THE APPLICATIVE USE OF PROBLEM SOLVING TECHNIQUE IN TEACHING GRAMMAR

Dr. Rahmah Apen, M. Si.
Faculty of Language and Arts
State University of Padang
Email: apenrahma@gmail.com

Abstract

This paper is aimed at getting a deep understanding of the process and results in improving grammar mastery in learning English through problem solving technique. It reports the action research involving 30 students of English Education Study Program at Language and Arts Faculty in State University of Padang who took Structure I Subject. The instrument used were questionaire, students' portofolios, observers' and reseacher's journals, pre-test and post-test.The data were analyzed by using descriptive statistics in the form of mean and percentage, and the validity of the data was checked by using triangulation technique.The result shows that (1) The process of using problem solving technique is chalanging, and it makes the students active, thinks critically, improves the students' learning result, and gradually makes the students become autonomous learners.(2) The result of grammar mastery varied within the three cycles of different instructional activities conducted. The indicators are seen from the pre- to post-test results of each cycle. The results of grammar mastery through classical instructional activities improved from 28.53 to 67.0. In group discussion activities the improvement is from 69.53 to 77.13. Meanwhile, the improvement is seen from 77.06 to 83.23 in pair work instructional activities. Based on the result, the learning process through problem solving technique improved the learning result of grammar mastery.

Keywords *: improving, English grammar mastery, problem solving technique*

1. INTRODUCTION

English learners are demandedto be able to useEnglish well in the four language skills (Listening, Speaking, Reading, and Writing)**.** There are severallanguage componentsto master when the learners want to use good English. One of them is mastering grammar beside mastering other language components. Without having knowledge about grammar, it is imposible for someone to use the language well. If English instructors/teachers want their students to be able to use English well, they have to pay attention to students' grammar mastery.

Related to the the ideas above, English instructors/teachers have tried to use many kinds of techniques in teaching English grammar. In English Education Study Program of English Department at Language and Arts Faculty in State University of Padang, although the instructors have tried many efforts in teaching grammar, their result is still unsatisfied. Based on the writer's empirical observation, The students' mastery in using grammar is still low. This fact can be seen through the students' performance in using English in writing. After trying to investigate the students' mastery in using grammar in writing, it was found that among 10 students' thesis, 80 percents of them still have mistakes in using grammar. This fact is also stated by Syarif (2014). In her research, she concludes that the students of English Education Study Program at Language and Arts Faculty in State University of Padang find difficulties in using correct grammar in writing English. The dominant difficulty is related to syntax.

Related to the above fact, most of English instructors/teachers believe that learning language components should be done integratively in listening, speaking, reading and writing which is called Communicative Language Learning (Murcia, 2001, Amato 2010). In conrast to this idea, Nassaji and Fotos (2011), dan Ur (2012) have the conclusions of their research that the students who are taught English grammar explicitely, their grammar mastery is better than those who are not taught English grammar ecplicitely.

In relation to that condition, in order the students of English Education Study Program at Language and Arts Faculty in State University of Padang have good matery in grammar, one of the

demands in teaching English is the needs in using the appropriate techniques that can motivate the students to learn grammar. One of them can be problem solving technique. English instructors/teachers should try to practice the appropriate technique in teaching grammar explicitely when they want their students to master grammar well. In other words, in order to make grammar class interesting, effective and beneficial, an instructor/teacher has to use well-developed and fascinating technique in the classroom. It is common to hear that the students' success in learning grammar also depends on the creativities of the intructors/teachers in choosing the appropriate technique in teaching grammar.

As mentioned above, problem solving technique is one of the techniques that can motivate the students to learn. It is a technique in which learning and teaching process are done by involving a certain problem and how to solve it which needs students' cooperativeness in small group or large group (Brown, 2001). Then, problem solving technique makes the students have self confidence in learning. Learning through problem solving technique, make the students try to solve the problems until they are able to solve them and they are sure with the grammar concept of what they have learned. Besides, Moore, (2005), said that problem solving technique is an effort to eliminate the sudents' doubtness through teaching and learning process. Since grammar consists of many rules, and the rules also have exception, it makes the students find difficulties or confused in learning grammar. Using problem solving technique is helpful to the students to avoid their doubtness. In this paper, problem solving technique activities are provided.

