

CHAPTER II

REVIEW OF RELATED LITERATURE

2.1 English Teaching

In most of non English speaking countries, English is a very important thing. It is because the influence of globalization era has immediately required the people of the country to participate actively. In this side, communication takes very important role. As an international language, English has become more popular especially in education aspect. Just like in our country, some linguists and English teachers have had some efforts to improve the English teaching learning in the classroom. Moreover, English teaching is the method of teaching English that is designed and purposed to give knowledge about English language to the students or language learners. In addition, they can use it in the real communication activities in real situation.

Teaching a foreign language is not only in terms of transferring some theories related to the practical activities but also the practice itself. The more we practice or use it in our daily activities the more we will easily master it. In short, English teaching should concern about both the theory and the practice of it.

2.1.1. Elementary School

Since our government has launched the new concept of our national curriculum that regulated English as one of local content for Elementary School curriculum, it then, raised up some problems. As it is stated on GBPP: "English is the first foreign language which is very important and must be taught to gain and improve as well as to develop science, technology, art and culture, and to create good relationship with other nations." (GBPP, 1994). Furthermore, it then reveals

a question; 'Why should it be in Elementary school level?' As it is known that Elementary school level is one of school level that consists of six to eleven years old students whom are taught about some basic knowledge. This level is also considered as Young Learners level. The reason stating that English teaching is better given in elementary school level, because, the students of that age get more easily learn about foreign language as well as English.

The result of this research project is aimed to improve listening ability by using Computer as a media to assisted language learning and it can, finally, improve their achievement especially students score in English subject. So that the graduates of Elementary school will, at least, be ready to continue their study in the next level.

Finally, they will be ready to participate actively in the real situation of their lives especially in the global trade commerce. If they have already known or got familiar with English, then they will get more easily study about it in the next levels of education.

2.1.2. Listening

In face to face interaction, listening entails complex interpretive processes. an intricate web of situational variables interact to determine what meanings are derived in conversation. Processing requirements such as reciprocity of interlocutors' perspectives, the etcetera principle (filling in the gaps of what one hears with knowledge of the language and the world), and combined retrospective and prospective meanings all come into play. This multi faceted processing spells a heavy demand when the medium of communication is a foreign or second language. Theoretical models that attempt to capture the intricate nature of the

listening process cannot hope to account for the myriad of cognitive and external environmental factors that influence reception, interpretation and response construction. In short, rendering a complex activity like listening into a single construct has proved difficult. Models that have been attempted, however, share one underlying assumption: Listening is not simply a receptive act multiple physiological and cognitive processes are engaged simultaneously.

Until recently, listening comprehension activity in foreign or second language classrooms was limited to testing listening comprehension. The underlying rationale was that if students are successfully learning the target language, they should automatically be able to decode the aural version of structures and vocabulary they learn in their textbooks. Success at this decoding was typically measured by correct responses to WH (information) questions. Responses to such questions tagged successful retrieval of information from an aural text.

Knowledge of target language syntax and lexis was deemed sufficient to enable this retrieval and was ultimately how students were tested. Listening is now treated as a much more complex activity and one that is the cornerstone of language acquisition. Recognition of listening critical role in the language acquisition process has greatly influenced contemporary language teaching practice. The view that listening as an active and interactive process has, for example, cast the learner in a role other than the passive receiver of aural input . Classroom emphasis is now on aural intake through active negotiation of meaning. In face to face interaction, the listener, not just the speaker, engages in the active making of meaning. It is believed that this mutual negotiation of meaning between speakers activates the cognitive and socio cognitive processes

necessary for language acquisition to occur). In short, listening has been recast as an activity central to the L2 acquisition process, and a skill integral to overall communicative competence.

2.2. Inductive Teaching

A better way to motivate students is inductive teaching, in which the instructor begins by presenting students with a specific challenge, such as experimental data to interpret, a case study to analyze, or a complex real world problem to solve. Students grappling with these challenges quickly recognize the need for facts, skills, and conceptual understanding, at which point the teacher provides instruction or helps students learn on their own. Branford, Brown, and Cocking (2000) survey extensive neurological and psychological research that provides strong support for inductive teaching methods. The literature also demonstrates that inductive methods encourage students to adopt a deep approach to learning (Ramsden 2003; Norman and Schmidt 1992; Coles 1985) and that the challenges provided by inductive methods serve as precursors to intellectual development (Felder and Brent 2004).

