articles) and item 18 (In order to know recent developments in my major, I study English diligently) of the original questionnaire.

3.4.2   Validity of the Questionnaire

The questionnaire used to measure students' motivation is a standard questionnaire tool on measuring English language leaner motivation (Wang 2008). More detail on the validity of the tool in this study is provided in Section 3.12

3.5   The Qualitative Research Tools

Three instruments were used to collect the qualitative data of this study. These include the semi-structured interview, observation, and audio and video-recordings of the students' interactions during the HPBL implementation. These are explained in detail below. Generally, the qualitative data were transcribed and categorized into themes. For credibility, all the themes were checked and validated by a panel of expert

from a local university in Malaysia. Details on these aspects are provided in Section 3.11.

3.5.1 Semi-structured Interviews

At the end of the whole HPBL process, semi-structured interviews were conducted with 15 student participants and 2 lecturer participants. The interview was conducted to elicit the students' prior knowledge of HPBL and their current experiences of the approach. In addition, the interview comprised of open-ended questions designed to elicit information regarding how the HPBL model motivated the students to speak English, developed from Norzaini Azman and Shin (2012), Tan (2004) and Aliyu, et al. (2016) (see Appendix 1). For instance, items 1, 2 and 3 of the interview questions were used to answer research question one of the study. Items 4 and 5 were used for the second research question. Finally, items 6, 7, 11 and 12 were used to answer the third research question of the study. The aspects dealt with in the interview questions of the studies were considered relevant for this study because it covered all the range of issues addressed by this study in terms of PBL implementation, students' motivation and achievement in speaking performance. The interviews were mostly conducted in Arabic since it is the students' first language and was subsequently translated to English. The interviews lasted for about 15-25 minutes for each student. This allowed the students to best voice their experiences and views unconstrained by any language problems (Mohmmed et al., 2015). The interviews also allowed the researcher to obtain rich data from the students. The interview responses were translated to English by the researcher. To achieve credibility, the translations were validated by two other experienced EFL lecturers who are familiar with both Arabic and English. Apart from that, the translated copy was given to another Arabic-to-English translation expert to translate it backward to Arabic. The final backward translation is something similar to the original manuscript. Thus the English translation is validated

3.5.2 Observations

According to Creswell (2012), a non-participant observer is "an observer who visits a site and records notes without becoming involved in the activities of the participants" (p.215). Thus, in this study, the researcher played the role of non-participant observer during the implementation of hybrid HPBL model the context of English speaking course. The researcher observed the roles played by both the lecturers and the students, and the students' interactions during the HPBL model. The researcher made observation notes in order to investigate how the HPBL model motivates the students toward speaking English. In addition, the researcher observed the lecturers' reactions during the workshop conducted for the lecturers prior to the actual HPBL and made field notes. These observations were the actual HPBL tasks, process/stages, HPBL collaboration/teamwork, and HPBL result. The field notes were analysed where narrative reports and themes were generated from the data (See Appendix 6).

3.5.3 Audio and Video-recordings

In order to make an accurate observation which will help in answering the research questions, the researcher recorded the students' interactions during the actual HPBL process. The students' group discussions and interactions such as exchange of ideas during the HPBL were recorded. Relevant samples of the video recording of group interactions on the PBL sessions of the groups were transcribed to supply data for research question 3 (See Appendix 8). Students' interactions during group discussions provided more insight into their speaking performances and achievements than the class presentations. At the initial stages, the presentations were mostly dominated by the presenters as the presenters were not used to class presentations before, in order to have known how to involve class members in the presentations or encourage audience to participate. The students were mostly attentive and listened to the presenters. It also helped the researcher to examine the students' speaking performance. It allowed the researcher to replay the recording repeatedly for verification while transcribing the data, and to observe improvements in speaking performance. These have been supported by many studies of PBL that used audio/video recording in data collection and found it to be a useful tool (Tan, 2014).

Tan (2014) underscored the audio/video recording of data as evidence; a resource that can be referred to and observed closely for in-depth analysis. Audio/video recording of the students' group discussions is part of the data collection procedures. The recordings were replayed repeatedly to capture and interpret the students' interactions. The data were analysed based on the emerging themes.