2. DISCUSSION
1. The Concept of Grammar in Learning English

Grammar in a simple definition is a knowledge about language. Someone's knowledge that enable him to use a language is called grammar (Veit,1986). In learning and teaching process, when the students master grammar well, it will enable them to understand what they read, and listen, and make them able to speak and to write. Besides, Callerson (1995) states that grammar is the way to arrange a certain language. Related to this, Ur (2012) also says that grammar is the arrangement of words to make correct sentence.

The above ideas can be concluded that the grammar of a language is the feature of rules to create a sentence in a certain language. It is the way of how to arrange words to produce the correct sentences. The grammar mastery is needed in language skills (Listening, Speaking, Reading and writing), because there is no language skills which can be developed without mastering grammar. In this research, grammar is limited to marphology and syntax.

a. Grammar Learning

Murcia (2001) states that grammar learning is the learning process that make learners understand the way to analyze the rules, meaning, function and grammar form. By understanding the rules, the sudents are able to use or to apply the rules in creating good English sentences. When the students can produce good sentences they can use them in speaking or writing English, and help them to understand what they read and what they listen.

Based on the ideas above, it can be said that grammar mastery is very important in learning English. Lack of grammar mastery can make the students find difficulties in the four language skills. Their understanding about what they read and listen will be far from adequate. Their speaking and writing ability will be in low grade. So, teaching grammar explicitly can be one of the ways to learn English grammar.

Related to the mentioned ideas above in teaching English, Hadley (1993) states that grammar teaching can be done through two approaches, namely, deductive and inductive. Through deductive approach, grammar teaching is initiated by the explanation about the rules of grammar, then, in teaching and learning process the students are asked to create their own sentences. In the other ways around, through inductive approach, the teaching and learning process is done by giving enough examples to the students first. Then the students and the teacher formulate the concept about the rules of grammar. He also says that inductive approah is more preferable, because it is more suitable for language acquisation in natural way, it is suitable with the development of concept among languages, it enable the students to get comunicative feeling, and it increases intrinsic motivation. Besides,

Harmer (2007) also suggested the same approaches in teaching grammar, namely, 1) deductive approach, in this approach the students are given explanation about the rules or grammar rules, based on these rules the students are asked to to create their own examples; 2) inductive approah, in contrast, teaching and learning process is begun by giving enough good examples, it can be through a text, then the students are requested to formulate the rules. At the end, the students are asked to create different examples, and discuss their examples.

Related to the above approaches in teaching grammar, Harmer (2001) states two models in teaching grammar, namely: 1) Task, Teach, and Task Model (TTT Model). 2) Presentation, Practice, and Production Model (PPP Model). In the TTT Model, the teaching and learning process is initiated by the task, it is continued by the teaching and learning activities, and finally by giving the task again. In the PPP Model, the lesson is begun by presentation, then the students are asked to practise the rules, at last, the teaching and learning activiy is continued to production activities. In this research the writer combined TTT Model with the last part of PPP Model. The model used was Task,Teach, and Task combined with Production. It can be called TTTP Model (task, teach, task, and production model).

Based on the model discussed above, the activities in teaching grammar by using the TTTP model are as Follows:

a. The students are given two texts or dialogs. Text/dialog A contains sentences with grammar problems. Text/dialog B contains sentences with correct grammar. The students are asked to compare the two texts/dialogs. By comparing them, the students are suggested to identify and to know whether the sentences in text A have gramatical problems, if there is problem in the sentences, they are asked to identify in which part it is found. After identifying and knowing the problems, the students are asked to find out the corect grammar form of the sentences with grammatical problems by comparing them with sentences in the text which contains correct sentences (text/dialog B). This is called task stage.

b. Then, the instructor discusses them with the students in order the students understand the gramatical rules or gramatical concept until the students master the rules or concept and know how to use it. This is called the teach stage.

c. After the students are sure with the concept of grammar rules and and know how to use them, or after they are able to identify which part of the sentence has problem, and know the correct form of that parts, the students are asked to do the task again. In this stage the task consists of the text/dialog which contains sentences with gramatical problems only without giving the text/dialog which contains sentences with correct grammar as the comparison. This step is aimed at training the students in order they can solve the grammar problems in the sentences given, and simultaniously to check whether the students have mastered the grammar being taught. This step is called the task stage.

d. After the instructor is sure with the students' mastery of grammar, the students are asked to produce or to create sentences. It can be orally, or written. This step is called production stage.

