CHAPTER III
RESEARCH METHODS

3.0 Introduction

The study of learning autonomy is instrinsically linked to learning strategies and learning processes. Oxford (1990) and Chamot *et. al* (1999) claim that autonomous and good learners are able to control themselves and have various direct or cognitive strategies and indirect strategies i.e. metacognitive, social and affective strategies. They are good at orchestrating these strategies and have good knowledge of what they want to learn (Pintrich, 2004; Rubin, 1975; Chamot and O'Malley, 1987; and Wenden 1987). They know well about the language, their proficiency, the outcome of their efforts, their roles in language learning process and how to approach the task of language learning (Wenden, 1982 and 1986 in 1987: 22).

This study aims to investigate the development of students' autonomy in language learning in an EFL reading class over two semesters at Politeknik Negeri Bandung located in West Java, Indonesia. The reading class was run by applying learner-centred approach (see 2.4.2 and 2.4.2.1); the teacher attempted to accommodate both the students' and the institution's expectation. The first question of this study was to discover the students' problems when reading English texts. The second question was to explore the instructional decisions suitable for the students to improve their learning strategies to solve their problems. The third question was to discover learners' solving strategies in relation to the treatments. Finally, the fourth question was aimed at exploring the development of the learners' autonomy along this study.

To answer the research questions, students' original insight strategies and changes are needed (Cohen, 2007; 253); and for these purposes a study within a framework of action research was conducted. This type of study was selected for at least of seven reasons: First, action research was a flexible type of study i.e. it could be undertaken by individual teachers as well as a group of teachers working together within one school etc. (Cohen, *et.al*, 2007: 297: Water-Adams, 2006) because the realization of individual nature of practice is the important (Water-Adams, 2006). Second, Stringer (1996) claimed that action research could be conducted based on every day life activities by a group of people in collaboration to assist others in extending their understanding of their situation and thus resolved problems (Stringer, 1996: 9). Third, Baumfield, Hall, and Wall (2008: 4 – 5) stated that action research allowed individual teacher or researcher to control and select appropriate research tools for the teacher's environment and use these tools to generate the necessary feedback in a systematic way.

Fourth, the impetus for inquiry could be an issue of concern at an individual teacher level, among a group of colleagues, or across a whole school or group of schools (Baumfield, *et.al.*, 2008: 6). Fifth, action research was employed in anticipation of some changes (Stringer, 1996; Wallace, 1998; Baumfield, *et.al.*, 2008; Chamot, Barnhardt and Dirstine, 1998). Sixth, Fandiño (2007: 3) claimed that learner autonomy could be promoted through action research studies because learner autonomy was concerning with the awareness of and identifying one's strategies, needs and goals as a learner along with the opportunity to reconsider and refashion approaches and procedures; and these were all in line with the characteristics of action research. Finally, this type of study was in line with learner-centered approach to promote learners' learning autonomy (Dam, 1998; Little, 2002; Cohen, 2003; Cohen, 2007: 297; Nunan, 1996; Carr and Kemmis, 1986).

These arguments had encouraged the researcher to conduct inductive action research with the intention that the changes of each cycle could be compared and the paths of development could be investigated. The next sections describe the model of the study, the access and the educational environment, the students, finally the method of collecting and analyzing the scattered data of students journals to establish the validity and reliability of this study are also discussed.

3.1 Research Design

Action research models a process of reflective cycle on professional action (Wallace, 1998: 12 – 13). It focuses on problems and aims at solving problems (Carr and Kemmis, 1986; Cohen, 2007; Stringer, 1996; Baumfield, *et.al.*, 2008). The main characteristic of action research is the spiral activity consisting of planning, acting, observing, and reflecting (Kemmis and McTaggart, 1988, as cited in Stringer, 1996: 16). The cycles of action research is illustrated as a set of activities as depicted in figure 3 a. This type of research has two approaches - individual and collaborative approach (Wallace, 1998: 39) and two types of inquiries – inductive and deductive. Inductive action research is conducted when the inquiry is derived from data collection; on the other hand, when the inquiry is to apply the principles of good teaching methodology, deductive action research is carried out (Wallace, 1998).

This study had a collaborative approach; it was carried out in collaboration with the students and the managing staff of SALL at Politeknik Negeri Bandung (Carr and Kemmis, 1986; Allwright, 2003; Dam, 1998; Nunan, 1996; Cohen, 2007; Baumfield, *et.al.*, 2008). It was characterized as inductive action research because the starting point of this research was to explore students' problems in reading and learning English, find the possible reasons, and provide treatments to students in an available context.

This study began from the students' problems, then followed by a collaboration between the researcher or the teacher and the head and administration staff of SALL. The teacher also collaborated with the students to plan the materials and learning activities, and ended with a self-evaluation activity. This framework was selected for four reasons; first, it had potentials to answer the research questions and obtain insights to the problems, either from the points of view of the learners or the researcher. Second, this type of study assisted the researcher in obtaining insight data of what learners did to solve their own perceived problems and applied their strategies to solve their problems. Third, the reflection or evaluation at the end of each cycle allowed the researcher to identify the development made by the learners and found the possible causes of the changes.

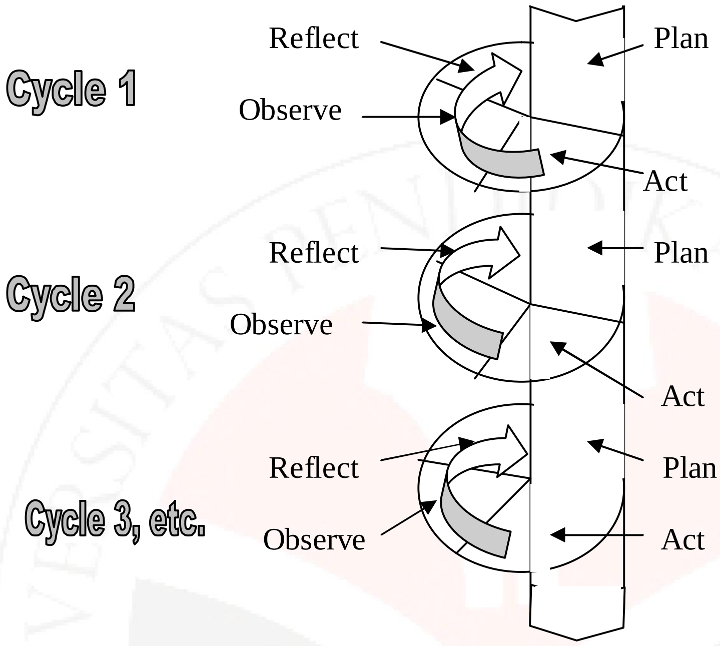

Diagram 3 a. Model of Action Research
(Kemmis, presented by Waterworth, P. 2003)

Finally, this type of study facilitated learners develop their learning autonomy for it was in line with learner-centered approach in the negotiated curriculum where negotiation between the teacher and learners was emphasized (Carr and Kemmis, 1986: 171: Nunan, 1996). This model of action research represented the strategies applied by good learners who are familiar with problem-solving strategies (Ellis, 1994; Wenden, 1987; Rubin, 1987).