3.5.4   Workshop with Lecturer Participants

In order to prepare the selected lecturers to implement the new hybrid curriculum in the context of English-speaking classroom, the researcher conducted two workshops. This was to teach the selected lecturers how to implement the new HPBL framework in the context of the study, and make sure that the lecturers have a clear understanding of the HPBL strategies and process. The researcher made field notes during the workshop and interviewed the lecturers at the end of the workshop, on how it helped them to implement HPBL in their classroom. Two lecturers were selected to facilitate the students' learning in the HPBL process. One of the lecturers was the one teaching the course using the traditional lecture-method. The second lecturer was selected to assist the former because the students were grouped into smaller groups. The two lecturers facilitated the groups better. The lecturers were initially briefly interviewed to establish whether they had participated in PBL or not.

3.5.5 Ill-structured Problem or Case

Ill-structured case is defined as a problem that is related to students' real-life situations and it allows students to make interpretations based on their previous knowledge and experiences (Savery & Duffy, 2001). In other words, the ill-structured problem is defined as an open-ended and emerging problem that is encountered in everyday life, which has multiple solutions paths (Jonassen, 1997). In an ill-structured problem, the descriptions of the problem are not clearly defined and the information needed to solve it is not contained in the problem statement. Therefore, students have to look at many methods and integrate several content domains before deciding on a particular solution (Shelton & Smith, 1998). There may be many alternative solutions to the problem based on students' perceptions and interpretations of the nature of the

problem. Using ill-structured problem in PBL creates cognitive conflict, which promotes the students' higher order thinking skills such as critical thinking (Hmelo-Silver, 2004; Savery & Duffy, 2001). The following is the summary of the features of the ill-structured problem. An ill-structured problem:

- requires learners to express personal opinions or beliefs about the problem (Meacham & Emont, 1989);

- is vaguely defined or has unclear goals and possess multiple solutions, or no solutions at all;

- requires more information for understanding the problem, as clear description is not provided in the problem;

- presents uncertainty about which concepts, rules, and principles are necessary for the solution or how they are organised (Jonassen, 1997); and

- offers no general rules or principles for describing or predicting most of the cases (Jonassen, 1997).

In this study, four ill-structured problems were given to the students in the HPBL process (see Appendix 4). The problems were given to trigger the students' learning. All the problems were related to the students' real life situations. Thus, it is expected to motivate the students to speak during the HPBL process.

3.6   Research Setting

This study was conducted in one of the government universities in Libya. In the university, there are various faculties and departments such as Department of English, Faculty of Information System, Faculty of Engineering and others. Before being enrolled in EFL program at that university, students were required to enroll in English Foundation Programme (EFP) for 12 weeks that is designed to teach students the four basic language skills i.e. writing, reading, speaking and listening following a British-based curriculum of the school. All the skills are taught simultaneously during the period but in different classes and hours. The speaking skill is the focus of this study. The programme was carefully designed by the Department of English in the public university in order to prepare the students for the degree programmes in the university.

3.6.1 The English Speaking Course

Speaking course was selected for this study because of the students' poor performance in spoken English. In the context of the study investigated, the participants selected were undergoing an English speaking course at Elmergib University during thedata collection. The main objective of the course is to prepare students to acquire the basic skills of spoken English such as using figurative language, word stress, intonation, implying ideas in speech, narrating a story. It also prepares students to learn how to ask for and give clarification, narrating incidents in your life, explain reasons for opinions, cite sources, use numbers, use stress and intonation patterns in quoting while speaking English. It is reported that Libyan undergraduates are not motivated to speak English which affects their performances in other courses (Mohamed, 2014). For instance, for many years, high rates of students' failure have been recorded in the English Foundation Program. It is claimed that the high rate of failure recorded is due to the teaching technique employed by teachers in teaching (Orafi & Borg, 2009). Moreover, there is also the need to improve the students' learning outcomes such as long-term knowledge acquisition and problem-solving skills. Therefore, the researcher believes that the HPBL model may offer an alternative way of teaching and learning so that Libyan EFL students may be motivated to speaking English. HPBL allows students to develop generic skills and attitudes desirable for their future employment, fosters active learning, improves understanding and the retention and development of lifelong learning skills (Tan, 2014).

The main concern in this research is to examine how the HPBL model was implemented in the speaking classroom and how it motivates the students to speak and how it improves their speaking performance. The speaking course covers a wide range of skills that students must acquire, which include fluency in communication, appropriate vocabulary and accurate structures. It also includes good pronunciation and intonation of English words (these sub skills are detailed in the response to RQ 3 in the next chapter). These skills are distributed in different units in the curriculum. Different exercises were given to the students as homework.

