

CHAPTER III

RESEARCH METHOD

The previous chapter reviewed literature related to this study so as to provide a theoretical framework to the development of the research methodology which is outlined in this chapter. This chapter includes the methodology that is used in this study. The research questions, research design, research method of the study, rationale for the method, study area, study population, participant, sampling techniques, procedures of the study, quantitative phase, participant selection and qualitative phase are described.

3.1 Research Questions

The importance of this research done is due to an increased interest and the lack of research on teachers' motivation. This research aims to probe the English teachers' motivation and teachers' competence in the teaching and learning in urban schools in Binjai, North Sumatera. In an effort to develop the knowledge of the teachers' motivation phenomenon, this study is formulated in the following questions:

For the first, quantitative phase of this study, the research questions are:

1. What is the level of English teachers' motivation at urban schools in Binjai, North Sumatera?
 - a. What motivation do the English teachers possess?
 - b. What are the factors triggering the English teachers' motivation in the teaching and learning at urban schools in Binjai, North Sumatera?
2. What is the level of English teachers' competence at urban schools in Binjai, North Sumatera?
3. Are there any significant contributions of teachers' motivation to the teachers' competence in the English teaching and learning at urban schools in Binjai, North Sumatera?

For the second, qualitative phase of this study, the research question is:

4. How is the teachers' motivation reflected in the English teaching and learning at urban schools in Binjai, North Sumatera?

3.2 Research Design

This study was carried out by using a mixed methods design (QUAN + QUAL), which was a procedure to collect, analyze, "and mix" quantitative and qualitative methods in a study or series of studies to understand the problems of research (Creswell & Plano-Clark, 2011; Creswell, 2012). It has been argued that it is not new to collect quantitative and qualitative data. What is new is to combine both forms of data and to present them as a distinct research design (Creswell & Plano-Clark, 2011; Tashakkori & Teddlie, 2003). Mixed method research design allowed the researcher to combine the strengths of both qualitative and quantitative data, which further resulted in an in-depth overview of the context, processes, and accurate measurement of attitudes and outcomes (Lodico, Spaulding & Voegtle, 2006). There is a range of perspectives as to what and where mixed method actually fits in the framework design. Tashakkori & Teddlie (2003) consider mixed methods research as the methodology. Creswell (2012) argued that as a methodology mixed research focuses on philosophical assumption/s or worldview/s, such as pragmatism, which then adds a complexity to the research. He argues that all research unquestionably has an underlying philosophical assumption or worldview that guides the inquirer, and in the case of mixed methods this may be one worldview or multiple worldviews. From the perspective, Creswell and others such as Greene, Plano Clark, and Onweuegbuzie emphasize it is the techniques or methods of data collection and analysis that are the key to mixed method research as Creswell and Plano-Clark (2011) define the mixed methods research design approach as:

Mixed methods research is a research design with philosophical assumptions as well as methods of inquiry. As a methodology, it involves philosophical assumptions that guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process. As a method, it focuses on collecting, analyzing, and mixing both quantitative and qualitative data in a single study or series of studies. Its central premise is that the use of quantitative and qualitative approaches in

combination provides a better understanding of research problems than either approach alone.

For the purpose of this research, Creswell's definition of mixed method inquiry will be utilized as it incorporates a philosophical worldview, pragmatism, and accommodates the notion of mixed methods as a methodology whilst stressing the importance of method. The fundamental principle of mixed method research is that the combination of quantitative and qualitative approaches provides a better understanding of the problem than either approach can achieve alone (Creswell & Plano Clark, 2011; Tashakkori & Teddlie, 2003). Support of this central concept can be made in several areas. Firstly, mixed methods research provides strength to the weaknesses of quantitative and qualitative research; this suited the current study as we wanted to ensure we had a rigorous approach to a complex issue. Further, researchers are able to draw on a wide range of tools for data collection in order to comprehensively study a problem; an important consideration for a complex study as we proposed. Mixed methods research also helps answer questions that cannot be answered by a singular approach and encourages the use of multiple worldviews and paradigms and is seen as a practical approach to research. This practicality of mixed methods research focuses on the notion that individuals tend to problem solve using both numbers and words. This study adopted a pragmatic approach to answering the research question (Creswell & Plano Clark, 2011).

This method was used due to its importance to be able to gain the better understanding of a complex phenomenon by converting numeric trends from quantitative data and specific details from qualitative data (Dornyei, 2011).

While designing a mixed methods study, three issues need consideration: priority, implementation, and integration (Creswell & Plano-Clark, 2011). Priority refers to which method, either quantitative or qualitative, is given more emphasis in the study. Implementation refers to whether the quantitative and qualitative data collection and analysis come in sequence or in chronological stages, one following another, or in parallel or concurrently. Integration refers to the phase in the research process where the mixing or connecting of quantitative and qualitative data occurs.

3.2.1 Justification for Mixed Methods Methodology

Quantitative and qualitative approaches are sometimes considered to be indistinguishable (Nunan, 1996). However, Bryman (2008) noted that, in general, a quantitative approach focuses on the behavior and numbers; while the qualitative approach is a more natural approach with a focus on the meaning of the participants expressed in words. Nunan (1996), however, further observed that:

Quantitative is obtrusive and controlled, objective, generalizable, outcome oriented, therefore it is hard [data]...in contrast qualitative is soft as it assumes that all knowledge is relative, that there is a subjective element to all knowledge and research, and that holistic, ungeneralizable studies are justifiable. (p.3)

In other words, quantitative research is more concerned with causal relationships, variable and attitude, while qualitative research tries to give participants a chance to express his/her intentions with his/her own words. The preceding discussion shows the incompleteness utilizing a single methodology as in many empirical investigations. The proper research methodology is essential in finding the answers to the research questions, and to adopt only one approach would be central susceptible to its differences. Neuman (1997) also stressed that most social scientists would not be prepared to agree to just one methodology, or they will not also do research utilizing only one.

3.3 Research Method of the Study

This study encompassed one of the most popular mixed methods designs in educational research: sequential explanatory mixed methods design, consisting of two distinct phases (Creswell, 2012; Creswell & Plano-Clark, 2011). Specifically, a participant selection model was the basis of the design. In this model, quantitative and qualitative data are collected in two phases, with quantitative data in the first phase informing the selection of participants for the second qualitative phase. The second qualitative phase helps to clarify and explain results from the first quantitative phase (Malik & Hamied, 2016). In this design, data mixing occurs between Phase One and Two (participant selection) and at the interpretation level (explanatory) after quantitative and qualitative data are analyzed separately.

Figure 3.1 presents a visual schematic for the design of this study. In the first phase, the quantitative, numeric data were collected first. The goal of the quantitative phase was to identify the potential factor of selected variables which trigger the English teachers' motivation in urban schools in the teaching and learning and to allow for purposefully selecting informants for the second phase.

In the second phase, a purposive sampling was employed to purposively select potential respondents that were deemed to provide further inquiries in regards to the findings and the results of the analysis in the survey part (questionnaire). There were four potential participants selected based on the responses to the questionnaire, which had a high and low degree of motivation. Diagrammatic representation of Creswell's Mixed Method Sequential Explanatory Model is illustrated in Figure 3.1.

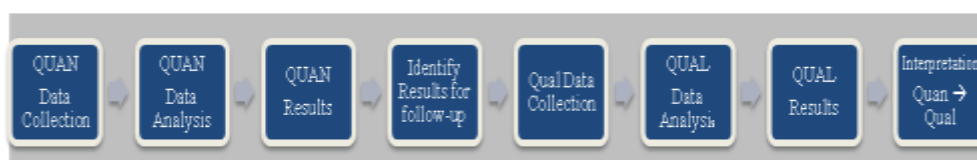


Figure 3.1 Mixed Method Sequential Explanatory Model (Creswell & Plano Clark, 2007)

This illustration was applied in this current study that was during the quantitative component, teachers' motivation was measured using the Teachers' Motivation Questionnaire (TQM) adapted from Mary (2010) and Tanaka (2010). Teachers' competence was measured using a test of competence for teachers based on Government Rule No. 14 years 2005 about Test of Teachers' Competence covering the teachers' pedagogic competence and teachers' professional competence. A participant selection phase then followed; quantitative data were used to identify teachers who reported specific composites of motivation and competence. This selection process was detailed in this chapter. The qualitative component followed a case study design, consisting of 4 teachers' open-ended questionnaire and observation to provide a more in-depth analysis of factors influencing teachers' motivation and competence, as can be illustrated in the following figure.