By doing such activities repeatedly and continuously in grammar teaching and learning process, from cycle 1 to cycle 3 in this action researh, they will be challanging to the students, and they will make the students able to use correct grammar in writing or speaking. Besides, they also help the students to understand what they read and what they listen. So that, in this research the writer used inductive approach and TTTP model (Task, Teach, Task and Production model) in teaching grammar.

b. Grammar Evaluation.

The grammar evaluation is done by giving the grammar test. The grammar test used is taken from Harmer's ideas. Harmer (2001) divides grammar test into two categories, namely, 1) descrete item test, and 2) performance test. Descrete item test means the test to check the students' matery in grammar or the students' grammar knowledge. Performance test is the test to check the students' performance in using the language. The two kinds of the test were given to the students.

2. The Concept of Problem Solving Technique
a. Problem Solving Technique

Kolesnik (1976) defines problem solving as reorganization of concepts to overcome difficulties or obstacles to reach the goal. Besides, (Ausubel, 1978, Gagne, 1985, and Gagne 1987) stated that problem solving is a teaching and learning process which needs much knowledge and experience. Besides, Aururah et.al. (2014) states that the skills in problem solving is an important element to obtain academical success in several science. Then, Ngalimun (2014) says that problem solving is an effort to find out the ways to solve problem such as to find out pattern and the rules. In using problem solving technique the students try to identify, to investigate and to search the patterns or the rules presented in group until they get the solution.

Related to the ideas above, Gick in McIntosh (1995) states that there are three things in processing information in problem solving, namely, 1) problem approaches, 2) a logic solution process, and 3) communication. Besides, Marzano et. al. (1988) states that there are some ideal process in problem solving, namely, 1) identifying the problem, 2) defining the problem, 3) exploring the strategy, 4) action on ideas, and 5) looking for the effects. Then, Heine (2010) states that there are several real implicit actvities in problem solving which can be known, namely, 1) recognize or identify the problem, 2) define and present the problem mentally, 3) develop a solution strategy, 4) organize his or her knowledge about the problem, 5) be ready physically and mentally to solve the problem, 6) monitor his or her progress toward the goals, 7) evaluate the solution for the accuracy. Actually, the sequence is not exactly like that, as far as the description of the mental activities occur at the time of solving the problem, it will be useful. In accordance with it, Kalhotra (2014) proposed several steps in implementing problem solving technique, namely, 1) identify the problem, 2) evaluate the resource, 3) set the objective, and 4) plan the development.

From the ideas above, it can be concluded that 1) problem solving technique is a teaching and learning technique as a reorganization of concepts to overcome the obstacles to reach a goal. Problem solving technique is a learning activity that need much knowledge and experience, and problem solving is a success in uniting the concepts in order to understand the rules by broadening knowledge mastery that is aimed at making the students active in finding, and using information related to the problem to be solved, and it is an effort to find the way to solve the problem such as to find patterns and rules. 2) the steps in implementing problem solving namely, (a) problem posing, (b) problem approach, (c) problem solution, (d) communication. There are also other steps, such as (a) identifying the problem, (b) defining the problem, (c) exploring strategy, (d) acting on ieas, and (e) looking for the effects.

Based on the above conclusions, the concept, the steps, and the ways to develop problem solving skills the writer implemented are taken and symplified from the mentioned experts above, namely, problem solving is the success in uniting the concepts in order the learners are able to broaden their knowledge mastery which is aimed at making the learners active in finding out and using information related to the problem to be solved, and they get the patterns and the rules of grammar. Then, the steps of problem solving technique implemented in this research are: 1) identifying the problem, 2) knowing the problem, 3) analyzing the problem, 4) solution process, and 5) communication. Identifying the problem was done related to the activities of teaching in TTTP model, namely, by giving two texts or dialogs. Text/dialog A contains sentences with grammar problems. Text/dialog B contains sentences with correct grammar. The students are asked to compare the two texts/dialogs. By comparing them, the students are suggested to identify and to know whether the sentences in text A have gramatical problems, if there is problem in the sentences, they are asked to identify in which part it is found, until they know where the problems are. After identifying and knowing the problems, the students are asked to find out the corect grammar form of the sentences with grammatical problems by comparing them with sentences in the text which contains correct sentences (text/dialog B). Knowing the problem was done after the students have identified whether the sentences in text A have gramatical problems. They will know which parts of the sentences in the text have problems. After knowing the parts which have grammatical problems, the students analyze the problems by investigating what grammar problems are found in the sentences by comparing them with the text that contains sentences with correct grammar. Then, they tried to create sentences with correct grammar (solution process). Finally, in communication process, they use the sentences which are correct gramatically. It can be orally or written.