3.7   Research participants

The participants of the study included lecturers and students. The following sections describe the participants in detail.

3.7.1 Lecturer Participants

Two lecturers who have more than ten years' experience of teaching English to EFL learners were selected to facilitate the students' learning in the HPBL process. Selecting the two lectures would give them a better opportunity to go around and facilitate the students during the HPBL process. One of the lecturers was the one teaching the course using the traditional lecture-method. The second lecturer was selected to assist the former to guide the students during the group discussion, because the students were grouped into smaller groups. The lecturer who was their teacher is a male having 6 years teaching experience and The second lecturer who was supporting is a female, also having 6 years teaching experience. The male lecturer had the experience of PBL before by participating in it during his masters' degree, while the female lecturer never participated in it, but only read about it.

3.7.2 Student participants

The study involved a complete class of 30 first-year undergraduate students in a public university in Libya. This is in line with homogenous sampling strategy as proposed by Creswell (2012), to avoid researcher bias. This type of sampling is done in research to select respondents with the same or similar traits or estimated abilities, educational characteristics like a class, a school set the same age group or tribe of interest to the researcher. Selecting a homogeneous sample also helps to avoid influence on the students' performance due to their different levels. The students were of mixed-gender and their ages range from 19 to 20 years old. They have been learning English for twelve years and their proficiency in English is basic. The students were engaged in interactions and discussions among themselves in order to provide possible solutions to problems following the HPBL steps.

The students participants of the study were 30 first-year students in a speaking classroom in a public university in Libya. The students consisted of males and females

between the ages of 19 and 20 years old. They were grouped into smaller groups; five students in each group and there were six groups.

Table 3.1 presents the summary of the students' demographic details. To enable the researcher to conduct the HPBL process effectively, the students were grouped into smaller groups, five students' in each group. All students are Libyan EFL learners in their first year. They all registered in the English foundation program in the Libyan public university, and gave their consent to participate in the study, having understood the objectives and the expected outcomes of the research (see Appendix 5 for the consent form).

Table 3.1: Summary of the students' demographic details

	Variable	**Percentage**
Gender	Male	56.7
	Female	43.3
Age	19	66.7
	20	33.3

3.8   Sampling Technique

Sufficient sample size is the inherent characteristic of quantitative study; however, smaller sample sizes are generally used in qualitative studies (Gentles, Charles, Ploeg, & McKibbon, 2015). The technique used in arriving at sufficient sample sized in this research is homogeneous sample techniques, which is the process of selecting a small homogeneous group of participants or unit of analysis for examination and its goal is to understand and describe a particular group in-depth. e.g a small sample of people who share the same age, location, or a certain characteristic like being English students as in the case of this study. It is one of the types of purposive sampling which is a selective or subjective sampling that is not based on probability technique but based on the fact that the sample has a particular characteristic of inters to the researcher (Palinkas, Horwitz, Green, Wisdom, Duan, & Hoagwood, (2015). In this respect, this research adopted the homogenous sampling techniques because the central interest is to make an in-depth case study of an exploration of the implementation of HPBL in the Libyan EFL classroom.   The 15 students who

participated in the interview were selected based on the recommendation of their lecturer on their ability to express their views. They were picked one after another until data saturation point was reached. The student were being interviewed until no new codes were coming out from them.

3.9   The Research Procedures

The following sections present the research procedures in detail.

3.9.1 Consent from the Students

Before the commencement of the data collection process, the researcher obtained an approval from the university management through its Department of English to conduct the research. Thereafter, the researcher met the lecturers involved and asked for their consent. The students were also given consent forms (see Appendix 5). to sign and indicate their agreement to participate in the study.

3.9.2 Pre-interview with Lecturers and Students

Having obtained the consent from both the lecturers and the students, semi-structured interviews were conducted individually before the commencement of the HPBL process (see Appendix 1 for the interview guide). The aim of the interview was to obtain information regarding the lecturers' and students' prior knowledge and experiences of the HPBL process. This would help the researcher to plan and organise a workshop for the lecturers.

