INFORMATION TO USERS

The most advanced technology has been used to photograph and reproduce this manuscript from the microfilm master. UMI films the text directly from the original or copy submitted. Thus, some thesis and dissertation copies are in typewriter face, while others may be from any type of computer printer.

The quality of this reproduction is dependent upon the quality of the copy submitted. Broken or indistinct print, colored or poor quality illustrations and photographs, print bleedthrough, substandard margins, and improper alignment can adversely affect reproduction.

In the unlikely event that the author did not send UMI a complete manuscript and there are missing pages, these will be noted. Also, if unauthorized copyright material had to be removed, a note will indicate the deletion.

Oversize materials (e.g., maps, drawings, charts) are reproduced by sectioning the original, beginning at the upper left-hand corner and continuing from left to right in equal sections with small overlaps. Each original is also photographed in one exposure and is included in reduced form at the back of the book.

Photographs included in the original manuscript have been reproduced xerographically in this copy. Higher quality 6" x 9" black and white photographic prints are available for any photographs or illustrations appearing in this copy for an additional charge. Contact UMI directly to order.

UMI
University Microfilms International
A Bell & Howell Information Company
300 North Zeeb Road, Ann Arbor, MI 48106-1346 USA
313-761-4700 800-521-0600
The effects of content complexity and transitions on programs of action in a high school classroom

Scarborough, Harriet Sheila Arzu, Ph.D.
The University of Arizona, 1990
THE EFFECTS OF CONTENT COMPLEXITY AND
TRANSITIONS ON PROGRAMS OF ACTION
IN A HIGH SCHOOL CLASSROOM

by
Harriet Sheila Arzu Scarborough

Copyright © Harriet Sheila Arzu Scarborough 1990

A Dissertation Submitted to the Faculty of the
DIVISION OF TEACHING AND TEACHER EDUCATION
In Partial Fulfillment of the Requirements
for the Degree of
DOCTOR OF PHILOSOPHY
WITH A MAJOR IN SECONDARY EDUCATION
In the Graduate College
THE UNIVERSITY OF ARIZONA

1990
As members of the Final Examination Committee, we certify that we have read the dissertation prepared by Harriet Sheila Arzu Scarborough entitled The Effects of Content Complexity and Transitions on Programs of Action in a High School Classroom and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

Kathy Carter 7-18-90
Walter Doyle 7-18-90
Wilbur Ames 7-18-90

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copy of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

Dissertation Director 7-18-90
STATEMENT BY AUTHOR

This dissertation has been submitted in partial fulfillment of requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this dissertation are allowable without special permission, provided that accurate acknowledgement of source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the copyright holder.

SIGNED: Harriet Scarborough
ACKNOWLEDGEMENT

An endeavour such as this does not evolve singlehandedly. Many people have touched my life making this work possible, and I would like to acknowledge a few of them.

I am indebted to my parents, Candido and Bernadette Arzu. Faced with the monumental task of rearing ten children, they were still able to provide a nurturing environment. As educators they instilled in me a love of learning and the discipline to pursue it.

I owe a debt of gratitude to Walter Doyle who as a member of my committee has been very accommodating and has exemplified the role of the good teacher. He did not provide me with, but guided me to the answers. Discussions with him led me to question.

Kathy Carter, my advisor, has guided this effort from its inception. Without her encouragement and guidance during the past three years, this work would not have come to fruition. Her enthusiasm and dedication to her work as teacher and researcher have made her a paragon to emulate.

I could not have undertaken such a consuming task without my husband Tom’s love, help, support, encouragement, and most of all, his patience. I am extremely grateful for his willingness and readiness to read and re-read multiple drafts of this work and to discuss emerging concepts. In addition, I thank him for his timely prods which kept me on task at critical times.