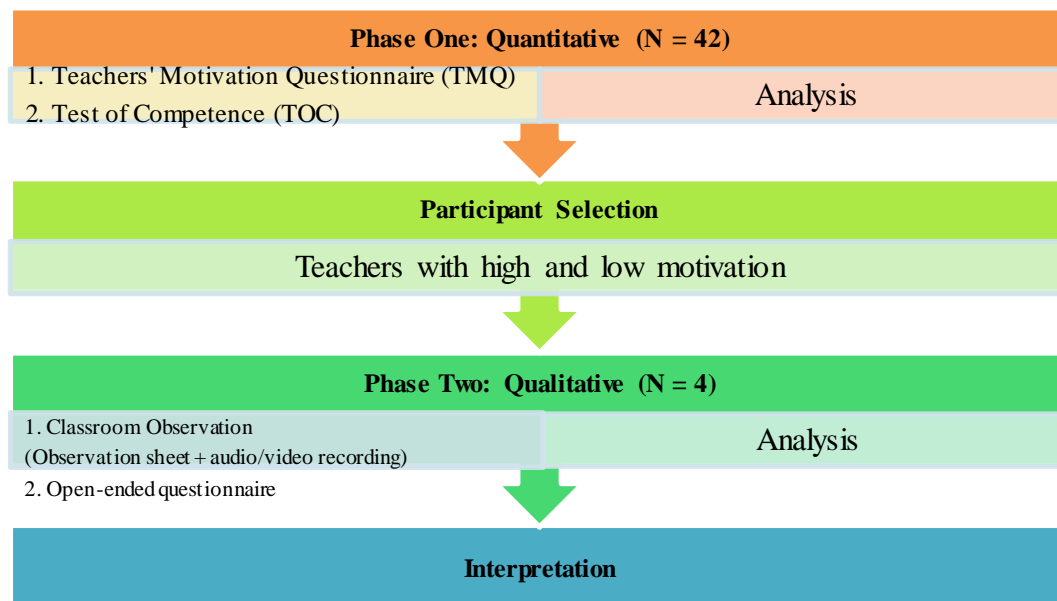


Figure 3.2 A Mixed Method Explanatory Sequential Design (Creswell, 2012)

3.4 Rationale for Method

The rationale for this approach was that the explanatory design is a two-phase design in which the qualitative data helps explain or build on the initial quantitative results (Creswell & Plano Clark, 2011). The quantitative data and results provided a general picture of the research problem, i. e., teachers' motivation and what factors that triggered the English teachers' motivation in teaching and learning in urban schools, while the qualitative data and its analysis refined and explained those statistical results by exploring participants' views in more depth.

According to Tashakkori & Teddlie (2003), this design is suited to studies in which the researcher wants qualitative results to explain significant, non significant or surprising quantitative results. The approach is also more useful when the research problem is more quantitatively oriented, the researcher has the time and ability to conduct the study in two phases, and the research develops new questions that arise from the quantitative results (Creswell & Plano Clark, 2011). Creswell & Plano-Clark (2011) added that this design is also purposeful in identifying quantitative participant characteristics to guide sampling for the qualitative phase of the study.

This design starts with the collection and analysis of quantitative data and follows with a qualitative phase that develops from and connects to the results of the quantitative phase. The researcher identifies the quantitative findings that need additional exploration and uses these findings to steer the qualitative phase (Creswell & Plano-Clark, 2011). Advantages of the sequential explanatory design include its strong quantitative orientation, the two-phase structure, and the link to emergent approaches where the second phase can be designed as a result of the outcomes of the first phase (Creswell & Plano-Clark, 2011).

This sequential explanatory method was selected because of the need for both quantitative and qualitative data to best understand the current problem. A mixed methods design allowed for the collection of different yet complementary data on the topic of teachers' motivation and teachers' competence (Creswell & Plano-Clark, 2011). A participant selection model allowed for the selection of participants for qualitative observation according to specific criteria necessary to gain insight into the effect of teachers' motivation and teachers' competence. The explanatory design also provides for a direct comparison of quantitative statistical results with qualitative findings in order to validate, corroborate, or expand findings from the quantitative phase. In addition, this design facilitated the development of valid, well-substantiated conclusions regarding teachers' motivation and teachers' competence of senior high schools in the urban area as well as an in-depth analysis of dimensions of these constructs (Creswell & Plano-Clark, 2011).

3.5 Study Area

This study took place in Binjai, one of the administrative cities in North Sumatera where it was still a new district and needs much improvement, especially in education. This area was considered appropriate because it was a newly established city in the Northern part of the island of Sumatera in Indonesia and it was familiar and easier for the writer to conduct the study, as can be seen from the map below:



Figure 3.3 Map of Binjai District

Binjai is a unique city full of meaning and culture. Binjai is divided into five districts which are further subdivided into 37 sub-districts and villages. Originally Binjai is simply a sub-district within the scope of Langkat. Five districts are respectively: Binjai City, North Binjai, South Binjai, East Binjai, and West Binjai. Binjai is a multi-ethnic city, inhabited by ethnic Javanese, Batak tribe, Karo tribe, the ethnic Chinese and Malays. This ethnic diversity makes Binjai rich in diverse culture.

Based on the data of Dinas Pendidikan in Binjai, there are 27 senior high schools in Binjai consisting of seven (7) government high schools and twenty one (21) private high schools as can be seen from the table below:

Table 3. 1 List of Senior High Schools in Binjai District, North Sumatera

Sub-districts	Number of schools/sub-districts		
	Public	Private	Total
Binjai City	1	7	8
North Binjai	1	8	9
South Binjai	3	2	5
East Binjai	1	2	3
West Binjai	1	1	2
Total	7	20	27

Source: http://psma.kemdikbud.go.id/home/statistik/daf_sma.php

3.6 Study Population

The population of this study was the teachers who worked in high schools in Binjai district. There were seventy-three (73) teachers overall in Binjai, North

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Sumatera. This study involved a total population of twenty-six Senior High Schools, consisting of nineteen (19) private schools and seven (7) public schools in Binjai, North Sumatera since no permanent English teacher in one of the senior high schools. This level of schooling was chosen due to the importance of English language to continue to a higher education where it had been officially taught so that the students could have good qualifications on the students' advance learning to higher education.

For the purpose of the first, quantitative phase, the teachers that were considered were (1) those who were civil servants or full time teachers, (2) those who taught in schools in one sub-district. For the purpose of the second, qualitative phase of the study, the teachers that were considered were (1) two teachers with highest motivation score, (2) two teachers with lowest motivation score, either from public or private schools. There were four (4) teachers to be considered in the qualitative phase.

3.7 Participants

In this current study, there were 42 teachers who met the sample criteria and volunteered to participate. There was one school whose teacher could not be included in this study due to the inexistence of the full timer teacher. Table 3.2 presents the participants and work setting description.

Table 3.2 Participants and Work Setting Description

Type of School/Region	Number of Schools (in the district)	Number of Teachers (selected from that school)
Public/Binjai City	1	4
Private/Binjai City	7	11
Public/Eastern Binjai	1	1
Private/Eastern Binjai	2	2
Public/Southern Binjai	3	8
Private/Southern Binjai	2	2
Public/Northern Binjai	1	3
Private/Northern Binjai	7	7
Public/Western Binjai	1	3
Private/Western Binjai	1	1
Total	26	42

From the table above, it can be shown that there are fifteen (15) teachers from eight (8) schools in Binjai City; three (3) teachers from three (3) schools in Eastern Binjai; ten (10) teachers from five (5) schools in Southern Binjai; ten (10) teachers from eight (8) schools in Northern Binjai; and four (4) teachers from two (2) schools in Western Binjai. It can be figured out that most schools are in Binjai City and Northern Binjai and the least school is in Western Binjai.

3.8 Sampling Techniques

There are 26 secondary schools in Binjai district of North Sumatra. Non-probability sampling was used. It is the most common type of educational research sampling and does not include any type of random sampling (McMillan & Schumacher 2001). The researcher used participants who were accessible to her, as far as her place of work and place of residence were concerned. As Stake (1995) makes the point that the time and access to fieldwork are almost always limited. If we can, we need to pick cases which are easy to get to and hospitable to our inquiry. From this population, the sample was drawn by employing non-probability sampling that is regarded as the most common type of sampling used in educational research (McMillan & Schumacher 2001). The advantage of non-probability sampling lies largely in the area of purposefulness and convenience.