The implementation of the three cycle study was supported by three reasons; first, the first cycle was used for the orientation stage; the students needed time to adapt themselves with the new learning situation. This was also the time to establish relationship between the teacher and the learners. The second and third cycles were conducted as result of the deeper evaluation from the previous treatments. Second, the three cycles needed three evaluations; these allowed the researcher to investigate the development of the students' learning autonomy.

Third, the time allocation terminated this study in three cycles for reasons that the students learned English for two semesters or one academic year. This allowed the study to be replicated and improved in other tertiary levels of education in Indonesia, especially in other polytechnics in Indonesia.

The researcher was the lecturer who directly taught and collaborated with the students and the managing staff of SALL. The treatments focused on pursuing language learning autonomy and improving reading skills by solving the students' perceived problems. The main variables of this study were the students' learning behaviors viewed from how they set goals and focused their learning to identify their learning purposes and how they evaluated their learning viewed from their perceived learning benefits, strategies adopted, affective responses and problems. The analysis is based on several data collected from tests, questionnaires, students' journals, field notes/teacher's diaries, observations, and interviews.

3.2 The Procedures of The Study

A study needs systematical data collection, analysis, and triangulation. The general frame of this study is illustrated in figure 3 b. This study covered preliminary studies, a diagnostic phase and three cycles of treatments.

Before the study was carried out, two preliminary studies were conducted at a state polytechnic to try out the instruments such as questionnaires, guiding questions for journals and the questions for interviews. They also served to obtain rough ideas of the learning environment and the students' problems. To develop a tentative treatments and materials, observations of classroom activities as well as informal interviews with the heads of SALL, civil engineering department and the students were carried out. Academic context was also carefully observed by evaluating the available textbooks in libraries. These data were analyzed and the findings were correlated with the theoretical concepts suggested by experts of reading and learning autonomy. The questionnaires were revised and a pre-designed study was constructed.

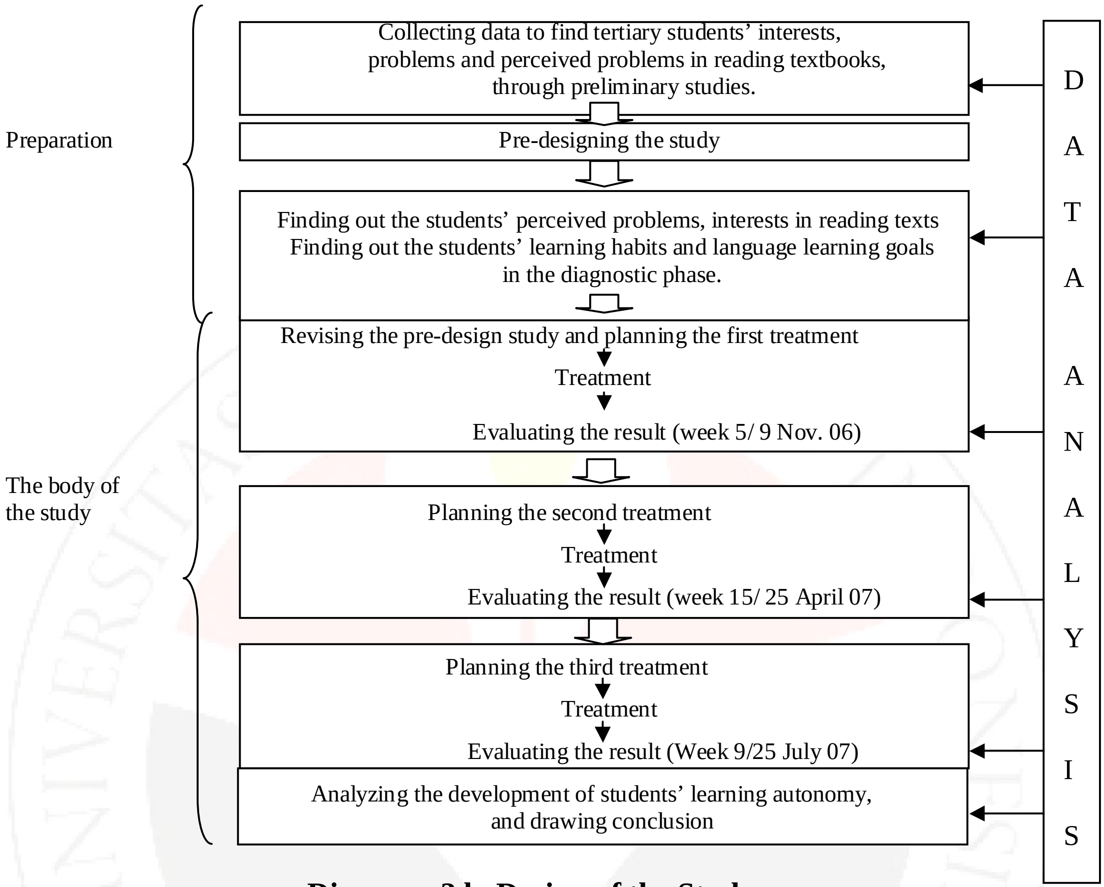

Diagram. 3 b. Design of the Study

During the diagnostic phase which was conducted for 3 weeks, the students completed proficiency tests in addition to close and open-ended questionnaires. The results of the questionnaires were triangulated with the results of several informal interviews. The data were analyzed and discussed with the students and then the managing staff of SALL to decide and plan the Cycle 1 treatment. When being planned and conducted, an ideal treatment was consulted with theoretical concepts.

Approaching the end of each cycle, the students were asked to write self-observation (Wallace, 1998: 76, 80) or write reflective journals. Treatments and students' progress were evaluated at the end of each cycle from students' reflective journal and their tasks (Cohen, 2007; Wenden, 1986) as well as 'thinking process journals' taken while they are guessing the meanings of new words from short texts (Nation, 2002: 223; Arden and Close, 1986 as cited in Nation, 2002: 249; Green, 1998:1-2). The problems identified became the basis of the subsequent treatments to achieve some positive development.

The data collected were analyzed and triangulated with some informal talks, and observation written in the teacher's diaries. To obtain the stages of autonomy development, continuous comparisons were carried out either within each learner across cycles or across learners within each cycle .

3.3 Access

One of the principles and characteristics of action research is undertaken directly *in situ* (Hult and Lennung, 1980 and McKernan, 1991 as cited in Cohen, *et.al.*, 2007: 299). To conduct a classroom reading program and self-access language learning program, it is imperative to find a tertiary level of education which was not only implementing English reading class but also running self-access language learning.

It was advantageous that the researcher was one of the English instructors at the state polytechnic; and I had been teaching in this institution for more than fifteen years. This enabled her to obtain informal permission from my colleagues, the head of SALL, and the assistant director for academic affairs. In addition, she was actively participating in establishing a Self-Access Language Learning (SALL) to enhance students' autonomy in language learning and language proficiency at this institution.