3.9.3   Workshop with Lecturers on HPBL

The researcher organised a workshop for the two selected lecturers. In the workshop, the lecturers were introduced to the HPBL modelbefore they met the students. The lecturers were advised to do some preparation for implementing the process of the HPBL approach. The workshop was essential in the context of this research because it helps the lecturers to prepare for working with the new teaching

and learning approach that is different from traditional approaches they were familiar with. The responsibilities of the lecturers were explained by the researcher based on Kwan and Tam (2009) and Schimidt, Moust and Patel (1989). The responsibilities include the following:

➢ Explaining the requirements of the HPBL approach, the roles of the teachers and the students.

➢ Guiding students how to get learning materials and other resources.

➢ Explaining to students the differences between the HPBL modeland other traditional approaches, they had learned.

➢ Guiding students with some skills needed to complete the assignments, encouraging them to work collaboratively and engage actively in the task given.

➢ Explaining the usefulness of learning through HPBL to students.

➢ Introducing learning problems to class/groups and encouraging groups to assign work to individual group members as well as schedule group meetings.

➢ Walking around student groups, observing while they were working, and providing help if needed.

➢ Advising students to use power-point presentations to present their final group work.

➢ Allocating necessary time for every learning problem, that is expected to be finished.

3.9.4   Implementation of HPBL in Speaking Course

In this research, the HPBL was implemented in a speaking course. It was conducted for the period of 9 weeks, two meetings every week. The first meeting was two hours while the second meeting was one hour. This enabled the students to understand the concept of HPBL because they had not been introduced to it and it is different from the traditional methods used in their university. Understanding the concept of HPBL is important because it allowed the students to involve actively in the process. In addition, the three hours would allow the teachers to explain how PBL is implemented to the students.

Week 1 was an introductory week (i.e. course overview, HPBL introduction, library orientation, and group formation) and week 2 was traditional based learning approach followed by week 3 of PBL lesson. The subsequent weeks were alternated between PBL and traditional method. Four PBL lessons were conducted at different intervals and the focus toward the pre-taken language focus on traditional based learning lesson (see Appendix 4 for the details). For example, in Week 2, lecturers used the traditional approach in teaching UNIT 2 entitled, "what is a most important taste of nutrition", where the focus is toward vocabulary development. During this class, several activities were conducted in/out of the classroom. The following Week 3 was the first PBL lesson …where the PBL case assigned gave the students the opportunity to practice what they have learnt in week 2 (traditional lesson) on related vocabularies on 'taste of nutrition'. The PBL lesson plan divided into 7 stages of in-classroom and out-classroom activities based on Schmidt, Moust and Patel (1989) steps, "The Seven Jump" of PBL process. The present study adopts the seven Jumps which are to:

a)   Identify and clarify unfamiliar terms presented in the scenario.

b)   Define the problem or problems to be discussed.

c)   Generate information from prior knowledge.

d)   During the fourth step, which forms the core of the analysis, the problem is explained in different ways.

e)   Formulating learning objectives, group reaches consensus on the learning objectives.

f)   Self-independent learning: during this phase, students go home to study. They work outside of the classroom hours at their own pace.

g)   Finally, share findings with group members.

3.9.5   Questionnaire to Students

After the HPBL process which lasted for 9 weeks, a questionnaire was administered to all the 30 student participants in the 10th week (see Appendix 2). The questionnaire was administered in order to elicit data regarding the students' motivation to speak English after going through the HPBL lessons.

3.9.6   Post-interview with Lecturers and Students

At the end of the whole HPBL lessons, at the 11th week, the researcher conducted semi-structured interviews (individually and face-to-face) with both the lecturers and the students. This was to enable the researcher to obtain in-depth information concerning the students' experiences and perceptions of the HPBL lessons.

3.9.7   Class Presentation by the Students

At the end of each HPBL lesson, every group presented their possible solutions to the class in the form of oral presentations (OP). Specifically, the OPs allowed each group to present their findings to the whole class. All the presentations were video-recorded and throughout the HPBL process, the researcher was an observer who observed every step of the process and made observation notes. Before coming for class presentations, each group worked out the solutions and deliberated collaboratively partly in class in order to proffer the solutions that were presented to the whole class. Figure 3.1 summarises the data collection procedures.