For the purpose of the first, quantitative phase of this study, the convenience sample (McMillan & Schumacher 2001) was selected. The researcher used the convenience sampling which is a non-random sampling technique. Convenience sampling as strategy pertains to selecting participants on the basis of accessibility and experience (McMillan & Schumacher 2001). With this sampling technique, the researcher used participants who were available and those who volunteered and those who were easily recruited and willing to participate in the research. Thus the researcher selected those participants who can be conveniently selected. This convenience sample was employed in this study to meet the researcher's convenient to reach the participants easily.

For the purpose of the second, qualitative phase of the study, the purposive sample, which implied intentionally selecting individuals to learn to understand the central phenomenon (McMillan & Schumacher, 2001) that was the teachers who best answered the research questions and who were "information rich"

persons (Dornyei, 2011). It is a non-random method of sampling which information-rich cases are selected for the study. Information-rich cases are those that allow the researcher to learn a great deal about issues of central importance to the purpose of this study.

3.9 Procedures of the Study

To answer the research questions raised, the researcher had gone through series of data gathering procedures. The researcher received the authorized official cooperation letters from Indonesia University of Education and Education Department (Dinas Pendidikan) in Binjai district, North Sumatera, for ethical clearance, the researcher had introduced her objectives and a purpose of the study for participates. Then, gathered trustworthy data by from participants' questionnaires, the test of competence, open-ended questionnaires and class observation.

The procedure of collecting the data could be clarified in the following order: getting access, administering the questionnaire and test of competence, selecting purposive participants, doing classroom observation, collecting related documents, conducting open-ended questionnaire.

The first step, the researcher visited the Education Department (Dinas Pendidikan) in Binjai district. She talked to the head of the department by bringing the official letter from the Indonesia University of Education telling him that she would like to conduct the research in all public and private senior schools dealing with her final assignment/dissertation. She also explained the purposes of the study and the things to do during the study.

In the second step, it was getting an access to the research site by asking permission from all school principals. The researcher brought the official permission letter from the education department and gave the school headmaster the letter. She visited one by one school to see and discuss with the principal about the study she wanted to do. Given that those schools would also get benefit from the proposed study, the researcher was granted an access. The headmaster asked the staff to find the accessible English teachers. Every school principal gathered all English teachers in the teachers' lounge and gave the researcher time to explain the purposes of the study and what the researcher wanted the teachers

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did during the study. After explaining the whole things needed, the teachers were asked by the principal whether they were available to help the researcher to get the data. Most of the English teachers were voluntary to help. Then, the schedule of the research was discussed with the teachers as the participants to do the data collection on teachers' motivation questionnaire and test of competence.

In the third step, the researcher distributed the questionnaire on teachers' motivation. It was conducted when the teachers as the participants had no teaching hours in the school. In each of the surveyed educational institutions, the participants answered the questionnaires in the presence of the researchers. Participants in the surveyed schools were invited on the spot with the help of the principal, and they normally included all those EFL teachers who were readily available. During the administration of the questionnaires, all participants at each institution were comfortably seated together and briefed about the purpose of the study. The researchers remained on hand to clarify any uncertainties about items in the questionnaire. The questionnaires were given to the teachers from November 2014 to February 2015. The teachers completed the Teachers' Motivation Questionnaire in approximately 25 minutes. Then the following day, the teachers were given the Test of Competence to complete in approximately 30 minutes.

In the fourth step, having finished with the questionnaires and the test, the researcher dealt with the calculation to select the purposive participants in Phase 2, Qualitative Phase. Four teachers were decided to be the participants based on the score of motivational profiles. Then, the researcher met and talked to the teachers to arrange the available time to have a classroom observation and to answer twenty four open-ended questions.

In the fifth step, the teachers were observed by using the observation sheet on teacher's competence. The observation was done in five meetings based on the teachers' schedule. It was conducted from April – June 2015. Through observation, the researcher acted as the role of researcher and observed situations of interest in that capacity. The meeting was observed at the back of the classroom. The classroom observation analyzed how EFL teachers' motivation was found in their teaching and learning which contributed to the teachers'

competence as the answer to the research question in qualitative phase. Every data found in each meeting was a consideration to take into account. The researcher observed the teachers' activity in the classroom by occupying the voice and video recording. This helped the researcher to gain the depth analysis and to learn more the phenomenon on the contribution of EFL teachers' motivation towards teachers' competence in their teaching and learning. During the observation, the researcher also collected some related documents to support the data in classroom observation.

The last step was the open-ended questionnaire. This questionnaire was conducted to discover the data that could not be obtained from the classroom observation. An open-ended questionnaire was chosen in order to allow greater freedom of response (Nunan, 1996). It was done after the classroom observation conducted. There were twenty-four (24) open ended questions were given to the teachers to prompt responses to answer the research questions on how the teachers' motivation contribute to the teachers' competence in the teaching and learning. Allowing the teachers an opportunity to have a voice can generate the richer findings. The essence of motivation emerged through words, which strengthened the quantitative findings. The procedures of the study can be illustrated by the following figure.



Figure 3.4 Procedures of the Study

3.10 Quantitative Phase

3.10.1 Research Variable in the Quantitative Phase

The variable is the object of research, or what the focal point of the research is. Variable in this study is divided into two (2) is independent variable
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and the dependent variable. The variables used to determine the impact of teachers' motivation in teaching and learning on teachers' competence in urban senior high schools in Binjai district, North Sumatera.

3.10.1.1 Dependent Variable

In this study, the dependent variable is the teachers' competence. Indicators used to assess the teachers' competence is a teachers' test scores based on the items of the teachers' pedagogic and professional competences.

3.10.1.2 Independent Variable

The independent variable is the variable that is not affected / bound by the other variable. In this study, there were two (2) independent variables, namely:

1. Teachers' Job Commitment (X_1)

The indicators are physiological needs, security/safety needs, social needs, ego/esteem needs, and self-actualization needs.

2. Teachers' Job Satisfaction (X_2)

The indicators are achievement, administrative support, advancement, company policy and administration, environment place to work/teach, job enrichment, recognition, relationship with supervisors, work itself, working conditions.

3.10.1 Instruments of the Study

The research instrument is the testing devices that are used for measuring a given phenomenon. In this current study, the instruments that were made up of questionnaires and test which were a set of research tools served as a guideline for data collection. The following instruments were developed in order to collect data for this study.

3.10.1.1 Teachers' Motivation Questionnaire

The questionnaire was selected as it is able to measure behavioral and attitudinal questions in regards to the study (Dornyei & Taguchi, 2010). The questionnaire had two sections. The first section dealt with background information of the teachers as the participants, categories include gender, race, type of school, present assignment, and a number of years of experience in urban schools, age, educational background, and English courses/training/workshops.

The second part of the questionnaire dealt with the teachers' motivation. The questionnaires were adapted from the study done by Mary (2010) and Tanaka (2010). The Teachers' Motivation Questionnaire (TMQ) consisted of forty-three statement items, delivered in English, and was distributed to assess teachers' motivation.

The forty-three statement items were organized into teachers' job commitment and teachers' job satisfaction. There were 24 job commitment statements based on Maslow's theory which covered the physiological needs, social needs, security needs, self-actualization needs and ego/esteem needs. Physiological needs cover the items number 8, 12, 19 and 39. Social needs cover the items number 5, 6, 13, 20, 29, 30, 32, and 37. Security needs cover the items number 31 and 41. Self-actualization needs cover the items number 16, 17 and 36. Ego/Esteem needs cover the items number 14, 22, 27, 33, 34, 35, and 43.