3.4 Setting

The learning environment plays an important role in enhancing the reading performance of the students (Knuth and Jones, 1991; Mikulecky (1990: 1). School environment may promote the need of reading by means of providing tasks and facilities such as books, journals, and magazines. Some of them are discussed briefly under the classification of setting, institutional English curriculum, civil engineering department, and the class context.

The setting of this study was at Politeknik Negeri Bandung, the second oldest polytechnic in Indonesia. It was a prestigious institution and had been assisting in the establishment of other state and private polytechnics. This polytechnic had 477 lecturers and instructors and 25 English lectures. In addition, it had 309 supporting staff and 3354 students (data Polban 2006). The majority of the students came from West Java, and the rest came from other parts of Java and outside Java such as Sumatra, Sulawesi, Kalimantan, Papua, West and East Nusatenggara.

In this institution, English as compulsory subject had two main curriculums; one was English for commerce and the other was English for engineering. Since this study was conducted within a class of civil engineering students, the discussion was limited to the English curriculum for engineering. The four credit units for English in engineering department was compulsory; each department had the liberty to conduct it in one, two, three or four semesters. In addition, each department also had the liberty for additional English credit units when it was really important for the majoring subjects. For example, mechanical engineering department had eight English credit units in two semesters, electronic engineering department ran six English credit units in three semesters. Civil engineering department ran four credit units in two semesters but very often it was modified without any prior notification to the English teachers.

Since 2004, this department had revised the English curriculum many times in order to improve the students' English proficiency. The time allocation for English was at times two semesters and at other times four semesters two periods a week (2x50'). The head of civil engineering department made an attempt to improve the students' academic reading and technical report writing skills. He ordered English references for the library located on the third floor of Administration Center building. The writing skills were emphasized in technical report writings intended for the third and fourth semesters.

The physical condition of the classroom alongside with other events may influence the process of teaching and learning in the classroom (Roe, Stoodt and

Burns, 1986: 452; Nunan, 2003: 295) when this study was being carried out. The activities of this study, both the classroom and SALL activities, were carried out at *UPT Bahasa* of this institution. The SALL room offerred various facilities such as computers linked to internet and a printer. It also had hundreds of modules consisting of the four language skills, vocabulary, grammar, magazines, newspapers, manuals, bilingual dictionaries, and monolingual dictionaries. In addition, it had cassette recorders, various video films, a television set with a satelite channel and a DVD player, games and CDs of English computer programs. All these facilities were restricted to premises only.

This study was a longitudinal study and started from the first semester, on 4th September 2006 until the end of the second semester on 25 th July 2007. During this time, it interrupted four times:

1. *Idul Fitri* at the end of Cycle 1 for two weeks in November 2006
2. Christmas and New Year vacation at the beginning of Cycle 2 for two weeks in December 2006 and January 2007.
3. A semester break in the middle of Cycle 2 for a month in February 2007.
4. A workshop break at the end of Cycle 2 for four weeks in May 2007.

3.5 The Subjects

This action research required collaboration between the teacher-researcher and other stakeholders or subjects i.e. the students and the managing staff of SALL, because it was conducted in the classroom and SALL. The subjects of this action research were the 25 first-year students of the Civil Engineering Department at a state polytechnic in Bandung. Their ages ranged from 17 to 19 years old, or in average 17.96 years old. The majority came from various places in West Java – Bandung (13), Cimahi (3), Lembang (1), Ciamis (1), Purwakarta (1), Garut (1), Tasikmalaya (1), Cirebon (1), Banjar (1), Bogor (1) and Central Java, Pekalongan (1).

Among these 25 students, 24 attended the English class and one discontinued his study at this polytechnic for personal reasons. At the beginning, the researcher selected six focal students based on their proficiency tests and vocabulary levels. Two focal students, a male and a female, were chosen for holding the highest proficiency scores; two had fair scores and the other two had the lowest scores. However, the researcher did not inform them that they were the focal learners of this study; this was done to maintain the neutrality of the classroom situation and to avoid psychological effects.

The data of the study were collected from 17 students who were selected because of various aspects. They had completed 75% of the English class and submitted the necessary journals along with most of their assignments.

The managing staff consisted of the head and one administration staff of SALL. When this study was conducted, the roles of these two staff were to support the various needs namely:

1. to allow the researcher and the students to use SALL facilities,
2. to schedule the time,
3. to manage SALL facilities,
4. to develop the facilities especially the materials to support the activities,
5. to provide other logistic matters such as paper, learning journals and questionnaire forms.

3.6 Instruments

This section is devoted to discuss the instruments used to collect the data alongside with when and how they were used. The six types of instruments were the researcher, reseacher’s diaries, tests, questionaires, journals, observation and small talks or informal interviews.

3.6.1 The Researcher

The main, or key, instrument is the researcher as claimed by Maxwell (1996: 66 and Merriam, 1988: 19; Lincoln and Guba, 1985 in Cohen, *et.al*, 2008;p 134). In this study, the researcher was a participant researcher on the lecture who directly taught and collaborated with the students and the managing staff of SALL

(Wallace, 1998; Carr and Kemmis, 1986:p. 171). The lecturer systematically sought and organized data, kept records of what occurred as detail as possible, periodically detached herself from the situation to review records, constantly monitored and recorded for evidence of personal bias and prejudice, focused on the meaning of the students, and described the process as suggested by (Creswell, 1998: 14). To do all these activities, field notes or researcher's diaries were needed.

3.6.2 Field Notes

Field notes or researcher diaries were taken during the study (Merriam, 1988: 88). They were used to plan the learning activities or '*record of works*' (Wallace, 1998: 58). They were used when the researcher observed some interesting strategies applied by the students either in SALL or in classroom as suggested by Wallace (1998: 109), although observation yielded limited information because learning strategies are obviously mostly applied in learners' minds (Rubin, 1981 in Wenden and Rubin eds. 1987: 75). This instrument was also used to note the interpretation of small talks that took place in an unpredictable situation either when the study was carried out or after it was finished.

They contained the lesson plans, data analysis such as the reflection of methods, theory, purpose, or any other note or question that might be related to other data. Notes were written as soon as possible after small talks or when some students were talking about their strategies in front of the class.

3.6.3 Tests

This study administered two types of tests, proficiency and vocabulary tests. The vocabulary tests had two forms, Vocabulary Level Test and Text Level Test.

3.6.3.1 Proficiency Test

Proficiency test was conducted by UPT Bahasa and all fresh students were required to this test at the beginning of the first semester. Although this test was carried out by the institution, it was to obtain English proficiency levels of the learners in order to prepare the treatments and materials.

The design and content of this test was similar to TOEFL, hereafter called paper-based TOEFL-Like test because the test was taken from TOEFL Practice tests. It was a multiple-choice test which each question had one correct answer among four choices. This test consisted of three sections, listening comprehension, structure and written expression and reading comprehension. For the purpose of this study reading section is discussed.