Chart for the Research Procedures

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┌─────────────────────────────────┐
│   Consent from the participants  │
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                 │
                 ▼
┌─────────────────────────────────┐
│   Pre Interview with Lecturers   │
└─────────────────────────────────┘
                 │
                 ▼
┌─────────────────────────────────┐
│   Pre Interview with Students    │
└─────────────────────────────────┘
                 │
                 ▼
┌─────────────────────────────────┐
│   Workshop with Lecturers on     │
│             HPBL                 │
└─────────────────────────────────┘
                 │
                 ▼
┌──────────────┐   ┌─────────────────────────────────┐
│ Observation  │   │   Implementation of HPBL in      │   ┌──────────────┐
└──────────────┘   │          Classroom               │   │ Audio/video  │
                   └─────────────────────────────────┘   │  Recording   │
                                 │                         └──────────────┘
                                 ▼
                   ┌─────────────────────────────────┐
                   │  Oral Presentation by Students   │
                   └─────────────────────────────────┘
                                 │
                                 ▼
                   ┌─────────────────────────────────┐
                   │   Questionnaire to Students      │
                   └─────────────────────────────────┘
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                   ┌─────────────────────────────────┐
                   │   Post interview with Lecturers  │
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                   │   Post Interview with Students   │
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Figure 3.1: Flow Chart of the Data Collection Procedures

3.10   Data Analysis Procedures

Various methods of data analysis were employed in order to answer the research questions posed in this study. To answer the first research question on how the HPBL was implemented in the speaking course, data were collected through observation and interview responses of the lecturers and the students. The data were transcribed, coded and themes were identified. The themes were formed, identified by

the researcher (see detail in Section 3.9.1) and checked by two other researchers who are experienced in analyzing qualitative data in order to ensure credibility.

To answer the second research question on how the HPBL model motivates Libyan EFL learners toward speaking English, qualitative data were collected from the semi-structured interviews and observation. The data were analysed bringing out major themes (see Section 3.9.1). To ensure credibility, all the themes were checked by two other Ph.D candidates in social sciences in a local university in Malaysia who are experienced in analyzing qualitative data. To address the third research question on the extent in which HPBL motivate the students to speak English, quantitative data collected from the questionnaire which was administered to the students at the end of the HPBL process were analysed. The data obtained from the questionnaire were analysed through frequency count and percentages.

Finally, to answer the last research question on how the HPBL model improves the Libyan EFL learners' achievement in speaking English in the course, data were collected through both the quantitative and the qualitative tools. The quantitative data were collective from the students' oral presentation at the end of each PBL lesson. The presentations were graded by two experts in the field using language assessment criteria which is designed to evaluate communication fluency, accuracy, range of vocabulary and structures, pronunciation and intonation (Appendix 11). Average scores were calculated and then followed by the description of the students' performance. On the other hand, data were also collected through qualitative tools. Data were collected from the students' interactions during the HPBL process. The interactions were observed, recorded and analysed based on the emerging themes (see the subsequent section for detail). In addition, data were collected through semi-structured interviews conducted individually with the students and the lecturers. The data were coded and analysed to find emergent major themes.

3.10.1 Procedure of Thematic Analysis

A thematic analysis procedure allows the identification of general aspects of qualitative data through coding and categorizing data (Ezzy, 2002)(see Appendix 9). In this study, thematic analysis was used to analyze participants' responses to the

open-ended questions of the questionnaire. It was based on the six phase coding instrument developed by Braun and Clarke (2006, p.35) as shown in Table 3.3.

Table 3.2: Stages of Thematic Analysis outlined by Braun and Clarke (2006, p.35)

(see Appendix 9 for sample of thematic analysis with the actual data)

	Phases	**Description of the Process**	**Examples**
1	Familiarizing yourself with Data	Reading and rereading the data, noting down initial ideas	To find out the participants' background knowledge of PBL, the data were read and all the parts containing the participants' prior knowledge of PBL were underlined. For example, in the following data, the part that indicates prior knowledge is underlined. "I had to explain everything over and over to the students before they could understand their roles and the lecturer's roles in the HPBL. I think is because they did not participate a class similar to this one before".
2	Generating initial codes	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant toeach code.	To find out the participants' background knowledge of PBL, any information related to the participants' awareness, prior knowledge or experiences of PBL were coded. Initial codes were identified from the data which include: • Positive prior knowledge • Negative experience, Partial knowledge,
3	Searching for themes	Collating codes into potential themes, gathering all data relevant to each potential theme.	All the data (interviews, observation and the students' interactions during the HPBL process) were used for the study. For example, from the semi-structured interviews, one of the students' explained why she likes her groups"I like my group because we are all friends, no too much argument or quarrel. We were allowed to choose group members" Here, the codes were merged into themes to answer the research questions. The themes were identified by looking at the codes and the research question. For examples, to show the relevance of prior knowledge in