Inductive teaching methods come in many forms, including discovery learning, inquiry based learning, problem based learning, project based learning, case based teaching, and just in time teaching. Few studies have examined these methods as a group. Prince and Felder (2006) provide an extensive analysis of the conceptual frameworks and research bases for inductive teaching, review applications of inductive methods in engineering education, and state the roles of other student-centered approaches, such as active and cooperative learning, in inductive teaching. This paper briefly reviews the distinguishing features of the

principal inductive methods, describes illustrative applications in the sciences, discusses practical issues of implementation, and suggests resources for instructors who wish to use one or more inductive methods in their own teaching.

2.3. Form of Inductive Methods

What inductive methods have in common is that students are presented with a challenge and then learn what they need to know to address the challenge. The methods differ in the nature and scope of the challenge and in the amount of guidance students receive from their instructor as they attempt to meet the challenge. Inductive teaching methods come in many forms, including discovery learning, inquiry based learning, problem-based learning, project based learning, case based teaching, and just in time teaching.

2.3.1. Discovery Learning

In *discovery learning*, students are confronted with a challenge and left to work out the solution on their own (Bruner 1961; French 2006). The instructor may provide feedback in response to student efforts but offers little or no direction before or during those efforts. The lack of structure and guidance provided by the instructor and the trial and error consequently required of students are the defining features of discovery learning relative to other inductive methods. This extreme form of inductive teaching was developed for precollege education and has rarely been used in undergraduate classes, and there is little empirical evidence for its effectiveness in that setting. (There is significant evidence for the benefits of involving undergraduate students in independent research [Seymour et al. 2004], but undergraduate research does not usually qualify as discovery learning because the advisor typically provides significant structure and guidance.) More common

than pure discovery are variants such as *guided discovery*, in which the instructor provides some structure and support (Spencer and Jordan 1996). Depending on the nature of the initial challenge and the extent of the guidance, these variants would typically fall into one or another of the other categories that follow.

2.3.2. inquiry based learning

In *inquiry based learning* (also known as *inquiry guided learning* or *guided inquiry*), students are presented with a challenge (such as a question to be answered, an observation or data set to be interpreted, or a hypothesis to be tested) and accomplish the desired learning in the process of responding to that challenge. As with all inductive methods, the information needed to address the challenge would not have been previously covered explicitly in lectures or readings, although it would normally build on previously known material. Inquiry has frequently been found to be more effective than traditional science instruction at improving academic achievement and the development of thinking, problem-solving, and laboratory skills (Smith 1996; Haury 1993; McReary, Golde, and Koeske 2006; Shymansky, Hedges, and Woodworth 1990; Rubin 1996; Oliver-Hoyo and Allen 2005; Oliver-Hoyo et al. 2004). Colburn (2006) recommends focusing inquirybased activities around questions that call for experimental investigation, involve materials and situations somewhat familiar to students, and pose a sufficient level of challenge to promote skill development. Inquiry-based methods have been used in many different disciplines, including physics (Fencil and Scheel 2005; McDermott 1995; Thacker et al. 1994; Heflich, Dixon, and Davis 2001), biology (Chamanay and Lang; Londraville et al. 2002), and chemistry (Jalil 2006; Lewis and Lewis 2005; Oliver-Hoyo, Allen, and Anderson

2004; Oliver-Hoyo and Allen 2005). The POGIL (Process-Oriented Guided Inquiry Learning) website (www.pogil.org) contains reports of implementations on several campuses, instructional materials for different branches of chemistry, and a video showing an implementation of the method in an introductory chemistry class. *ChemConnections* (<http://mc2.cchem.berkeley.edu>) surveys inquirybased instructional modules developed at the University of California at Berkeley for the first two years of the chemistry curriculum. The *ChemCollective* (www.chemcollective.org/find.php) archives resources for inquiry based chemistry instruction, including virtual laboratory experiments, concept tests, problem scenarios, and simulations. Lee (2004) reports on a series of inquirybased courses in different disciplines at North Carolina State University, including chemistry and physics in large classes (Oliver-Hoyo and Beichner 2004), microbiology (Hyman and Luginbuhl 2004), and wood and paper science (Kirkman et al. 2004). Any instruction that begins with a challenge for which the required knowledge has not been previously provided technically qualifies as inquiry- based learning, and the scope of the inquiry may vary from a portion of a single lecture to a major term project. In this sense, all inductive methods are variants of inquiry, differing essentially in the nature of the challenge and the type and degree of support provided by the instructor. We will adhere to common usage by using the terms problem-based learning, project-based learning, and discovery learning to refer to instruction that has the defining characteristics of those methods, and use inquiry based learning as an umbrella category for any other inductive approach.