The reading comprehension consisted of 50 items in 8 reading passages of general knowledge, and students were given 55 minutes to complete this section. Each reading passage had 5 to 8 questions designed to reveal students performance in scanning for important information, recognizing organization and purpose of a passage, understanding the main idea, major points, important facts and details, vocabulary in context, and pronoun references.

This test was administered by *Pusat Bahasa*; all fresh students of all departments were required to take this test on the first week of the first semester supervised by an English lecturer. The supervisors were to distribute the answer sheets and the booklets before the test started and kept the time of each section and collected the answers sheet after the test was over.

The scoring system was based the scoring system provided by the TOEFL Practice book, namely the total correct number of each section was matched with the scoring table of each section. To obtain the final score, the total scores of those three sections were multiplied by 10 then the result was divided into three.

3.6.3.2 Vocabulary Test

This study made use of two types of vocabulary test in which one of them was the Vocabulary Level Test (Nation, 2002) and the other was Text Level Test (Nation, 1988: 2002).

3.6.3.2.1 Vocabulary Level Test

A Vocabulary Level Test (Nation, 2002: 416-422) was administered to obtain the vocabulary levels of the students. It was administered to identify the students' problems, prepare the suitable reading materials, as well as to select the focal students.

The tests was devised by Nation (1988; 2002) without any modification, Vocabulary Level Test had been piloted in English classes in 2003 and it had been proved to be a reliable test in Cameron's research (2002).

It consisted of 5 levels, 2000, 3000, academic words, 5000, 10000 words; but for this study only 4 levels were applied, 2000, 3000, academic words and 5000 word levels were used. They were mulitple-choice test of recognition, and the sample of the test item is provided below:

1. business		
2. clock	______________	Part of a house
3. horse		
4. pencil	______________	Animal with four legs
5. shoe		
6. wall	_______4_______	Something used for writing

Each level had six sections consisted of six words and three definitions, or meanings; the words used for the description were at an easier level than that of the intended words. For example the words used to define the meanings of the 2000 word level test, were words of 1000 word level. The 2000 word level was selected as the most frequently occurring words in texts based on a respectable computerized corpus. These words made up around 82% of the words in any text including academic texts (Nation 2002).

This test was carried out in the diagnostic phase. The tests were copied and distributed to the students and they had to answers the four levels (2000, 3000, academic vocabulary, and 5000) successively for about 45 minutes. The students matched words and the descriptions by writing the number of the word in front of the appropriate description. The vocabulary level of the learners was identified; the target was 90% correct or about 16 correct words out of 18 words (Nation, 2002: 416-422).

3.6.3.2.2 Text Level Test

This second test was carried out to determine the vocabulary level of the text in books used in this study; it was administered to select the appropriate level of reading materials (Nation, 1988, 2002). The test was carried out by taking a sample of an article of a book proposed as reading material.

This test was administered at the diagnostic phase and throughout the study. While the learners were reading, they underlined any unfamiliar words. The scoring system was that the total underlined words divided by the total words of the text were multiplied by 100%. If the learners underlined more than 5%-6% of the total words, then the text was rendered too difficult for them to read. If they underlined less than 5%, the text was considered appropriate for the students to read. It encouraged readers to apply compensation strategies, or guessing meaning from context strategies, to learn and aqcuire the new words (Nation, 2002: 148).

This type of tests was administered not only to evaluate the difficulty level of the books but also most of the texts used in this study. The students were required to underline any unfamiliar words whenever they were reading a text. This activity was mostly carried out in cycle 2.

3.6.4 Questionnaires

Questionnaires were expected to help researchers discover insight into learners' learning styles and strategies (Breen and Mann, 1997; Ridley, 1997). This study applied two types of questionnaires, closed and open-ended questionnaires.

3.6.4.1 Closed Questionnaire

Researchers use closed questionnaires to obtain certain patterns to be observed and comparisons to be made (Cohen *et. al*., 2000). This study applied three close questionnaires. They were designed to obtain certain learning patterns of students' goals, language learning background, preferences, habits, level of interest in learning English beyond the classroom, and reading strategies.

The first close questionnaire was devised to measure students' levels of interest in English beyond the English class. The content of the questionnaire had been designed by Chamot *et. al* (1999) with some additional items to expose students' learning goals (see Appendix A 1). It was distributed together with the open-ended one to be completed, the students simply put a tick in front of the statement. This questionnaire was administered on the first week by explaining the meaning of each statement and asking the students to tick the appropriate statements conveying the level of interest in learning English to the teacher in order to adjust the teaching and learning activities in line with their expectations.

The second questionnaire was devised to obtain information about the students' reading strategies; it was taken from Chamot *et. al.* (1999). The questionnaire had these following questions and the students were required to circle one of the four options never, rarely, sometimes, and often; and number 1 was the example (see Appendix A 2). This questionnaire was administered on the third week after they read an authentic text taken from the Introduction of *Young Geographer: Use of Land*, written by James (1993). It was perpetrated to help the students reflect what strategies they applied when they were reading. When the students were completing the questionnaire, each item was explained in Indonesian, followed by some time to think (about 30 second) and put circle.

The third questionnaire was devised by Nunan (1996) and modified by Gardner and Miller (1999: 159-160). The content of this questionnaire was inquireries on learners' experience when they learned English (see Appendix A 3).

These three questionnaires had been piloted in the second semester students in 2005, and it exposed the necessity for small changes:

- the procedure in administering these questionnaires.
- the possibilities of incorporating Questionnaire 1 with an open-ended questionnaire.

This questionnaire was administered on the second week, before the students were being introduced to the facilities and activities in Self-Access Language Learning. To complete this questionnaire, the students rated how often they learned English using the listed learning strategies. The rating scales were between 0 to 3, as suggested by Gardner and Miller (1999). Next they were required to calculate the total score of the each group and matched them with the provided explanation. Then the results were match to the explanation given by Gardner and Miller (1999: 159-160). Finally, they were required to explain how they learned English and the reasons for their preference.

3.6.4.2 Open-Ended Questionnaire

Researchers use open-ended questionnaire when rich personal data is needed and the number of the participants is small (Cohen *et. al.*, 2000). This study applied one open-ended questionnaire, called personal data. It was used to obtain the students' name, age, orginines, goals in learning English, their problems when reading English texts and strategies to solve their perceived problems. This questionnaire was used as a triangulation of how they learn English. To prevent misleading answers astray from the researchers' intention (Cohen, 1986), a semi-structured questionnaire is used.it includes a series of questions as well as statements and the students were asked to answer, repond to or give comments on them (Cohen, *at. al*. 2000). The content of this questionnaire is in Appendix A 4.

This questionnaire had been piloted in preliminary studies in 2005, and it was found that learners completed most items of no 5. However, answers to the question of how they learned the language outside the class could not be identified, and item 9 was added as an alternate instruction.