			successful implementation of PBL, the codes were merged to form the following themes:
			• *Prior knowledge minimizes flaws,*
			• *Prior knowledge assist in understating teachers' and students' roles.*
			For example, one of the lecturers explained: "I did not have any problem implementing HPBL to the students because I participated in it before now. It is easier. I am aware of all the steps".
4	Reviewing themes	Checking in the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic "map" of the analysis.	To refine the data (interviews, observation and the students' interactions during the HPBL process), the researcher checked all the initial themes to ensure that they include relevant codes to answer the research questions.
5	Defining and naming themes	Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells; generating clear definitions and names for each theme.	Some themes were modified and renamed (from the interviews, observation and the students' interactions during the HPBL process). For example, the themes were modified: • *Prior knowledge minimizes flaws,* was changed to *Prior knowledge and experiences help in minimising flaws in the implementation,* P*rior knowledge assist in understating teachers' and students' roles* was changed to *prior knowledge and experiences assist in figuring out the students' roles*.
6	Producing the report	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.	For example, the data from the interviews; "I had some problems during the HPBL process. You know this is my first time to participate. I only read about it before. Sometimes I almost tell the students the answers." Vivid and compelling extract examples were selected from the three sets of data (interviews, observation notes and participants' interactions in the HPBL process) of this study through constant comparison.

At the same time, following the suggestions by Bazely (2013), thematic codes and categories identified from a data are used to provide a useful starting point in coming up with a report of findings from a study and cogent analysis requires using data to build a comprehensive, contextualized and intergrated understanding.

Table 3.3: Summary of Methodological Procedures

	Research Question	Research Tools	Data Collection	Data Analysis
1	How was the HPBL implemented in the Libyan EFL speaking course? 1. Do you know PBL approach? 2. Have you participated in a HPBL before? 3. Can you explain your roles in the HPBL process? (for both lectures and students) 4. Do you think HPBL model motivates the students to learn and speak English? Please explain why or why not.	(a) Semi-structured interviews Questions 1-4 and 7-9 (b) Observation	The researcher interviewed and observed the participants pre & post HPBL lessons Workshop, HPBL implementation, students' presentations	Content analysis to find emerging themes
2	How does the HPBL model motivate Libyan EFL learners in speaking course?	Semi- structured interviews Questions 5 & 6	The researcher interviewed and observed the lecturers and the students before and after HPBL implementation to explore how HPBL modelmotivates them to speak English.	Thematic analysis to find major themes emerging from the data.
3	To what extent does the HPBL modelmotivate Libyan EFL learners in speaking course?	Questionnaire	Researcher distributed the questionnaires to all student participants at the end of the HPBL process.	Using frequency count, percentages, mean and standard deviation.
4	How does the HPBL model develop Libyan EFL learners'	(a) Oral Presentation (Language	The researcher recorded the students' oral	Description of the scores for the oral

	Assessment Rubrics)	presentation scores	presentation
achievements in an English speaking course?	(b) Observation of the students' group interactions during the process	The researcher recorded the students' interactions during the HPBL group discussions.	Narrative analysis to find major themes emerge from the data.
	(c) Semi-structured Interview Questions 11 &12	The researcher interviews the students before and after HPBL lessons to explore how HPBL modelimproves their speaking achievement.	Content analysis to find major themes emerging from the data.

3.11 Ethical Consideration

Prior to the study, permission was obtained from the Management of this study's public university, Libya to conduct the study. In addition, the course lecturer also granted permission into his class. Creswell (2012) argues that since mixed method research combines quantitative and qualitative research, ethical consideration needs to attend to typical issues that surface in both forms of inquiry. Therefore, in this research, the following issues were considered when collecting quantitative data (i.e. questionnaire) from 30 students' namely obtaining permission, protecting the anonymity of students, not disturbing the site of research i.e. English Foundation Programme (EFP) in a Libyan public university, and communicating the purpose of the research to the participants. All the students agreed to participate in the study by signing an informed consent form (see Appendix 5). Moreover, the researcher also considered the following issues when collecting qualitative data (i.e. observation, interview and collecting audio-visual materials) namely conveying the purpose of this research, avoiding deceptive practices, respecting vulnerable populations, being aware of potential power issues in data collection, respecting indigenous cultures, not disclosing sensitive information and masking the identities of students'.