Then, there were 19 job satisfaction statements based on Herzberg's Theory which involved the work itself covering the items number 1, 2, 23, 24, 28, 38, and 4; recognition covering the items number 3; achievement covering the items number 18; advancement covering the items number 4, 26, and 42; administrative support covering items number 7; company policy and administration covering the items number 9; working/teaching environment covering the items number 10; working conditions covering the items number 11 and 15; relationship with supervisors covering the item number 21; and job enrichment covering the item number 25. A complete questionnaire of this instrument is attached (See Appendix 2 on the instruments of the study)

Table 3.3 General Description of the Teachers' Motivation Questionnaire (TMQ)

Part	Coverage	Total Number of Statement	Statements Distribution in Number
I	Background information about teachers	11	-
II	A Questionnaire on Teachers' Motivation:		
	1. Teachers' Job Commitment	24	5, 6, 8, 12, 13, 14, 16, 17, 19, 20, 22, 27, 29, 30, 31, 32, 33, 34, 35, 36, 37, 39, 41,43
	2. Teachers' Job Satisfaction	19	1, 2, 3, 4, 7, 9, 10, 11, 15, 18, 21, 23, 24, 25, 26, 28, 38, 40,42
	Total	43	

The table above describes the description on the Teachers' Motivation Questionnaire (TMQ). The questionnaire was delivered in the English language since all of the participants' teachers can have the compulsory skills to read and understand the concepts that were covered in the questionnaires. Teachers' responses to the questions were then analyzed and compared by using a Likert scale that asked participants to respond to a series of statements that are based on a limited range of possible answers. Participants were asked to rate each of their responses on a 1 to 5 scale, in which 1 = Strongly Disagree (SDA), 2 = Disagree (D), 3 = Undecided (U), 4 = Agree (A), and 5 = Strongly Agree (SA). Then the results were used to determine whether the teachers were classified to have high or low motivation and high job commitment/satisfaction or low job commitment/satisfaction.

3.10.1.2 Test of Teachers' Competence

Conceptually, Ary, Jacobs & Sorensen (2010) defines a test as stimuli presented to an individual in order to elicit responses on the basis of which a numerical score can be assigned. This test of teachers' competence (TOC) consisted of thirty (30) fact-based, multiple-choice items designed to assess several areas of teaching competence. The items were based on the Law No. 14 in 2005 about Test of Teachers' Competence covering the teachers' pedagogic competence and teachers' professional competence.

The teachers' pedagogic competence consists of the teacher's ability to (a) recognize the students' characteristics and their potential, (b) master the learning

theories and the principles of effective learning, (c) master the curriculum plan and development, and (d) master the system, mechanism and procedure of assessment. This competence was measured by items 2, 6, 7, 8, 14, 15, 21, 25, 26, and 28. Meanwhile, the teachers' professional competence consisted of the teachers' ability to (a) master the content, structure, concept, and scientific thinking pattern to support the lesson taught, (b) master the scientific methodology which fits to the task given, (c) master the real essence of the profession as a teacher. This competence measured by items 1, 3, 4, 5, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 22, 23, 24, 27, 29, and 30. A complete test of this instrument is attached (See Appendix 2 on the Instruments of the Study)

Table 3.4 The Description of Test Competence (TTC)

No	Indicator	Item Number	Total
1	Teachers' Pedagogic Competence	2, 6, 7, 8, 14, 15, 21, 25, 26, 28	10
2	Teachers' Professional Competence	1, 3, 4, 5, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 22, 23, 24, 27, 29, 30	20
Total			30

The indicators of the teachers' motivation were based on the theories of Maslow and Herzberg and then related to the teachers' competence. The indicators of the teachers' competence were based on Government Rule No. 14/2005 on Teachers and Lecturers and Brown' (2001) on Good Language Teaching Characteristics. The variables and the indicators of each variable used in this instrument are as follows:

Table 3.5 The Variables and Indicators Used

Teachers' Motivation	Indicators (based on Maslow Hierarchy Needs Theory & Herzberg Hygiene Theory)	Aspects of competence (based on Law No. 16/2007 on Teachers and Lecturers)	Indicators (based on Brown's 2001 on Good Language Teaching)
1. Teachers' Job Commitment	<ol style="list-style-type: none"> 1. Ego/Esteem Needs 2. Physiological Needs 3. Security/safety Needs 4. Self Actualization Needs 5. Social Needs 	<p>Professional Competence</p> <ul style="list-style-type: none"> • master subject matter, the structure, concept, and knowledge paradigm relates to the subject taught • master standard of competence and basic competence of subject taught • creatively develop learning materials • always develop professionalism through reflective actions • make use of information and communication technology for personal purposes <p>Pedagogical Competence</p> <ul style="list-style-type: none"> • master the characteristics of learners which includes physical, moral, spiritual, social, cultural, emotional, and intellectual condition • master learning and education theories • develop curriculum of the subject taught • conduct educational learning • make use of information and communication technology for learning purposes • facilitates learners' potential development to actualize various learner's potentials • communicate with learners effectively, emphatically, and politely • conduct assessment and evaluation over the process of learning activities • make use of the evaluation and assessment 	<p>Technical Knowledge:</p> <ol style="list-style-type: none"> 1. understands the linguistic systems of English phonology, grammar and discourse. 2. Comprehensively grasps basic principles of language learning and teaching. 3. has fluent competence in speaking, writing, listening to, and reading English 4. Knows through experience what it is like to learn a foreign language 5. Understands the close connection between language and culture 6. keeps up with the field through regular reading and conference/workshop attendance <p>Pedagogical Skills</p> <ol style="list-style-type: none"> 1. has a well-thought, informed approach to language teaching 2. understands and uses a wide variety of techniques 3. Efficiently designs and executes lesson plans 4. Monitor lessons as they unfold and makes effective mid-lesson alterations 5. Effectively perceives students' linguistic needs 6. gives optimal feedback to students 7. Stimulates interaction, cooperation, and teamwork in the classroom. 8. Uses appropriate principles of classroom management 9. Uses effective, clear presentation skills. 10. Creatively adapts textbook material and other audio, visual, and mechanical aids 11. Innovatively creates brand-new materials when needed. 12. Uses interactive, intrinsically motivating techniques to create effective tests.

		outputs as learning improvement	
		<ul style="list-style-type: none"> take reflective measures for learning quality 	
2. Teachers' Job Satisfaction	<ol style="list-style-type: none"> Achievement Administrative support Advancement Company policy & adm Environment Job enrichment Recognition Relationship Work itself Working conditions 	<p>Personal Competence</p> <ul style="list-style-type: none"> behave on the basis norm, religion, law, social, and Indonesian cultures perform as an honest individual, good personality character, and best attitude model for learners and communities perform as solid, stable, mature, wise, personal with authority bearing show work ethos, full of responsibility, being proud as a teacher, and maintain self-confidence respect teacher rules of conduct accordingly <p>Social Competence</p> <ul style="list-style-type: none"> has inclusive attitude, behave objectively, and being non discriminative to learners for sex, race, religion, physical condition, family background, and social status differences communicate effectively, emphatically, politely to other teachers (educators), parents, and communities be adaptable to all different regions of Indonesia that has the social and cultural diversities communicate with teacher community and other profession 	<p>Personal Qualities</p> <ol style="list-style-type: none"> is well organized, conscientious in meeting commitments, and dependable is flexible when things go awry Maintains an inquisitive mind in trying out new ways of teaching Sets short term and long term goals for continued professional growth. Maintains and exemplifies high ethical and moral standards. <p>Interpersonal Skills</p> <ol style="list-style-type: none"> is aware of cross-cultural differences and is sensitive to students' cultural traditions Enjoys people; shows enthusiasm, warmth, rapport, and appropriate humor values the opinions and abilities of students is patient in working with students of lesser ability offer challenges to students of exceptionally high ability Cooperates harmoniously and candidly with colleagues (fellow teachers) seek opportunities to share thoughts, ideas, and techniques with colleagues.

3.10.2 Data Quality Control

Validity and reliability of the research instrument were measured as follows:

3.10.2.1 Instrument Validity

Validity refers to the degree to which a study accurately reflects or assesses the specific concept or construct that the researcher is attempting to measure (Ary, Jacobs & Sorensen, 2010). Content, criterion-related, and construct validity of the survey instrument were established. It is the extent to which the instruments used during the study measure the issues they are intended to measure. To ensure the validity of instruments, the instruments were developed under the close guidance of the supervisor.

Ary, Jacobs & Sorensen (2010) defined validity as the extent to which an instrument measured what it claimed to measure. The validity of the questionnaire items can be tested by using Pearson's Product Moment Coefficient of Correlation. The result of the correlation coefficient (r) is compared with the value of *product moment* r_{table} in 5% significance. If $r_{result} > r_{table}$, then the questionnaire item is valid, and vice versa if $r_{result} < r_{table}$, it means that the questionnaire item is not valid.