This open-ended questionnaire was distributed together with the closed one. To complete this questionnaire, the students were required to write their personal data no 1 and 2. Then they completed answers to their learning background and the problems encountered in reading class . While the students were completing this questionnaire, each item was explained, time was given depending on the length and difficulties of the expected answers, and they were allowed to complete the questionnaire bilingually, in English and Indonesian. When they had finished answering item 8, the questionnaire was collected.

Finally, the researcher distributed blank paper and wrote item no. 9 on the white board. The students wrote a bilingual letter to their friends individually and silently in the classroom.

3.6.5 Journals

Bearing in mind that teacher discover learners' conscious strategies by means of learners' diaries or journals (Chamot, 1987, in Wenden and Rubin, *eds.* 1987: 81) and autonomous learners are aware and responsible for their learning, this study employs journals as the main instruments to explore the development of learners' autonomy. The journal here looked like diaries (Wenden, 1987; Bailey, 1990; Halbach, 2000), in regard to forms and contents. To prevent learners from writing unintended information for the purpose of this study, they were given examples depending the tasks (Bailey, 1990). This study exploited four journals, KWL journals, learning journal, reflective journal, and thinking process journals.

3.6.5.1 KWL Journal

The first journal was called KWL journal (Hadaway, *et. al,* 2002; Roe, *et. al.*, 1986). KWL was the abbreviation of what you **K**now, what you **W**ant to know and what you **L**earn. This journal was designed to obtain information about what the students planned, learned consciously, their problems, and what they were focusing on while they were reading texts in English classes, in particular the language aspects.

According to reading experts, KWL journal can be used to help students comprehend texts. Furthermore, since this was in English class, this journal included a question asking about the English learnt from the text. This journal was designed in such a way that the learners were encouraged to reflect their background knowledge on the topic they were going to read, evaluate what they had just learnt from the text, identify their problems, and make plans. The guiding questions were written on the white board:

1. What do you know about the topic? 2. What information do you expect to get from the text? 3. What did you learn from the topic/text? 4. What did you learn from the text to improve your English? 5. Do you have any problems? 6. What is your next plan?

This journal was completed by the students everytime they read English texts in the classroom in Cycle 1 and beginning of Cycle 2. The procedure was as follows:

1. Blank paper was distributed to every student
2. The four KWL questions were written on the board and the lecturer explained the meaning of each question.
3. The topic and the title of the text were written on the board.
4. Time was provided (about 10 minutes) for the students to think and write down what they knew about the topic and what more do they wanted to know about it (question no 1 and 2).
5. The text was distributed and time was given to allow the students to read, and while they were reading they were allowed to ask the teacher questions or discuss with friends.
6. 15 minutes before the class was over, the students were instructed to write the answers of questions number 3 to 6 in their paper.
7. Before the class was over, their journals were collected.

3.6.5.2 Learning Journal

The second journal was called learning journal or learning log as suggested by Gardner and Miller (1999). This learning journal was used to obtain information about their metacognitive strategies, namely the students' goals, the reasons for having those goals, how they achieved their goals, and their learning evaluation i.e. what they learned, encountered problems, learning activities, and their plan for the next learning activities. To collect these data, a learning journal or learner's log was adapted from Gardner and Miller (1999) with some modification (see Appendix A 7). The original log had these guiding questions:

1. Date, Lesson and Time
2. What am I going to learn at this moment?
3. What did I learn?

For the purpose of this study, some guiding questions were added, and it had these items:

1. Date, Lesson and Time
2. What am I going to learn at this moment?
3. Why am I going to learn it?
4. How am I going to learn it?
5. What did I learn?
6. What problem did you have?
7. What am I going to learn next?
8. Comment:

Question 1 was for documention references. Questions 2 to 4 were inquired to help learners set goals and plan on how they were going to achieve their goals. Questions 5 to 8 were asked to evaluate and plan their learning i.e. their achievement (Q. 5), their encountered problems (Q. 6), their next plan (Q. 7) and finally their learning attitude (Q. 8).

The students completed this learning journal during the time they were learning in SALL, and previously had also practiced completing it in the classroom twice, during the diagnostic phase. The lecturer gave the first model in the classroom, before teaching items 'I wrote my goal' and 'the reason and how I achieved it', then at the end of the learning activities, the lecturer gave an example on how to answer questions 5, 6, 7 and 8. While the lecturer was giving models, the students were also trying to answer these questions by expressing their own ideas or learning evaluation. The second practice was conducted prior to learning activities in SALL and they were guided to answer these questions. Finally, the students were assigned to write learning journals everytime they were having learning activities in SALL. The procedure was as follows:

1. Before learning activities in SALL, they were required to obtain a learning journal form.
2. They were required to answer questions 1 to 4.
3. Once completed, they carried out their plans in SALL.
4. After approximately 15 to 20 minutes when they were done learning in SALL, they were required to answer questions 5 to 8.

In Cycle 1, the students completed this procedure only once during one of the two learning activities in SALL. In this cycle, there were only two sessions, in the middle and at the end of Cycle 1. The middle one was for practicing, and the other one was used to collect data. In the Cycle 2, the students had three study session in SALL equivalent to once in a month. Finally in Cycle 3, they were studying in SALL every week for 4 weeks successively.

3.6.5.3 Reflective Journal

The third journal was called a reflective journal. This study utilized three forms of this journal. It was used for evaluating what the students had learnt consciously, the students' metacognitive strategies, problems, and changes of learning attitude. It was also used to obtain some information on students' preffered activities for the following cycle.

These journals were designed to stimulate recalls. Since these journals were used to evaluate the previous cycle and become the basis for negotiating and planning the next learning activities and materials, the designs varied based on the learning activities of the cycles that had just been finished. This study had three reflective journals; each was used at the end of each cycle.

The content of the first reflective journal was to help learners compare between what and how they learn in secondary school and those they had learnt in this project which, from the researcher's point of view, was focusing on helping them solve their perceived problems (see Appendix A 4).

Questions 1 and 2 were to evaluate what they had learnt and their plans. Questions 3 to 6 encouraged learners to evaluate their previous learning experience after they had Cycle 1 treatment. Questions 7 to 9, encouraged students to make comparison and evaluate their learning attitude. Questions 10 to 14 were to evaluate Cycle 1 treatment and their learning. The answers of these questions helped interpret their learning achievements, and attitudes toward the previous treatment. This journal was written several weeks after Cycle 1 ended. The procedure was as follows:

1. The open-ended questionnaire was copied and distributed to every student in the class.
2. The students were instructed to remember what they had learnt about their majoring subject during a week, and write down what were their next plans.
3. The lecturer explained questions 3 to 14.
4. The students were then instructed to answer the questions for 40 minutes individually and silently. If they run into difficulties in expressing their ideas in English, they were allowed to express their ideas in Indonesian.
5. The reflective journals were collected at the end of class.