3.12 Validity and Reliability of the Findings

Reliability and validity originated from the quantitative paradigm that is concerned with the production of "valid and reliable knowledge in an ethical manner" (Merriam, 2009 p.209). In other words, validity refers to the "degree of the consistency with which instances are assigned to the same category by different observers or by the same observer on different occasions" (Silverman, 2006, p.224); while reliability deals with the probability of generating the same results if the study was conducted again (Merriam, 2009). So these two concepts are so important in a way that failure to show that any research is reliable and valid would lead the whole study toward questionable status. Therefore, the researcher in this research employed several strategies in order to ensure valid and reliable results of the quantitative data. To ensure content and face validity of the instruments, the questionnaires and the ill-structured problems, a panel of experts (Creswell, 2012) comprising of 1 ESL instructor and 2 researchers from Universiti Sains Islam Malaysia (USIM) validated the instruments. In addition, Cronbach's alpha value was calculated to determine the internal consistency of the questionnaires. The value obtained for the construct 'motivation to speaking English by HPBL framework was .78 for the questionnaire items.

Concerns have been raised on establishing reliability in qualitative inquiry, particularly in the process of ensuring quality and the validity of the analytic process. Particularly important are the trends of emphasis on transparency and emphasis on the criteria of validity (Bryman, 2015). Transparency refers to the process of ensuring openness as much as possible on the processes of collecting and analysing data which makes it possible for the scrutinisation of the researcher's decisions throughout the research process. This requirement makes for the storage in archive of data for other analysts; thereby allowing for replication by others, hence the validation of the process. This also gives readers the leeway to assess or judge the confidence in the findings. In this study transparency is ensured by attaching all the elements in this study's procedures as appendices including the HPBL curriculum, the lesson procedures, observation notes etc.

The arguments concerning criteria for determining validity in qualitative research has always been a contentious one, as to whether it should develop its own validity criteria. These debates gave rise to recent efforts in developing such concepts

as trustworthiness of the inquiry, based on the credibility of findings i.e. validation by respondents and how far others can audit the process i.e. transparency (Bryman, 2004).

Here the central assertion is that researchers must be able to show that their method of data collection and analysis can lay claim to a degree of validity and that conclusions have been based on evidence that has been subjected to rigorous process. Therefore, the process of data analysis must involve internal falsification strategy i.e. the data analyst must also pay attention to and be on continuous search for data that is incongruous or that which does not support or conform to the theoretical theme pursued in the study. This study upholds consideration for such strategy. In the analysis, the researcher paid close attention to this procedure of internal falsification throughout data analysis procedure.

Bryman (2004) underscored the relevance of respondent validation also as a superior means of establishing the validity of the findings of a qualitative study. Respondents' validation involves reporting findings back to those who were interviewed or observed to ascertain the findings as representing their comments, assessments or remarks. Finding are always open to being revised in the light of their comments. Therefore in this study, the informants were made to validate the findings in which they attested that it was the true representation of their opinions.

3.13 Credibility

The credibility of the research has been achieved through various means. To ensure credibility of the qualitative data, multiple methods were used to collect the data as mentioned previously in this chapter such as semi-structured interviews, observation, field notes and video-recording of the students' interactions. In a qualitative research, collecting data from multiple sources enables a researcher to triangulate the data by crosschecking and comparing the data collected from different sources (Merriam, 2009). Therefore, to ensure credibility of the transcripts of the interviews and observations through member checking, by presenting the analysis to the subjects for confirmation or revision.the participants confirmed the results as correct The students and the lecturers were afterwards allowed to read and check the transcripts to validate the data and ensure its credibility. They confirmed what has

been analysed in this study reflects their interactions and responses to the interview. Furthermore, to ensure credibility of the themes, two other researchers also checked, and after comparing their notes, the outcomes were similar.

3.14   Summary

This study adopted the case study research design; both quantitative and qualitative data were collected and analysed in order to fully understand and address the research phenomena. The quantitative data were collected through a survey questionnaire. The qualitative data were collected through semi-structured interviews, observation, and recordings of the students' interactions in the PBL process.