b. Problem Solving Characteristics

Actually, in understanding problem solving fully, someone has to know its characteristics. Kolesnik (1976) states that the characteristics of problem solving is the conscious efforts to find out the answers or the conclusions intentionally, or the solutions that individual needs to reach the goal. Besides, Pizzini and Shepardson (1992) say that *Problem solving* is a technique which encourage the learners to interact. Teaching and learning model which gives the chance to the learners to interact, will help the learners develop their attitude toward learning to improve their prestation. Then, Kalhotra (2014) says that problem solving is a process to find out the way out to the obstacles faced by the students when the students find difficulties to reach the objective.

Based on the ideas above, it can be concluded that the characteristics of problem solving are, 1) problem solving is characterized by a conscious effort to find out answers or conclusions or solution needed by the students to reach the learning goals. Problem solving encourages the learners to interact which can improve the learners' prestation. In this researh the characteristics of problem solving used is Kolesnik ideas, Pizzini and Shepardson ideas, namely, problem solving is the conscious efforts to find out the answers or the conclusions consciously, or to find out the solutions that individual needs to reach the goal in learning grammar. Problem solving encourages the learners to interact which will help the learners develop their attitude toward learning to improve their prestation. Cruickshank (2006) also states that the development of effective teaching materials is by giving the students new situation or problem solving in teaching and learning process. It can make the students work hard to reach the goals of learning grammar. Problem solving technique is newly used in teaching English. Relevant studied shows that problem solving technique are mostly used successfully in teaching exact science. Since English grammar has the rules to be learned, like exact science, it is also good to use it in teaching grammar.

c. Problem Solving in Teaching and Learning Grammar

Slack and Steward in Okebukola (1993) state that problem solving technique in teaching and learning process is a kind of educational valuable goals in knowledge gaining. The ability in solving the problem determines how a learner can be successful in finding out the solution to the challange in his daily life. In this research the use of problem solving technique determine the learners ability in facing the challange in grammar learning. Besides, using problem solving technique in teaching and learning process can improve the students' ability to solve their own problems in using the language.Reigeluth (2009) says that problem solving regards that in learning a language, the learners learn the content of the language and thinking strategy. Then, Schiller (1999) says that problem solving is one of brain training which is favorite for the learners. By doing problem solving repeatedly and with pleasure, especially in learning grammar, it is assumed that the learners will have motivation and skill in using the language.

Related to the above illustration, Wiggins and McTighe in Greenwald (2000) state that they agree with the idea that the best teaching and learning process happen when a learner wants to study the subject deeply in order he/she can find out the meaning of learning and get the understanding of what he/she learns. Understanding is a kind of learning something deeply to obtain the knowledge in higher level. It means, understanding requires thinking activity, finding the proof, and interprate information in a new way. In this case, of course the grammar learning is also included. Kronberg and Griffin (2000) also state the same ideas that the learners will be motivated to be active in teaching and learning process when it is effective, and when refflection happen in problem solving context.

From the ideas above, when related to grammar teaching and learning process, it can be concluded that problem solving technique is a teaching and learning technique where mastering the concept can make the learners improve their understanding and thinking ability to a higher level, and at last it can make the learners critical in doing their task including grammar task that is required to finish their study. The ability to solve the problem is very important for the learners. So that, problem solving ability is supposed to make the learners be able to transfer their knowledge from one subject to another subject. Then, they are hoped to be able to solve problems in their daily life. Dwiyogo (1997) states that the learning result through problem solving technique is the highest skill in thinking and intelectual skill. So that, educational objective is not only knowledge gaining but also the improvement in solving the problem.