2.3.3. Problem based learning

In *problem based learning* (PBL), students usually working in teams are confronted with an ill structured openended real-world problem to solve, and take the lead in defining the problem precisely, figuring out what they know and what they need to determine, and how to proceed to determine it. They formulate and evaluate alternative solutions, select the best one and make a case for it, and evaluate lessons learned. When they identify the need for instruction on new material, the instructor either provides it or guides the students to obtain the required information themselves. Several examples of PBL implementations are given in chapters of the edited volume of Duch, Groh, and Allen (2001). In Chapter 18, Susan Groh outlines a series of problems in a case study called “Winter Woes” that she used in a general chemistry course. The students are given several scenarios having to do with a cold and icy winter day: their car is running rough (Could water have gotten into the fuel lines at the prevailing weather conditions? What can be done if it did?); they need to choose from among several salts with different costs to use for de-icing a sidewalk; and they need to select from among several desalination processes to purify the city’s water supply after a retaining wall failed and tons of rock salt were carried into the reservoir. In Chapter 21, Barbara Williams presents a first-year physics problem in which someone stands on a scale in an elevator and the students must figure out how the scale readings would vary as the elevator moves up and down. PBL originated, and is extensively practiced, in medical education and other health-related disciplines (Savin-Baden and Major 2004). PBL problems in chemistry and physics (among other fields) and guidance on how to use them are given in Duch,

Groh, and Allen (2001) and on websites maintained at the University of Delaware (www.udel.edu/pbl) and Samford University (www.samford.edu/pbl), both of which provide links to many additional resources. A meta-analysis of the effectiveness of problem-based learning was published by Dochy et al. (2003). Their results suggest that students may acquire more knowledge in the short term when taught conventionally but are likely to retain knowledge longer when taught with problem-based learning. The results for skill development consistently favored PBL instruction. Prince (2004) examined several metaanalyses and concluded that PBL improves students' skill development, 16 *Journal of College Science Teaching* retention of knowledge, and ability to apply learned material, but it does not have a statistically significant effect on academic achievement as measured by exams. Prince and Felder (2006) cite studies reporting a robust positive effect of PBL on development of a variety of problem-solving skills, conceptual understanding, ability to apply meta-cognitive and reasoning strategies, teamwork skills, and even class attendance. Problem-based learning is arguably the most difficult to implement of all the inductive teaching methods. It is time-consuming to construct authentic open-ended problems whose solution requires the full range of skills specified in the instructor's learning objectives, so instructors are advised to use problems that have already been developed and tested, if such problems can be located (e.g., at the University of Delaware PBL Clearinghouse). PBL gives students the responsibility of defining the knowledge and skills they need to proceed with each phase of the problem, and so instructors must be prepared to go in directions that may not be familiar or comfortable. Moreover, PBL involves a spectrum of instructional features likely to provoke

student resentment and resistance, including complex problems that have no unique solutions, the need for students to define for themselves what they need to know to solve them, and the logistical and interpersonal problems that inevitably arise when students work in teams. Instructors who lack the subject knowledge and self-confidence that normally come only with extensive experience and training could easily find themselves overwhelmed by the negative responses of their students.