Having calculated the reliability of the items, a validity test using item correlations was conducted to determine evidence for validity of scores for this sample. The r -count table was 0.304. It showed that every item which was lower than r count = 0.304 was invalid (see Appendix 3). Those items that did not meet this threshold were invalid, and then those items were discarded. The result of validity test of each item can be seen in Appendix 3.

The results of the instrument of teachers' motivation variable have a value greater than 0.304. Thus it can be concluded that all the instruments of the questions of teachers' motivation variables used were valid and could be used in this research. This conclusion was reinforced by the significant value (1 tailed) that all instruments that are smaller than the value of α of 5%.

3.10.2.2 Reliability of Instruments

Ary, Jacobs & Sorenses (2010) stated that the reliability of a measuring instrument is the degree of consistency with which it measures whatever it is measuring. Coefficient alpha, also called Cronbach alpha, is widely used to assess the reliability of the instrument.

Arikunto (2010) indicated that the result of r_{11} can be interpreted using the index criteria shown in Table 3.8.

Table 3.6 Interpretation Criteria of Coefficient Alpha

Coefficient Alpha	Interpretation
0.800 – 1.000	Very high consistency
0.600 – 0.800	High consistency
0.400 – 0.600	Fairly high consistency
0.200 – 0.400	Low consistency
0.000 – 0.200	Very low consistency

Reliability is the extent to which the measuring instruments will produce consistent scores when the same groups of individuals are repeatedly measured under the same conditions (Ary, Jacobs & Sorensen, 2010). The study administered one type of questionnaire to teachers and using Cronbach reliability test, Alpha values of 0.898 were attained implying that the tool was suitable for assessing the contribution of motivation on teacher performance in senior high schools in Binjai district, North Sumatera.

The scores from the questionnaire were used to determine reliability evidence using Cronbach's alpha. Ideally, all variables would have a reliability score of 0.70 or higher. The reliability statistics of the 43 items was 0.898. It can be concluded that all statements in motivation questionnaire were very high consistency as can be seen from the table below.

Table 3.7 Reliability of the Teachers' Motivation Questionnaire

Cronbach Alpha	Number of Items
0.898	43

The scores from the test of competence were used to determine reliability evidence using KR 20. Ideally, all variables would have a reliability score of 0.70 or higher. The reliability statistics of the 30 questions was 0.879 as can be seen below.

Table 3.8 The Reliability of the Test of Teachers' Competence

Cronbach's Alpha	Number of Items
0.879	30

From the table, it can be concluded that the value of the test of competence scores was very high consistency.

3.10.3 Data Collection and Analysis

A sequential explanatory/participant selection mixed methods design (Creswell, 2012) was occupied in this current study. It consisted of two phases. The first phase, a quantitative phase, then followed by a qualitative phase with a period of participant selection occurring between the phases.

Tashakkori & Teddlie (2003) provide a more in depth definition of methods referring to them as two distinct types of research activities: data collection and analysis. Methods are ways, techniques, or tools for generating thoughtful accurate and ethical data as well as ways, techniques or strategies for manipulating that data (Tashakkori & Teddlie, 2003). Importantly in any form of data collection knowing what you want to find out is the impetus behind the initial choice of method. Tashakkoari & Teddlie (2003) highlight that traditionally there is an element of "faithfulness" to either qualitative or quantitative data collection. However, the use of a mixed method design offers richer data than either approach could produce if used singularly (Sechrest & Sidani, 1995). Each data collection approach either validates the other or complements it adding greater depth and understanding to the research (Sechrest & Sidani, 1995; Tashakkori & Teddlie, 2003). The choice of methods in this study was based on the inquiry, "What did I want to find out?" The study commenced with a quantitative phase.

3.10.3.1 Data Collection

This quantitative phase of the study focused on teachers' motivation and the significant factors that trigger the English teachers' motivation which contributed to the teacher competence in the teaching and learning in urban areas. The cross sectional survey design, which implied the data were collected at one point in time (McMillan & Schumacher, 2001), was used. The primary technique for collecting the quantitative data was a closed questionnaire on teachers'

motivation containing 43 items measured on the 5-point Likert-type. The questionnaire was regarding their motivation in teaching English which they were asked to rate on a five-point Likert scale from strongly agree to strongly disagree. Results from the questionnaire were correlated with the results of the 30 questions test of competence in order to explore the possibility that test results might be related to the motivational degree and its dimensions. The questionnaire techniques were adopted because it assured anonymity and permitted wider coverage of respondents who were geographically dispersed, questions were standardized and could be easily scored. All of the questions were developed based on the research questions that had been composed based on the theories.

3.10.3.2 Data Analysis

In mixed method research, the analysis of data involves the analysis of both quantitative and qualitative data (Creswell & Plano Clark, 2011). Each data set was analyzed using the appropriate method of analysis; quantitative data is analyzed quantitatively and qualitative data qualitatively (Creswell & Plano Clark, 2011). Although there are similarities in the process, i.e. data preparation, data exploration, data analysis, representation, and data validation (Creswell & Plano Clark, 2011), in mixed method research, the analysis is dependent on the design of the study. As this study used a sequential explanatory design, sequential data analysis has been occupied initially followed by the final data integration phase.

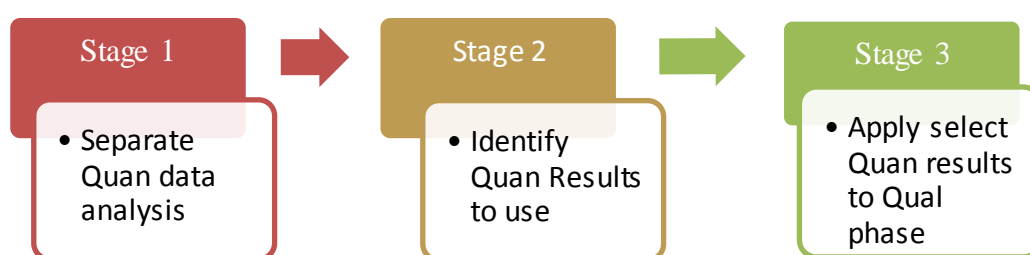


Figure 3.5 Sequential Explanatory Data Analysis

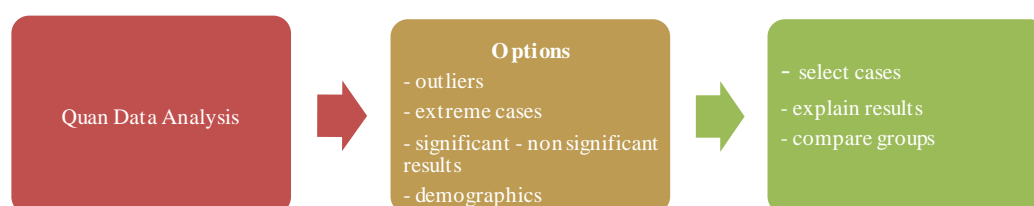


Figure 3.6 Sequential Data Analysis Procedures (Creswell & Plano Clark, 2011)

As two major sequential phases of data collection are involved in sequential explanatory designs, so the purpose of analyzing data sequentially is the first database informs the second database (Creswell & Plano Clark, 2011). The aim is to answer the mixed method question, in this current study the question is: In what way does the qualitative data help to explain the quantitative results? More specifically: In what way does the open-ended questionnaire, classroom observation, and document analysis help explain the nature of EFL teachers' motivation in urban senior high schools in Binjai district, North Sumatera? The importance of both study phases and both data sets are highlighted by analyzing the data this way. The quantitative and qualitative phases are supportive of each other and intrinsically linked to the success of the study.

3.10.3.2.1 Descriptive statistics

The quantitative data analysis occurred during and after the quantitative phase of the study. Quantitative data from the survey instruments were individually scored using the correct scoring tool supplied with each tool. A diagrammatic chart of these descriptive statistics was created.

Numerical data were described using minimum, maximum, interval, and class interval. Categorical variables were described by percentages. Descriptive statistics was used to insert the data of the teachers' job commitment, teachers' job satisfaction, and teachers' competence into the table of distribution of frequency. And then to count min, max, interval, and class interval and also made the histogram of each variable.

3.10.3.2.2 Analysis of Regression and Correlation

The analysis used the techniques of regression and correlation. The technique of regression analysis was to describe the relationship precisely by means of an equation that has predictive value. In other cases the technique of correlation was used to test the statistical significance of the association. Two types of analysis – correlation and regression were dealt separately because they have different roles. Before using the techniques to analyze the data, firstly, it was done the testing of the requirement of analysis. Multiple regression analyses were conducted with the dependent variable (teachers' motivation) consisting of

teachers' job commitment and teachers' job satisfaction and the independent variable was the teachers' competence.