The content of the second reflective journal was designed to help learners make a comparison between Eastern or Asian and the Western teaching and learning. The guiding questions are in Appendix A 5. This journal had two pages. The first one contained questions1 to 6; and second one contained questions 7 to 18. The first few questions of this journal was a mixture between KWL and reflective journals as it inquired learners' prior knowledge about Indonesian education and other countries as well as their preferences. Questions 4 to 6 asked the reading purposes, motivation and learning plans. Questions 7 and 8 were asked what they learned from the text. Questions 9 and 10 encouraged learners to evaluate the content of the text. Questions 11 to 12 were used to evaluate the students' learning activities. The following ones, 14 to 17, were to identify their problems and its sources as well as how they solved the problems. Finally, question 18 asked their next plans, or materials they wanted to learn on the next cycle.

The reflective journal was completed approximately a month after Cycle 2 ends or at the beginning of Cycle 3. The procedure was as follows:

1. The title of a text was written on the white board.
2. The first parts of the journal were distributed.
3. The students answered questions 1 to 6 for about 20 minutes.
4. After completing the answers, the full text was distributed.
5. The students read it silently.
6. While they answered the guiding questions, they were allowed to reread the text.
7. The students were given 50 minutes to write this journal.
8. By the end of English class, their journals were collected.

At the end of the third cycle, the content of the reflective journal was assembled to assist learners in evaluating Cycle 3 treatments and the entire teaching and learning activities of this study. To help learners express their ideas freely, this journal was assigned in the form of a letter to their close friend. The leading questions are in Appendix A 6.

Item 1 inquired learners' general evaluation on the program; Items 2 and 3 inquired the new strategies they learned and the best strategies for individual learners. Recalling part of the strategies they learned, implied that they were aware of and might apply these strategies. Item 4 asked about planning using learner's log as well as how they applied and evaluated their metacognitive strategies. Item 5 encouraged learners to evaluate SALL activities, materials and how they made use of these facilities and their attitude toward the introduction of SALL program. Finally item 7 was to evaluate whether or not they still had problems, if 'yes' what were their next plans to overcome their problems.

The third reflective journal was completed two weeks after Cycle 3 ends. The procedure was as follows:

1. Two pages of paper were distributed; one contains the guiding questions 1 to 7 and the other was blank.
2. The students were instructed to write a letter to their close friends explaining their experience in learning English in this institution. They were allowed to write this letter in English or Indonesian.

3. After about 90 minutes, their journals were collected.

3.6.5.4 Thinking Process Journal

Good language learners know well how to approach the task of language learning (Wenden, 1982 and 1986 in 1987: 22). Researchers may identify unobservable strategies through think-aloud and verbal protocol (Cohen, 1987; Arden and Close, 1993, as cited in Nation, 2002: 249). Think-aloud are stream of conscious disclosure of thought processes while information is being attended to (Cohen, 1987: 33). The data are basically unedited and unanalyzed and it vocalizes "inner speech" which might be invisible (Ericsson and Simon, 1993) or the learner externalizes the contents of the mind while doing something (Mann, 1982).

Halbach (2000) managed to identify invisible strategies through writing diaries. Further, Merawati (2003) succeeded in evaluating learners' guessing strategies which were to some extend similar to reading strategies by means of writing out learners' strategies while they were guessing meanings of unfamiliar words from context as suggested by Nation (2002: 223), Arden and Close (1986).

This technique was used to evaluate learners' thinking process or direct strategies especially guessing strategies, and language knowledge development. The design was similar to the journals, except for the lack of guiding questions. It required blank paper for the students to write their applied strategies when they were guessing the meaning of new word from context. In Cycle 1, the students were allowed to select any one or two new words from authentic texts dealing with *Idul Fitri and Fasting*. Some of the provided texts were taken from "Bandung Advertiser" 2006; however learners were allowed to select any texts downloaded from website or taken from the available newspaper "Jakarta Post".

In Cycle 2, the students were given a text "What do surveyors do?" taken from *Time Life's Illustrated World of Science: Earth and Its Feature* (Priest, 1994). To prevent the students from applying deductive strategies, the words were modified into nonsense words (Nation, 2002). These nonsense words still had their original suffixes to help learners decide the parts of speech. Two stem words appeared several times with different suffixes; such as ‘gauge’ becames ‘egaug, egauging’ and ‘bounce’ becames ‘ounces, ounced’.

In Cycle 3, the texts were taken from “*The pace and price of progress*’ and ‘*Can land be ‘saved’ from the sea?*’ taken from *Time Life’s Illustrated World of Science: Earth and Its Feature* (Priest, 1994). There were 6 repeated words for 17 tokens. Three of them were very specialized words, i.e. terpen (4 tokens) and bulwarks (1 token), and polders (4 tokens). The other three were nonsense words (Nation, 2002: 234, 236, 254) i.e. ‘tendainment’ instead of ‘environment’, ‘inared’ instead of ‘drained’, and ‘fexrly’ instead of ‘early’.

The six words were selected because they were related with other words such as ‘bulwarks’ to ‘terpen’ and ‘dyke’. To have natural reading and to apply word-attack skills, the words were not marked at their first appearances so that readers might skip these unknown words and then reread them. The suffixes of the original words were still embedded at the end of the nonsense words; this was to help the students identify the catagories of words based on the words’ morphemes i.e. suffixes or word-parts. They contained 682 words and seven illustrations. These texts, including the nonsense words, were predicted to have about 4% of new words.

This instrument was used when the students were reading English texts in the classrooms, and doing assignments at home. The procedure had several steps:

1. The students were given some related reading materials.
2. The students read the texts.
3. The students guessed the new words (in Cycle 1 and 2) or the underlined words (in Cycle 3), and while guessing they wrote the strategies and their thinking process.
4. The time allocated in Cycle 1 is 20 minutes (2 words), the students did it in SALL. In Cycle 2 and 3, they did these assignments at home, because it was time consuming and the students needed stress free environent.

The written thinking process journals were, then, copied, categorized, cut, grouped and displayed. Matrices and tables by means of computer ‘EXEL’ program were also developed. The results were compared and tallied. The quality of students' thinking process was then converted into quantity by means of: the total number of thinking steps applied was divided by the total number of words guessed. To obtain the average achievement of the students within each cycle, the result of each student's strategies was added and then divided by the number of the students. The results were then compared with the other students or the results of other cycles.

3.6.6 Informal Interview

Interview is an interchange of views between two or more people on a topic of mutual interest (Cohen, 2000). This study applied informal interviews or small talks because of time constraints and pshychological reasons. In addition, establishing relationship between the students and the lecturer is good practice as suggested by Nunan (1996:5). It is to evaluate or assess a person, to gather data and take samples of learners' opinion (Cohen, 2000). In this study, informal interviews, or focused interview (Cohen, and Manion, 1986: 294) or small talks were carried out to obtain specific information when some strategies were applied by the students and this is used to obtain insight data of learning strategies or other information needed. Therefore the contents were not designed beforehand. However, in general, they contained some questions such as:

1. Why did you do it?
2. When did you do it?
3. How did you do it?
4. What did you do after that? Etc.

The informal interviews were carried out when practice on specific learning strategies took place, identified either during personal learning activities in SALL or as they reported incidence of learning activities outside the classroom. The procedure was that when a student was identified applying specific learning strategies, the researcher would approach them and conduct short. The results of the interviews were then written down in the field notes as soon as possible.