2.3.4. Project Based Learning

Project-based learning involves assignments that call for students to produce something, such as a process or product design, a computer code or simulation, or the design of an experiment and the analysis and interpretation of the data. The culmination of the project is normally a written or oral report summarizing what was done and what the outcome was. Project-based learning implementations in science curricula have not been extensively reported, although some of the applications cited in this article for inquiry-based learning could be considered project-based as well. Several implementations of *service learning* (a form of projectbased learning in which the projects involve some type of community service) have been reported in chemistry courses (Draper 2004; Kesner and Eyring 1999; O'Hara, Sanborn, and Howard 1999). Strictly speaking, in projectbased learning students mainly apply previously acquired knowledge and the final product is the central focus of the assignment, while in problembased learning, students have not previously received formal instruction in the necessary background material and the solution process is more important than the final product. In practice the distinction between the two methods is not necessarily

that clean, and instructional programs have recently adopted approaches that are hybrids of both methods (Kolmos, personal communication; Tan et al. 2003; Galand and Frenay 2005). Studies comparing project-based learning to conventional instruction have yielded results similar to those obtained for problem-based learning, including significant positive effects on problem-solving skills, conceptual understanding, and attitudes to learning, and comparable or better student performance on tests of content knowledge (Thomas 2000; Mills and Treagust 2003). Mills and Treagust (2003) note, however, that students taught with project-based learning may gain a less-complete mastery of fundamentals than conventionally taught students acquire, and some of the former students may be unhappy over the time and effort required by projects and the interpersonal conflicts they experience in team work. Moreover, if the project work is done entirely in teams, students may be less equipped to work independently. Project-based learning falls between inquiry and problem-based learning in terms of the challenges it poses to instructors. Projects and the knowledge and skills needed to complete them may be relatively well defined and known from previous parts of the curriculum, which lessens the likelihood of student resistance, and they may be defined in a manner that constrains students to territory familiar to the instructor, which further reduces the difficulty of implementation. Projects are usually done by student teams but they may also be assigned to individuals, which avoids many logistical and interpersonal problems but also cuts down on the range of skills that can be developed through the project. The challenge of project-based learning is to define projects with a scope and level of difficulty appropriate for the class, and if the end product is a constructed device or if the project involves

experimentation, the appropriate equipment and laboratory and shop facilities must be available. Hybrid (problem/projectbased) approaches encompass all of the difficulties associated with both methods and so can be particularly challenging to implement.

2.3.5. Case Based Teaching

In *case-based teaching*, students study historical or hypothetical cases involving scenarios likely to be encountered in professional practice. Students are challenged to explore their existing preconceptions and modify them to accommodate the realities of the cases (Lundeberg, Levin, and Harrington 1999). Compared to typical problems used in problem-based learning, cases tend to be relatively well structured and rich in contextual details, and students apply material that is already somewhat familiar (Lohman 2002). Cases are most commonly thought of in the context of law and management science education, but they have also been used extensively in science (Herreid 1997). March/April 2007 17 The National Center for Case Study Teaching in Science (<http://ublib.buffalo.edu/libraries/projects/cases/case.html>) at the University of Buffalo archives case studies in the physical, chemical, and biological sciences, mathematics and computer science, medicine, engineering, psychology, and ethics. Another website (<http://edr1.educ.msu.edu/references/viewarticle.asp>), developed jointly at the University of Buffalo and Michigan State University, summarizes articles assessing both case-based instruction and problem-based learning in many different fields. The key to case-based instruction is having cases that are clear and realistic and encompass all of the teaching points the instructor wishes to convey. Constructing such cases can be extraordinarily time

consuming. Using case-based instruction may therefore be considered moderate in difficulty (roughly comparable to project-based learning) if suitable prewritten cases are available, and second in difficulty among inductive methods only to problem-based learning if instructors must create and analyze the cases themselves. Studies have shown that relative to conventional teaching, case-based instruction significantly improves student retention (Fasko 2003), reasoning and problem-solving skills (Levin 1997; Fasko 2003), higherorder skills on Bloom's taxonomy (Gabel 1999), the ability to make objective judgments (Dinan 2002), the ability to identify relevant issues and recognize multiple perspectives (Lundeberg et al. 1999), and awareness of ethical issues (Lundeberg, Levin, and Harrington 2002). Lundeberg and Yadav (2006) carried out a meta-analysis and concluded that cases have a positive impact on faculty and student attitudes, class attendance, and faculty perceptions of learning outcomes. They also note that the reported comparisons of the effectiveness of case studies versus traditional instruction depend strongly on the assessment tasks and that "the higher the level of knowledge and thinking required on the assessment task, the more likely that case-based teaching will produce greater gains in student understanding." Studies of the effect of case-based instruction on the acquisition and recall of factual knowledge are inconclusive (Fasko 2003; Katsikitis et al. 2002).