3. RESEARCH METHOD

This research is an action researh, namely, the research which is started from the information about the problems happen in teaching and learning process currently. Action research approach supports the instructors/teachers in teaching. it improves the instructors'/teachers' competence and proffesional autonomy in evaluation, because the action research point is the development of instructors'/teachers'professional in evaluation, Hopkins (2002). The essential point of this research is the intructors'/teachers' development in teaching and evaluating. The objectives of the research are to get a deep understanding about the process and results in improving grammar mastery in learning English through problem solving technique. The instruments used in collecting the data were questionaire, students' portofolios, observers' and reseacher's journals, pre-test and post-test. The data were analyzed by using descriptive statistics in the form of mean and percentage, and the validity of the data was checked by using triangulation technique. Problem solving technique was implemented in three cycles. In cycle 1, the learners were taught classically, in the second cycle they were taught in group, meanwhile in the third cycle they were taught in pairs.

4. RESULT

Research results are as follows:

1. The process of teaching and learning grammar which can improve grammar mastery through problem solving technique implemented in this reserch is challanginng, makes the students active, think critically, and gradually make the students become autonomous learners, and all of these process give impact to improvement of the learning result.

2. The results in grammar mastery improve. Based on the action which has been done from cycle 1 to cycle 3, it is seen that the results of students' mastery in teaching grammar through problem solving technique varied within the three cycles of different instructional activities conducted. The indicators are seen from the pre- to post-test results of each cycle. The results of grammar mastery through classical instructional activities improved from 28.53 to 67.60. In group discussion activities the improvement is from 69.30 to 77.13. Meanwhile, the improvement is seen from 77.06 to 83.23 in pair work instructional activities. This result can be seen in the following table.
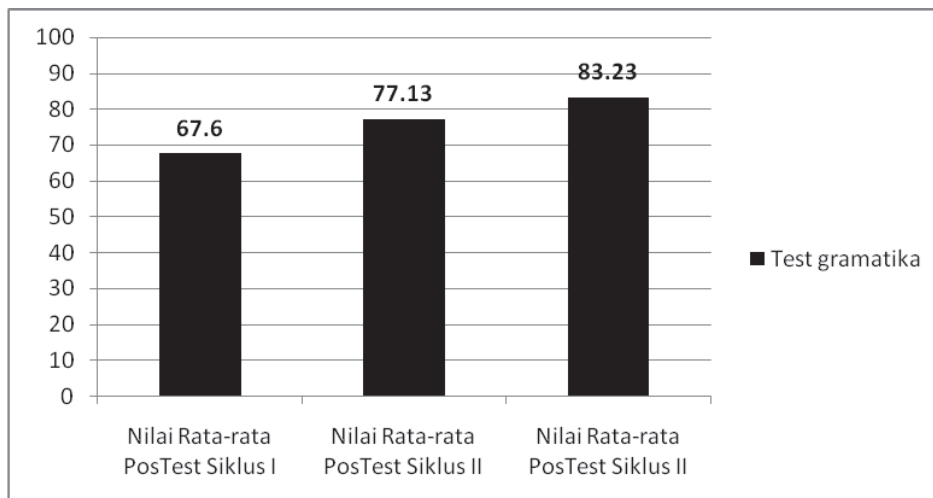
Table 1
The Comparison of the Mean in Grammar Post-Testin Cycle I, Cycle II, and Cycle III

No. U.	Indicator	The mean of post-test in Cycle I	The mean of post-test in Cycle II	The mean post-test in Cycle III
1.	Gramatika	67,60	77,13	83,23

To make it clear, it can be seen in the following diagram:

Diagram 1
The Comparison of the mean in Grammar Post-Testin Cycle I, Cycle II, and Cycle III

5. CONCLUSIONS

Based on all of the above illustrations it can be concluded as follows: Teaching and learning process that can improve grammar mastery of the students in Education Study Program at Language and Art Faculty in State University of Padang can be done by implementing problem solving technique. In brief, from process point of view, this technique is challanginng, makes the students active, think critically, and gradually make the students become autonomous learners, and all of these process give impact to improvement of the learning result. From the result point of view, the results of students' mastery in teaching grammar through problem solving technique varied within the three cycles of different instructional activities conducted. The implementation of problem solving technique which is done classically, in groups, and in pairs give good effect in improving learning result.

REFERENCES

A. Patricia, dan Amato – Richard. *Making It Happen From Interactive to Participarory Language Teaching* : Evolving Theory and Practice. New York: Pearson Education, Inc. 2010.