The researcher used the techniques of regression and correlation to analyze the data. Statistical analysis was conducted using SPSS version 17. Simple regression analysis was used to predict the linearity equation line and regression coefficient between (X_1) on (Y) and (X_2) on (Y). Multiple regression analysis was used to predict the linearity equation lines and regression coefficient from the combination of (X_1, X_2) on (Y). Simple correlation analysis was used to find out the contribution and correlation coefficient between (X_1) on (Y) and (X_2) on (Y). Multiple correlation analysis was used to find out the contribution and correlation coefficients from the combination of (X_1, X_2) on (Y). Then to know of each correlation coefficient of independent variables by controlling one of independent variable was used partial correlation. There are three variables in this research, two independent variables namely the teachers' job commitment and teachers' job satisfaction. The dependent variable is the teachers' competence. That way can be drawn as the following scheme:

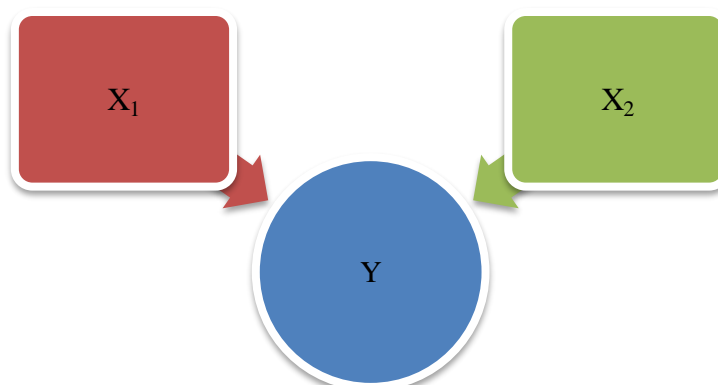


Figure 3.7 The Scheme of Correlation of X_1 on Y, X_2 on Y and both X_1 and X_2 on Y

Note:

X_1 : Teachers' Job Commitment

X_2 : Teachers' Job Satisfaction

Y : Teachers' Competence

$r.y_1$: The correlation of the teachers' job commitment on the teachers' competence

$r.y_2$: The correlation of the teachers' job satisfaction on teachers' job satisfaction

$r.y_1-2$: The multiple correlations of the teachers' job commitment and teachers' job satisfaction on the teachers' competence

3.10.3.2.3 Testing of the Requirements

Normality Test

Normality test is to check whether the distribution of data population normal or not.

Testing of the Hypothesis

The steps for testing hypothesis were done as follows:

1. To test the first hypothesis and the second hypothesis was done by searching the simple correlation to test the correlation between X_1 on Y by using the formula of simple product moment by Pearson.
2. To test the third hypothesis was done by using multiple correlation analysis for two variable predictors. This analysis was used to know whether the correlation between the two independent variables have or do not have the correlation with dependent variable.
3. To complete the third hypothesis was done partial analysis by using partial correlation. This analysis was done by controlling one of the independent variables.
4. Then to see the significant correlation of each research variables were used t test and F test.

The criteria of the test were accepted when $H_a > H_o$, $\alpha = 0.05$. After finishing the data of requirement test and the data has got the requirement, then the hypothesis research was tested.

Hypothesis statistics that were tested as the following:

Hypothesis 1 : $H_o \quad \rho_{y.1} = 0 \quad H_a \quad : \rho_{y.1} > 0$

Hypothesis 2 : $H_o \quad \rho_{y.2} = 0 \quad H_a \quad : \rho_{y.2} > 0$

Hypothesis 3 : $H_o \quad \rho_{y.1.2} = 0 \quad H_a \quad : \rho_{y.1.2} > 0$

$\rho_{y.1}$ = significant correlation between teachers' job commitment (X_1) on the teachers' competence (Y)

$\rho_{y.2}$ = significant correlation between teachers' job satisfaction (X_2) on the teachers' competence (Y)

$\rho_{y.1.2}$ = significant multiple correlation between teachers' job commitment (X_1), teachers' job satisfaction (X_2) on the teachers' competence (Y).

3.10.4 Quantitative Research Procedure

The following figure is the quantitative research procedure.

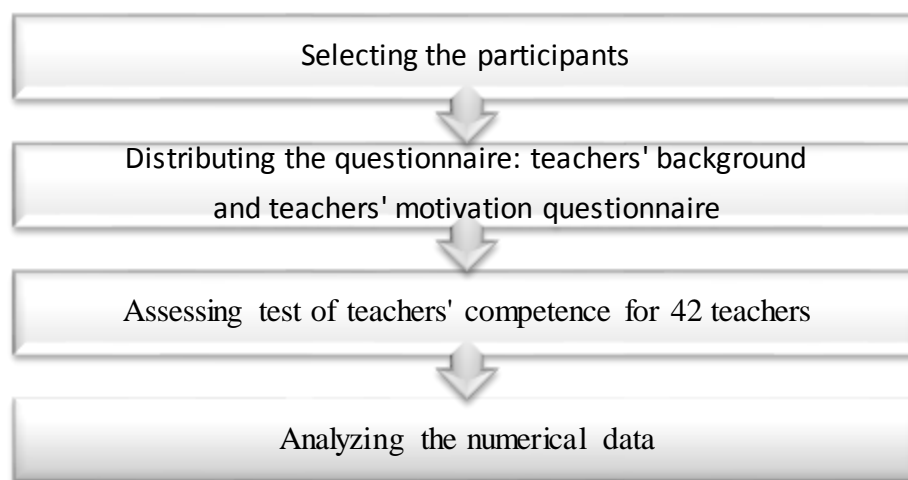


Figure 3.8 Quantitative Research Procedures

Given the illustration above, it can be seen that this research was started by selecting the participants.

3.11 Participant Selection

Following a sequential explanatory participant design, quantitative data from Phase One informed participant selection for the qualitative component, Phase Two. In order to further examine the relation between motivation and competence, quantitative data were examined to identify the participants, teachers, who reported specified of teachers' motivation. The decision to determine high and low motivation was based on the motivational profiles.

A summative score was calculated, using the teachers' motivation questionnaire consisting of teachers' job commitment and teachers' job satisfaction. This summative score yielded a motivation variable which became the basis for assigning a motivational profile to each teacher participant.

3.11 Qualitative Phase

After gathering the collection of quantitative data in this study, the second, qualitative phase was conducted. A means of understanding a social phenomenon from the perspectives of those involved, to contextualize issues in social, cultural, or political environments or to transform or change social conditions is called a qualitative research method. This method aims to understand and interpret how

various participants in a social setting construct the world around them (Glesne, 2006). The researcher must utilize an exploratory open-mind in order to gain access to participants often multiple perspectives of the phenomena being studied (Glesne, 2006).

The criteria for judging a qualitative study differ from quantitative research. In qualitative design, the researcher seeks believability, based on coherence, insight, and instrumental utility (Eisner, 1991) and trustworthiness through a process of verification rather than through traditional validity and reliability measures. The uniqueness of the qualitative study within a specific context precludes being exactly replicated in another context. However, statements about the researcher's positions – the central assumptions, the selection of informants, the biases and values of the researcher – enhance the study's chances of being replicated in another setting (Creswell, 2012). To validate the findings, i. e., determine the credibility of the information and whether it matches reality (Creswell, 2012), two primary forms were used in the second, qualitative, phase of the study: (1) triangulation – converging different sources of information (open-ended questionnaire, observation, document analysis); (2) member checking – getting the feedback from the headmasters and the teachers on the accuracy of the identified categories and themes (Creswell, 2012).

3.11.1 Instruments of the Study

In the qualitative phase, the instruments that were made up of classroom observation and open-ended questions which were a set of research tools serve as a guideline for data collection.

The following instruments were developed in order to collect data for this study:

3.11.1.1 Classroom Observation

This classroom observation was conducted to get more information directly from the teachers' participants since the actual translation of EFL teachers' motivation can be seen through the classroom observation. By conducting this observation, the researcher investigated the classroom activities to see the EFL teachers' motivation conceptualized as teachers' job commitment (TJC) and satisfaction (TJS) contribute to the teachers' competence while

teaching and learning process took place. The teachers' participants were given the explanation on the aims of the observation, what to observe and for how long the observation was conducted, and the role of the observer. The following was the information about the teachers observed.