2.3.6. Just in Time Teaching

In *just-in-time teaching* (JiTT), students respond electronically to conceptual questions before each class, and the instructor adjusts the lesson to react to misconceptions revealed by students' responses. Since the conceptual questions involve material not yet covered in class, the method qualifies as

inductive. JiTT was developed jointly by physics faculty at Indiana University-Purdue University Indianapolis, the U.S. Air Force Academy, and Davidson College, and can be combined with almost any in-class active learning approach (Modesitt, Maxim, and Akingbehin 1999; Novak et al. 1999). The *Just-in-Time Teaching* website (<http://webphysics.iupui>)

2.2.1. Assessment And Evaluation of Inductive Methods

Rigorous comparisons of inductive methods with traditional expository methods are not easy to design, for several reasons.

- There are many varieties of inductive approaches, each of which can be implemented in many ways with greater or lesser instructor involvement, with or without formal facilitation of teamwork, with most of the work being done in or out of class, and so on. Two articles may claim to be studies of, say, problem-based learning, but they could involve dramatically different forms of instruction and may well produce different learning outcomes.
- Instructors may have varying degrees of experience and skill with whichever method they adopt. Two different instructors using the same method in the same class could get different results.
- Student populations also vary considerably, among other ways in distributions of gender and ethnicity, age, experience, motivation to learn, learning styles, and levels of intellectual development. The same instructor could use the same method in two different classes and get different outcomes.
- The conclusions drawn from a study may depend strongly on the learning outcome investigated acquisition of factual knowledge, development of a problem solving or interpersonal skill, retention in a curriculum, self

confidence level, attitude, or any combination of these. An inductive method may be superior with respect to one outcome and inferior with respect to another. (We will shortly see an example of this phenomenon in the case of problem based learning, which has frequently been found to lead to superior high level skills and attitudes but inferior short term acquisition of factual knowledge.) Moreover, reliable and valid assessments of high level skills such as critical or creative thinking or attributes such as lifelong learning skills are difficult to obtain, and two studies that use different assessment methods could arrive at different conclusions.

- Finally, implementations of inductive approaches such as problem based learning normally involve active and collaborative learning methods, both of which are known to have positive effects on many learning outcomes. If an inductive method is found to have a positive effect, sorting out how much of it can be attributed to the method itself and how much to other methods imbedded in it can be a formidable challenge.

Considering these difficulties, it is not surprising that published studies report both positive and negative outcomes for inductive learning relative to conventional instruction. Given the difficulty (if not impossibility) of carrying out a clean and conclusive comparative study, the best we can do is to look at results from a number of studies with different instructors, implementations, learning outcomes, and student populations, to see if any robust generalizations can be inferred. The sections that follow summarize results of such meta-analyses.

2.2.2. The advantage and disadvantage in Inductive Teaching

Advantages:

- The learners are more engaged in the teaching-learning process with our facilitating skills, the learners formulate the generalization.
- Learning becomes more interesting at the outset because we begin with what they know.
- It helps the development of our learner's higher-order-thinking-skills (HOTS). To see and analyze the same in order to arrive at generalizations requires analytical thinking.

Disadvantages:

- It requires more time and so less subject matter will be covered. It needs much time to lead students to the formulation of generalizations.
- It demands expert facilitating skills on part of the teacher. He/she needs to ask the right questions and organize answers.

2.2.3. The procedure of Using Inductive Teaching in listening activities

Listening is a highly complex solving activities (Barnes, 1984) in which listeners interact with a speaker to construct meaning, within the context of their experiences and knowledge. When students are made aware of the factors that affect listening, the levels of listening, and the components of the listening process, they are more likely to recognize their own listening abilities and engage in activities that prepare them to be effective listeners. Listening activities try to prevent failure so that they can support the learner's interpretation of the text. Listening activities are usually subcategorized as pre listening, while listening, and post listening activities.