During interviews, the learners were allowed to speak bilingually; and also to ask questions to the lecturer. This was done to encourage learners to describe their strategies clearly and to allow them talk with ease.

3.7 Data Analysis

This study was conducted to explore the development of the students' autonomy in EFL reading class with the aid of these following questions:

1. What are the students' problems when reading English texts?
2. What instructional decisions are taken as a result of the collaboration among the related parties?
3. What are the students' strategies to solve the problems?
4. What are the developments of students' learning autonomy in reading class?

To answer these questions various data from the perspectives of the students, teacher or the researcher in relation to the treatments were collected. The data collected from various sources were filed, and students' reflective journals were typed in computer; each student has two files – one was to keep the original works and the other was filed in computer. The process of analizing the data was based on Stake's suggestions (1995 in Cresswell, 1998: 153-154) i.e. the use of four forms of data analysis and interpretation - categorial aggregation, direct interpretation, patterns and generalizations

In categorical aggregation, the researcher looked for a collection of occurrences from the data to find some emerging relevant meanings. In direct interpretation, the researcher looked at a single occurrence and drew meaning from it without looking for multiple occurrences. And finally, in finding patterns, the researcher searched for a correspondence between two or more categories (Cresswell, 1998: 154).

The data of each student collected from questionnaires, journals, and field notes on lecturer's perception during observation, and small talks were read several times to obtain the essence while writing notes in the margins and interpreting the results. Continuous comparison was conducted within student's variation from time to time or across students in each time. The patterns were identified and finally generalizations were constructed.

The data and the analysis to answer each research question were summarized as these followings.

1. <u>Research question 1</u>: *What are the students' problems when reading English texts?*

To answer this question, two sources of data were collected. One was to identify the students' problems from the perspectives of the students. The other was to identify their problems from the perspective of the lecturer by analyzing data using various instruments. The students' perceived problems in reading English texts were collected four times, in the diagnostic phase, and at the ends of Cycles 1, 2, and 3.

In the diagnostic phase, the students' perceived problems were collected from the data taken from open-ended questionnaires which were triangulated with students' letters to their close friends, and their first learning journals as shown in Diagram 3 c.

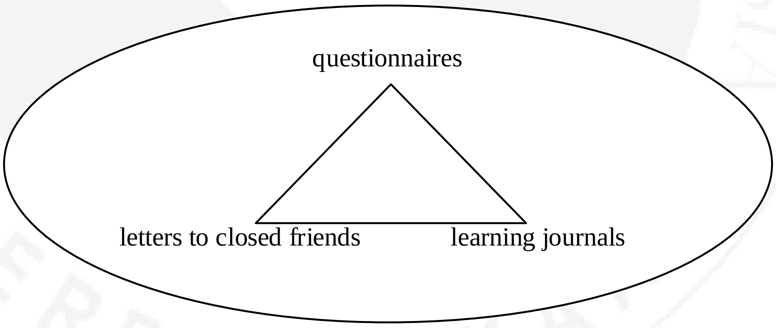

Diagram 3 c
The Design of Analyzing Students' Perceived Problem in Diagnostic Phase

In the diagnostic phase, the students' problems viewed from the lecturer's point of view were analyzed from several instruments. First, tests – TOEFL-Like test, vocabulary test, and text level test - were used to find students' language knowledge, reading proficiency, and guessing strategies. Second, questionnaires were used to analyzed students' reading skills and learning habits. Third, learning journals were to find students' learning purpose, motivation or affective response, and learning skills. Finally, the results were cross checked with field notes as illustrated in Diagram 3 d.

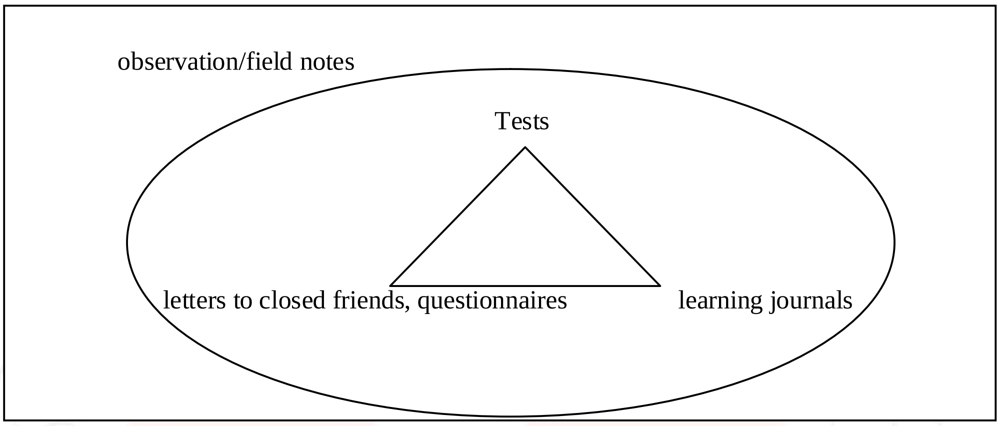

Diagram 3 d
The Design of Analyzing Students' Problem in Diagnostic Phase

In Cycle 1, 2 and 3, the data of students' perceived problems were collected from two instruments written at different points of time. The instruments were the students' reflective journals collected at the end of each cycle, comments written in their learning journals collected directly after the students learned in the classroom or SALL.

To identify the students' problems in reading and learning from the perspective of the researcher, four components of learning autonomy were analyzed from the data collected from:

- Students' learning journals and reflective journals: They were to find the problems in learning purposes, language knowledge and skills or learning strategies, and willingness or motivation and confidence.
- Thinking process journals: These journals were written when they were guessing meanings from contexts. They were to analyze the students' cognitive strategies.
- Field notes: They were diaries written after observation and conducting small talks. They were used to check the results.

The four components are illustrated in Diagram 3 e. Analyzing these data helped the researcher find the possible sources of the problems and prepare the treatments and materials for the next cycle.