Table 3.9 Participants Information in Classroom Observation

Teacher	Gender	Age	Degree	Experience
MP	Female	30	S1	7 years
HS	Female	47	S1	Above 6 years
MH	Female	42	S1	22 years
SG	Female	30	S1	7 years

3.11.1.2 Open-ended Questionnaire

The open - ended questionnaire was also conducted to strengthen and confirm the data needed of the contribution of EFL teachers' motivation towards the teachers' competence. There is not one definite answer to the questions of open-ended questions. An opportunity to respond in their own words and in detail was given to the participants. According to Glesne (2006), open-ended questions seek to explore the qualitative, in-depth aspects of a particular topic, and participants' responses may be very useful because they often yield quotable material. However, Glesne (2006) stated that the responses are more difficult to catalog and interpret.

The participants were the four teachers that had been observed as well. The data was taken after the classroom observation was done at the last session. The questionnaire consisted of fourteen questions with five themes, as can be seen from the following table.

Table 3.10 Central Themes of Open-ended Questionnaire

Theme		Questions distributions in number
Central Theme I	Factors that affect the teachers' motivation	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 24
Central Theme II	Ways to improve students' motivation	3, 12, 18
Total		24

3.11.2 Data Collection

The second, qualitative phase in this study focused on explaining the EFL teachers' motivation towards the teachers' competence in a certain setting and participants in order to learn more phenomenon's on it. In collecting the data,

several data were gathered in this study, namely, observations, open-ended questionnaire, and supporting document. It was expected that data triangulation was achieved from the three types of data sources. The detailed descriptions of the methods were elaborated in the following subsections.

3.11.2.1 Classroom Observation

Classroom observation is a data gathering technique where the researcher directly documents activities inside the classroom by watching, listening, and recording (Nunan & Bailey, 2009). Classroom observation enabled the researcher to understand the participants' behavior within the research setting.

Observation is important because people do not always behave in line with how they say they behave (Johnson & Christensen, 2008). The use of classroom observations enabled the researcher to record what teachers actually did in their classroom to motivate students. One risk, however, is that teachers may act differently when they know they are being observed (Johnson & Christensen, 2008). To minimize this, the researcher observed quietly from the back, built a positive rapport with the teachers prior to the observation, and assured them that the data the researcher gathered was only for her research and would not be used in any other way, such as evaluating their performance.

The classroom observation was done to collect data to observe the English teachers' competence in class and to see the teachers' motivation applied while teaching. The researcher noted what the teachers say and do in a class. The observation was conducted in five meetings. Classroom observations of 4 participants (teachers) were conducted from February – May 2015. The four (4) teachers were taken from the results of the first phase (quantitative phase). The choice of the four participants to be observed was based on the score of motivation (high and low scores). The schedule for observation was conducted based on the agreement by the participants and their schedules of teaching sessions.

To provide more information that may be overlooked, records are made in the form of observation sheet and field notes while teaching and learning process took place. The researcher used video and voice recording and employed the field note, all together in each session. This combination of data collection was

employed to achieve the data triangulation. The video recording was used in order to capture all the activities happened in the class and field note was used to note everything which concerned with the English teachers' motivation. It was very helpful to occupy video and voice recording of classroom activity to describe the class and record her reflection. After the data are gathered from the classroom observation, they are documented into observation sheets, classified and interpreted (Alwasilah, 2000). In the classroom observation, the researcher makes no effort to manipulate variables and notes what is happening as things naturally occur (Johnson & Christensen, 2008).

During the observation, the researcher also observed the teachers' competence whether they took the roles and functions as suggested in the regulation (Law No. 14 in 2005) based on the instrument of subject teachers' performance assessment (see appendix) to know whether the teachers' activities followed the concepts of teachers' competence covering the two competencies namely, teachers' pedagogical competence and teachers' professional competence. Therefore, through observations, expressions showing how the roles and functions realized were also searched and examined.

Table 3.11 Classroom Observation Schedule

Participants	Session/Date				
	1	2	3	4	5
Participant 1 (MP)	29/04/2015	30/04/2015	04/05/2015	06/05/2015	07/05/2015
Participant 2 (HS)	02/05/2015	09/05/2015	23/05/2015	25/05/2015	30/05/2015
Participant 3 (MH)	23/04/2015	28/04/2015	29/04/2015	30/04/2015	09/05/2015
Participant 4 (SG)	27/04/2015	04/06/2015	05/06/2015	11/06/2015	12/06/2015

3.11.2.2 Open-ended Questionnaire

In order to probe detailed information, this study also occupied the open-ended questionnaire. Glesne (2006) stated that open-ended questions are the best way to increase response, especially to measure complex matter, that was, factors that trigger the English teachers' motivation which contributed to the teacher competence.

An open-ended questionnaire was chosen since the participants "can best voice their experiences unconstrained by any perspectives of the researcher or past

research findings” (Creswell, 2012). It is defined as “ a type of question that researchers pose to research participants that allow them to select how they orient to the research topic (Given, 2008) since it can elicit more information regarding the topic at hand while still maintaining the focus on the events previously observed in the classroom.

3.11.2.3 Supporting Document

The document is defined as the form of data not gathered through open-ended questionnaires or classroom observations (Merriam, 1988). The credibility of the research finding and interpretations can be enhanced by the availability of the documents based data.

In this study, relevant documents were collected to support the data taken from the open-ended questionnaire and observations. The documents were the syllabus, day-to-day lesson plans, textbooks, handouts, and assignments.

3.12 Data Analysis

In the final phase (qualitative method), qualitative data analysis was conducted by finding and systematically organizing the data from the data open ended questionnaire, observation, field notes and other materials to enhance understanding of the researchers who investigated the case and present it as the research findings. Data analysis was performed in accordance with Miles, Huberman & Saldana (2014) and Malik & Hamied (2016). An open-ended questionnaire was analyzed using the constant comparative method, or the continual comparison of data. Using this method of analysis, data were analyzed as they were collected; subsequent data were then compared to the emergent themes. These initial themes were then compared to successive open-ended questionnaire data as categories and subcategories were refined. The figure given below shows the process of the constant comparative method of data.

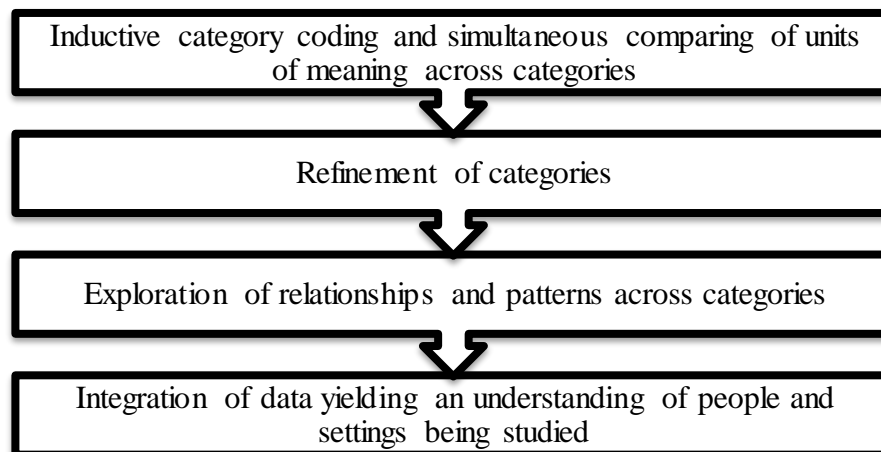


Figure 3.9 Constant Comparative Method of Data (Maykut & Morehouse, 1994 in Malik & Hamied, 2016)

The data analysis from classroom observation and open-ended was analyzed descriptively. Data analysis was committed in accordance with Miles, Huberman & Saldana (2014) using the constant comparative method, or the continual comparison of data. Data were analyzed as they were collected without an effort by the researcher to manipulate the variables and notes. The subsequent data were then compared to the emergent themes. These initial themes were then compared to consecutive open-ended data as categories and subcategories were filtered.

There were four steps of the constant comparative method occupied in this analysis. They were open coding (consisting of identification of categories, and subcategories) and axial coding (elaboration of dimensions of categories and relationships between categories).