Aurah, Catherin M. et. al. Predicting Problem Solving Ability From Metacognotion and Self-Efficacy Beliefs on Cross Validateded Sample, *Journal* Published by European Center for Research Training and Development UK. Vol. 2. No. 1. 2014.

Brown, H. Douglas. *Teaching by Prinsiples* : An Interactive Approach to Pedagogy. New York : Addison Wesley Longman, Inc. 2001.

Callerson, John. *English Grammar a Functional Approach*. Australia: Primary English Association. 1995.

Cruickshank, Donald R. *The Act of Teaching*. New York : Mc Graw-Hill Companies. 2006.

Dwiyogo, W. D. Teaching Thinking and Problem Solving. *JurnalTeknologi Pembelajaran: Teori dan Penelitian,*5 (1): 13-21.1997.

Gagne, R.M .& Brigges, L.J. *Principles of Instrucitnal Design*. New York: Holt, Rinehart & Winston. 1979.

Greenwald, Nina L. Learning from Problem. *The Science Teacher*, 67 (4): 28-32. 2000.

Hadley, Alice Omaggi. *Teaching Language in Context*. Boston: Stanley J. Galek. 1993.

Harmer, Jeremy. *How to Teach English*. England: Pearson Education Limited. 2007.

Heini, Lena. *Problem Solving in a foreign Language*: A study in Content and Language Integrated Learning. Berlin/New York: Walter de Gruyter GmbH & Co.KG. 2010.

Hopkins, David . *A Teacher's Guide to Classroom Research*. : Buckingham: Open University Press. 2002.

Kalhotra, Satish Kumar. A Study of Problem Solving Behavior of Eight Class Students in Relation to Their Creativity- *Journal*, International Invention Journal of Arts and Social Sciences, Vol. 1 (1). 2014.

ISELT-4
2016

Kolesnik, Walter B. *Learning, Educational Application.* Boston: Allyn and Bacon, Inc. 1976.

Kronberg, J.R. dan Griffin, M. S. Analysis Problem—A Means to Developing Students' Critical-Thinking Skills. *Journal of College Science Teaching (JCST)*, 29 (5): 348-352. 2000.

Marzano, R.J, et. al. *Dimension of Thinking*. A Framework of Curriculum and Instruction. Virginia:Association for Supervision and Curriculum Development. 1988.

McIntosh, Thomas G. Problem Solving Processes. *The Science Teacher*, 62 (4): 16-19. 1995.

Moore, Kenneth D. *Effective Instructional Strategies* : From Theory to Practice, California: Sage Publication, Inc. 2005.

Murcia, Marianne Celce. *Teaching English as a Second or Foreign Language*, Singapore : Thomson Learning. Inc. 2001.

Nassaji Hossein dan Sandra Fotos, *Teaching Grammar in Second Language Classroom* : Integrating Form-Focus Instruction in Communikative Context. New York: Routledge Taylor& Francis Group. 2011.

Ngalimun. *Strategi dan Model Pembelajaran Yogyakarta* : Aswaja Pressindo. 2014.

Okebukola, Peter Akinsola. Can Good Concept Mappers be Good Problem Solvers in Science? *Research in Science & Technological Education,*10 (2): 153-170. 1993.

Pizzini, E.L. dan Shepardson, A Comparison of the Classroom Dynamics of a Problem-Solving and Traditional Laboratory Model of Instruction Using Path Analysis. *Journal of Research in Science Teaching,*29 (3): 243-258. 1992.

Reigeluth, Charles M. dan Carr-Chelman Alison A. *Instructional–Design Theories and Models* :Building a Common Knowledge Base, New York: Taylor & Francis. Reigeluth, Charles M. dan Carr-Chelman Alison A. 2009. *Instructional–Design Theories and Models* :Building a Common Knowledge Base, New York: Taylor & Francis. 2009.

Schiller, Pam. *Start Smart*. Belesvile : Gripton House, Inc. 1999.

Syarif, Hermawati. 2014. "Grammatical Interference Patterns in the English Deparments Studens' Writing: Indonesian to English Grammar, " *Elxir Appl Ling*. 68.

Ur, Penny. *A Course in English Language Teaching*. Cambrige: Cambridge University Press. 2012.

Veit, Richard. *Discovering English Grammar*. Boston: Houghton Mifflin Company. 1986.