1. Pre-listening activities

For the effectiveness of pre listening activities which includes the outline for listening to the text and teaching cultural key concepts. Listening teacher may select certain words, difficult grammatical, structures and expressions to be explained through the discussion about the topic and may also ask students to predict the content or what speakers are going to say, based on the information they have already got. Pre-listening activities usually have two primary goals: (a) to help the activate students' prior knowledge, build up their expectations for the coming information; and (b) to provide the necessary context for the specific listening task. The teacher could follow with a listening comprehension activity, such as two people having a conversation about their daily life. Students must answer true or false questions based on the previous listening activity. An example of a controlled practice activity could be a drill activity that models the same structure or vocabulary.

2. While listening activities

Listeners who participate actively in the listening experience are more likely to construct clear and accurate meaning as they interpret the speaker's verbal message and nonverbal cues. During the listening experience students verify and revise their predictions. They make interpretations and judgments based on what they heard. On Listening Comprehension Listening teacher may ask students to note down key words to work out the main points of the text. Students answer comprehension questions while listening to the text and select specific information to complete the table provided with the text. While-listening activities usually have some of the following purposes: to focus students'

comprehension of the speaker's language and ideas; to focus students' attention on such things as the speaker's organizational patterns; to encourage students' critical reactions and personal responses to the speaker's ideas and use of language. An open ended activity could follow that allows students to have the freedom to practice

listening comprehension in the class about their daily life and asking for further information. Listening comprehension should begin with what students already know so that they can build on their existing knowledge and skills with activities designed on the same principle. A variation on the "filling in the missing word listening activity" could be to use the same listening materials, but to set a pair work activity where student A and student B have the same worksheet where some information items are missing.

3. Post-listening activities

Post listening activities are important because they extend students' listening skill. Post listening activities are most effective when done immediately after the listening experience. Well planned post listening activities offer students opportunities to connect what they have heard to their own ideas and experiences, and encourage interpretive and critical listening and reflective thinking.

Here are the steps of inductive teaching on my research thesis: firstly, the teacher comes to the class and prepare some recorder and video after selecting the topic, the teacher plays some sound at glance one by one related to the topic to guide the student knowledge to listen what the sound is, the teacher give some questions to know the students knowledge about the topic, the teacher gives or

provides relevant examples of the topic, the teacher plays a video related to the topic twice, teacher guides or counsel the students to make a generalization, after that the teacher asks students make other examples and give some questions based on the topic, and then the teacher asks students to present the examples one by one, the last the teacher together with students make general conclusion based on the examples or illustration.

2.2.4. Previous Study

In conducting this study, the writer relates this study with the previous one done

1. By Sugeng Rahmanto in SLTPN Bandar 1 Pacitan.

The inductive thinking model is classified into three separate strategies that are concept Formation, interpretation of data and Application of Principles. Inductive Thinking model fit well with database activities as it offers strategies that help students to organize, synthesize, and evaluate information. It means, students can use branch of logic as thinking skill in their creativity. So, it is obvious that the purpose of the study is to know the use of inductive thinking as teaching model by the English teacher in reading subject at SLTPN Bandar 1 Pacitan. In order to know the use of inductive thinking as teaching model by the English teacher in reading subject, the researcher does the classroom observation as an instrument. He also makes interview to support the data. The research subject of this study is a teacher who teaches English subject to the first year students at SLTPN Bandar 1 Pacitan. The design used is descriptive. In addition, the researcher does the observation from the beginning of the class until it is over.

The result of data analysis shows that activities of Inductive thinking for the teacher have already fit to the criteria of Inductive thinking activities. The Activities in classroom that is provided by the teacher including the designed a creative/fun method for evaluating the students' understanding of the material learned in order to applied the material reading subject through Inductive

2. From Emil Kuder in Faculty of the University of Delaware, Spain

This study examines the outcome of a deductive versus an inductive lesson teaching direct object pronouns in Spanish to 44 college-aged participants in two separate intermediate classes. The two groups of students were exposed to the opposing methods of instruction, then evaluated on their level of acquisition in question using identical assessment measures. Feedback was solicited from the students following the lesson.

The results of the study indicate. That there was a slightly higher level of achievement as well as a higher level of satisfaction in the group exposed to the inductive lesson in comparison to the group exposed to the deductive lesson. Although this difference was not found to be statistically significant, it suggests that the inductive approach may have a more positive effect on learners than the traditional deductive approach thinking model effectively. The weaknesses of the application for the students is suggested media for teacher and students cooperative that is solved by giving information to teacher from this research.