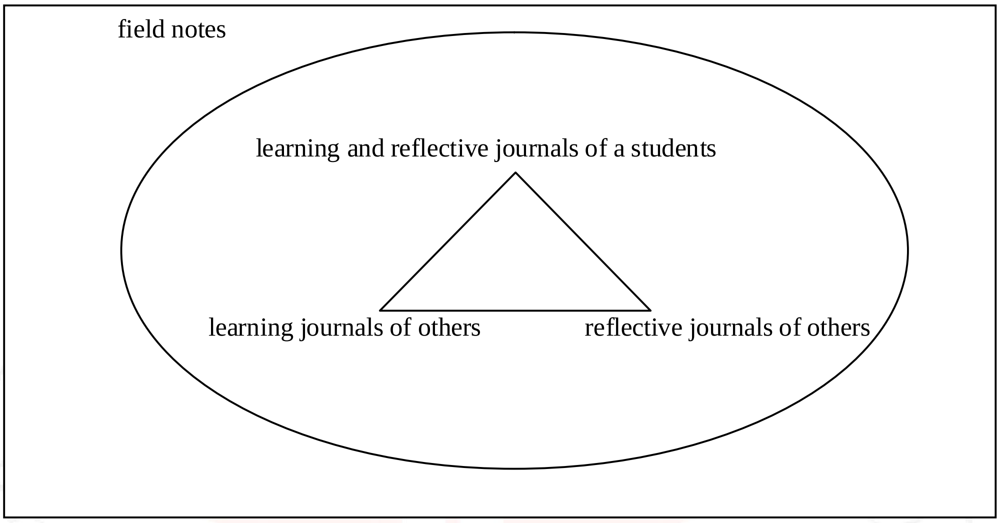

Diagram 3 e
The Design of Analyzing Data in Cycle 1 to 3

2. <u>Research question 2</u>: *What instructional decisions are taken as a result of the collaboration among the related parties?*

   To answer this question, the problems identified in the diagnostic phase and/or the previous cycles were discussed with the students and the managing staff of SALL. The collaboration resulted in a plan of treatments that could be carried out on the next cycle. The managing staff of SALL assisted the teacher by providing SALL facilities and needed logistics. Finally, the planned treatments were conducted.

3. <u>Research question 3</u>: W*hat are the students' strategies and skills to solve the problems?*

To answer this question, the data collected from various instruments were analyzed. The strategies were analyzed to explore the students' learning purposes, motivation, knowledge and strategies.

4. <u>Research question 4</u>: *What are the developments of students' learning autonomy in reading class?*

The students' development of learning autonomy was evaluated from their plannings (goal setting), learning focuses, and evaluations. The data to explore the students' planning were collected from their written reflective and KWL journals as well as learning journals when they were answering (a) 'What are you going to learn?'. They are compared with the answers of (b) 'What did you learn?' and (c) 'What are you going to learn next?'

The results of the students' plannings and learning focuses were interpreted as the students' learning purposes. Possibilities of the findings:

1. Answers to (a) other than to learn English, indicated that their learning purposes were not to learning English.
2. If the answers to (a) were to learn English but the answers to (b) differed completely, then the learners were assumed to have disposition to learn English but they did not have the ability (skills or language knowledge) or motivation to learn it. To identify the problems, the researcher had to evaluate:
   - the learning strategies (skills) stated in their reflective journals or learning journals or their comments.
   - the language knowledge revealed from their tests, thinking process journals, learning journals, and their perceived problems
   - the motivation as indicated in their affective response stated somewhere in their comments, and reflective journals.
   - possibilities that 'what they want to learn' was not provided in the SALL. In this case, they might select other related materials but the focus was still on learning English and in line with their learning styles.

The students' evaluations were explored from the perspectives of the knowledge, particularly language knowledge, skills adopted, affective responses, and the levels of confidence, and then triangulated with the results of thinking process journals. Students' knowledge gained was assessed from their learning journals answering 'What do you learn?'

The skill adopted was explored from the students' learning, thinking process and the reflective journals, and then some were verified with small talks and observations.

The students' evaluations on their affective responses were assessed from their comments within their learning journals, and reflective journals. These affective responses could be reflected as the students' motivation (Littlejohn, 2003). The students' levels of confidence were explored from their 'learning benefits', 'affective response' and triangulated with the results of analysis on their 'thinking skills' and 'perceived problems'.

These data collected at the diagnostic phase and the end of each cycle were analyzed and then the results of each cycle were compared by means of constant comparison using these following procedures:

1. The strategies of within each student's variation from time to time (across cycles) were compared.
2. The strategies applied by the students at the end of each cycle were compared.

The differences constituting the development of learning strategies were identified, coded, categorized, tabulated using 'EXEL' program in computer, and finally all were interpreted and the generalization was described.

3.8 Reliability and Validity

The reliability in action research is achieved if the researcher records the actual data as they occur in the setting when the study is conducted (Baumfield, *et. al.*, 2008; Cohen, *et. al.*, 2007: 149). Reliability is construed as *dependability* and to achieve it requires, among others, triangulation, prolonged engagement in the field, persistent observations in the field, reflexive journals, etc (Lincoln and Guba, 1985, in Cohen, *et. al.*, 2007: 149). The reliability of this study was established by observing and describing the learning context and the activities as detail as possible.

The study was also conducted in a natural learning situation and the researcher acted as the lecturer who cared for the students. The data were collected from various means and time to obtain rich, deep and accurate insight about all thoughts that were within the realm of awareness of the learners.

The results of action research may not be generalized (Baumfield, *et. al.*, 2008; Cohen, *et. al.* 2007: 137). The validity of this study, then, was stressed on the internal validity that was based on introspective and empirical data (Wallace, 1998: 39). In response to these threats of data collection methods, Cohen (1986: 262; 2007: 143) suggests researchers conduct triangulation to improve the validity. There are various types of triangulations such as time, theoretical, and methodological triangulations (Cohen 2007: 142).

Various data sources were also used to establish the validity and reliability of this study namely tests, close and open-ended questionnaires, observation, students' reflective journals, learning journals, comments, informal interviews or small talks, and thinking process journals. These data were collected in various methods and times and then they were triangulated to each other within each learner and across learners.

To minimize interpretation bias, constant comparison was applied and intra-rater strategies, i.e. the data were analyzed several times by getting close to the data of each learners, comparing them with the others, identifying the patterns, leaving them for a while and analyzing the data several times more.

Since this study investigated the development of learners' learning autonomy, a comparison of the data across students and across cycles were conducted. Comparison across students was conducted by comparing data collected from different students at one point in time. Comparison across cycle was conducted by comparing data within each student at different cycles. To produce a convincing results, the claim was made when two or more evidences from the students' data were obtained.

3.9 Summary

This chapter discusses the methods of this study. Section 3.0 is the introduction; it explains that an action research model was used because this model was in line with learner-centred approach that could develop the students’ learning autonomy. Section 3.1 is devoted to give a short explanation of the types of action research and the considerations of applying inductive action research in this study. Section 3.2 discusses the outline of how this study was conducted and when the data were collected. Section 3.3 give a short report of how the setting was accessed followed by the setting itself, section 3.4 depicts the location of the study and the learning environment including the time and length of conducting this study. Section 3.5 illustrates the various parties collaborated in this study i.e. students and the managing staff and their roles in this study. The discussion, section 3.6 continues with the instruments used to collect the data including their designs, contents and the procedures of using them. Section 3.7 discusses the types of instruments and the data analyzed to answer the three research questions. Finally, section 3.8 explains how the reliability and validity of this study was achieved. The conduct of the study, the uses of the instruments, data analisis, and the results is reported on the following chapter, Chapter IV.