Open Coding. A preliminary read-through of each open-ended data and transcription from class observation were conducted in the first step of data analysis. Then, open coding began. The data from each participant were examined and coded manually; revealing initial concepts relating to the teachers' motivation related the teachers' competence.

Several categories were broken down into subcategories. This open coding was the basis for interpretation (Miles, Huberman & Saldana, 2014), as data were further analyzed and relationships were developed between teachers' motivation and teachers' competence. The data from observations were used as the reference to describe the physical activities carried out in the observed teaching and learning

process. It covered mainly the visible activities that the class had during the stages of teaching and learning process. The stages of analysis were as follows:

1. First, the data were examined carefully and each activity was categorized whether they relevant with the teaching and learning activities or not
2. Categorization of the teachers' competence was conducted whether those relevant activities belonged to the teachers' competence as suggested in Law No. 14 in 2005 and the categorization of teachers' motivation was conducted based on the central themes provided.
3. Last, the activities observed were further analyzed to see which part of the teachers' activities that were relevant with the teachers' competence.

In relation to the data from the recordings during the teaching and learning process, it is essential to have a careful examination of the recording so that a clear picture of what had happened during the recordings can be produced. Therefore, teachers' talks need to be transcribed "verbatim word by word, keeping all the informal conversation style and emotional expressions" (Liamputtong, 2009).

The data from the open-ended questionnaire were used as the reference to describe the teachers' motivation in teaching and learning activities. The stages of analysis were as follows:

1. First, the data were examined carefully and each statement was sought and located accordingly.
2. Having located the repeating ideas, the emerging themes were therefore identified.
3. The emerging themes then were reviewed based on the theoretical framework underpinning this study's research concerns.
4. The last step is drawing together all the statements and the emerging themes in order to address the research concerns in this current study.

Axial Coding. In the next phase of data analysis, axial coding, relationships between categories and subcategories were identified and properties and dimensions of the categories were elaborated. The process is as follows:

1. First, the researcher listened carefully the audio records over and over (class observation). Meanwhile, the data from the open-ended questionnaire were read carefully.
2. Then, the audio voices were transcribed into a written form and the participants' answers were re-written.
3. After finishing the transcription and re-writing the answers, she consulted the participants, the teacher concerned; to make sure what she heard and wrote was what was actually spoken and written by the teacher.
4. After getting the approval of the teachers, the next thing to do was to start excluding the irrelevant expressions which were not related to the teaching and learning process.
5. Then, the teachers' activities were screened into the concept of teachers' motivation and teachers' competence

Those utterances were then be condensed into a limited number of excerpts that share similarities characteristics. The similarities became the basis of further analysis. Data from open-ended questionnaire were analyzed and categorized by identifying the central themes.

The analysis of the document as data source lends contextual richness and helps to ground an inquiry in the milieu of the writer (Merriam, 1988). The analysis of the syllabus and lesson plans was conducted by looking through the parts in the syllabus and lesson plans of the teachers' competence as suggested in Government Rule No. 14 Year 2005.

Data Mixing at the Interpretation Level. The mixed data sources between phases were occupied in this sequential explanatory/participant selection design, and then again at the interpretation level. The following guiding questions for merging quantitative and qualitative data sets in concurrent triangulation designs: "To what extent do the quantitative and qualitative data converge? To what extent do the same types of data confirm each other? To what extent do the open-ended themes support the survey results? What similarities and differences exist do across levels of analyses?" were established by Creswell (2012) and Creswell & Plano-Clark (2011). The integrative data is to represent the mixing of quantitative and

qualitative data and the finding from this process; this integrated data is shown and presented in Chapter Five.

The final step of integration of the data was often overlooked or poorly addressed in many mixed methods studies and had occurred slowly since the introduction of the mixed methods design (Creswell & Plano Clark, 2011). This is an appropriate approach to take in explanatory mixed method designs (Creswell & Plano-Clark, 2011).

In this study, the quantitative data collected was used as a platform to inform the qualitative arm of the study. The quantitative data steered the qualitative stage and conversely, the qualitative stage explained the numerical data of the quantitative stage. In this study, the advantages of this approach were consistency between the teachers' motivation and also the ability to fully explore the phenomenon.

3.13 Qualitative Research Procedure

The following diagram outlines the procedure:

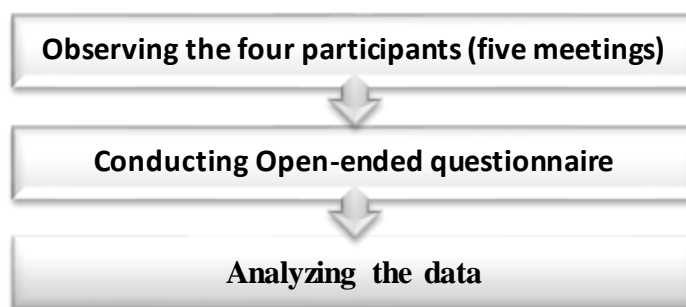


Figure 3.10 Qualitative Research Procedure

3.14 Trustworthiness and Transferability

All research, quantitative and qualitative, needs to satisfy the concept of validity; that is, research should be “fit for purpose” (Hall, 2013). According to Hall, the notion of fitness for purpose is equivalent to the concept of “trustworthiness” in qualitative design. A research is trustworthy if the results can be relied on because of: coherence of the overall design in relation to the research questions (fitness for purpose again); the use of appropriate methods, strategies and data analysis techniques; clarity and detail of information about the research process; evidence of appropriate or reasonable interpretations; and clarity of reporting.

To ensure trustworthiness, the following strategies were used by the researcher: class observation was taped and video recorded and transcribed verbatim, the transcribed data were verified with participants and direct quotations from the transcribed data were used to illustrate the participants' views. In addition, the research was done in the natural setting of the participants. The questions in open-ended questionnaire were in the English language, but the participants answered it by using mother tongue of the participants and the researcher (Indonesian language). These strategies helped to remove biases in the results of the data analysis. McMillan and Schumacher and (2001) stated that researchers in qualitative research do not aim at the generalization of results, as in quantitative research, but the extension of understanding. So, transferability is likely to be appropriate for people in settings similar to the studied. The results of this study may be informative for other teachers in the other secondary schools in North Sumatra.

Consistent with the view of Hall, Creswell (2012) identifies a range of strategies important for achieving validity in qualitative research. For example, triangulation is conducted by examining evidence from different sources. Triangulation is a way of giving confirmation and validation by looking at the data interpretation from different sources (e.g. between different teachers, and between teachers and students). Triangulation includes the use of multiple perceptions to clarify meaning. To triangulate the findings, the researcher gave an English test for the students.

Member checking is another technique for helping to establish validity. This strategy involves participants confirming that the data they supply represents an accurate picture of their perceptions and thinking. Where appropriate, participants should also be given the opportunity to comment on the interpretations of the researcher. This last step was conducted that the researcher returned to Medan by the time she analyzed the data. This acted as a check on the credibility of the interpretations.

The use of rich or thick description to convey details of the research is another key element of the validity or trustworthiness of qualitative research. This involves giving all important information about the research process (e.g., the

purpose, literature, methodology, data, and interpretations). This enables readers to judge the quality of the research in all its facets.

3.15 Research Authorization and Ethical Consideration

Research authorization and ethical issues in this study were taken into consideration. In terms of authorization, a letter of the official statement was issued by the vice director of academic affairs of the Indonesia University of Education. This letter then occupied to get permission from Education Department of Binjai City (Dinas Pendidikan Kota Binjai). Then, the head of Education Department of Binjai city issued an official letter to get permissions of the headmasters where the study was conducted.

With regards to ethical consideration, some clarifications were made for the teachers. In doing the survey (questionnaire) and test of competence, it was informed that the teachers' personal identities were not disclosed. This clarification was part of the letter of permission given to each participant. For classroom observation and open ended questionnaire, names of participants were kept confidential. The schedule for open ended and observation was on the decision of the participants, and not from the researcher. It was also explained that all participants were allowed to know any information about the findings of the result.

3.16 Concluding Remark

This chapter has described the research methodology which is important for the readers, such as research questions, research design which is a mixed method research. The context of the study describes the population and the research sites that were selected to participate in this study. This chapter specifically outlines the process of the development of the data collection instrument of the quantitative and qualitative phases. This chapter also includes various stages of the data collection process and describes the components applied in data analysis as well as methods in quantitative and qualitative phases to ensure the reliability and validity of the study.