I dedicate this dissertation to Spencer and Jinx Giffords. They made me a part of their lives and provided me with the opportunity to pursue my love of learning. Through the years that I have known them they have been nothing but supportive and encouraging.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIST OF FIGURES</td>
<td>7</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>8</td>
</tr>
<tr>
<td><strong>Chapter</strong></td>
<td><strong>Page</strong></td>
</tr>
<tr>
<td>I. INTRODUCTION</td>
<td>10</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td></td>
</tr>
<tr>
<td>Purpose of the study</td>
<td></td>
</tr>
<tr>
<td>Background and Significance</td>
<td></td>
</tr>
<tr>
<td>Research Questions</td>
<td></td>
</tr>
<tr>
<td>Definition of Terms</td>
<td></td>
</tr>
<tr>
<td>Procedures</td>
<td></td>
</tr>
<tr>
<td>II. REVIEW OF LITERATURE</td>
<td>22</td>
</tr>
<tr>
<td>Introduction</td>
<td></td>
</tr>
<tr>
<td>Historical Background</td>
<td></td>
</tr>
<tr>
<td>Activity Segments</td>
<td></td>
</tr>
<tr>
<td>Programs of Action or Activity Vectors</td>
<td></td>
</tr>
<tr>
<td>Transitions and the Program of Action</td>
<td></td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>III. PROCEDURES FOR COLLECTION AND ANALYSIS OF DATA</td>
<td>53</td>
</tr>
<tr>
<td>Procedures for Collection of Data</td>
<td></td>
</tr>
<tr>
<td>Procedures for Analysis of Data</td>
<td></td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
<tr>
<td>IV. ANALYSIS OF DATA AND FINDINGS</td>
<td>65</td>
</tr>
<tr>
<td>The Setting and the Subjects</td>
<td></td>
</tr>
<tr>
<td>Managing the Curriculum</td>
<td></td>
</tr>
<tr>
<td>A Contrasting Case of Programs of Action Across Content Complexity</td>
<td></td>
</tr>
<tr>
<td>Related Factors in Managing the Curriculum</td>
<td></td>
</tr>
<tr>
<td>Summary</td>
<td></td>
</tr>
</tbody>
</table>
V. SUMMARY AND DISCUSSION .................. 147

Summary
Discussion
Implications of This Study
Suggestions for Future Research
General Comments

VI. APPENDICES

A - ACTIVITY SUMMARY .................. 164
B - INTERVIEW QUESTIONS ............... 168
C - MR. LINO'S CLASSROOM ............. 169
D - SEMANTIC MAPS OF PROGRAM ...... 170
    OF ACTION

REFERENCES ................................... 180
**LIST OF FIGURES**

<table>
<thead>
<tr>
<th>Figure</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program of Action in a Lecture Activity</td>
<td>171</td>
</tr>
<tr>
<td>2. Writing</td>
<td>172</td>
</tr>
<tr>
<td>3. Vocabulary</td>
<td>173</td>
</tr>
<tr>
<td>4. Literature</td>
<td>174</td>
</tr>
<tr>
<td>5. Grammar</td>
<td>175</td>
</tr>
<tr>
<td>6. <em>The Odyssey</em> Quiz and Quiz Review</td>
<td>176</td>
</tr>
<tr>
<td>7. Lecture on <em>The Odyssey</em></td>
<td>177</td>
</tr>
<tr>
<td>8. Antigone Quiz and Quiz Review</td>
<td>178</td>
</tr>
<tr>
<td>9. Lecture on Antigone</td>
<td>179</td>
</tr>
</tbody>
</table>
ABSTRACT

The purpose of this study was to examine the program of action of activities under the conditions of transition and content complexity. The path of the program of action was explored through a number of classroom activities in the areas of writing, literature, vocabulary, and grammar. In particular the configuration and the management of the program of action were examined to determine what was done by classroom inhabitants to guide and protect the program of action of activities.

The setting of the study was a freshman honors English class in a southwest urban high school. The teacher was identified as an able manager, a factor that was expected to limit the competing vectors that might be triggered by discipline problems.

Observations of the class were done over ten weeks or a quarter of the school year. The third period class was observed daily, and a total of forty activities were observed. Narrative records of these activities were gathered and analyzed.

Data analysis was done over a period of seven months. A quantitative summary of the activities showing activity types and time devoted to each activity type was compiled. The activity summaries
were scanned to note emerging patterns. Programs of action of each activity type were mapped to illustrate the configuration and maintenance of the programs of action and the emergence and handling of competing vectors. The final phase of the analysis was the comparison of programs of action across two levels of content complexity.

Findings showed that the life of the program of action in classrooms varied according to activity type. The teacher emerged as the controller of action as illustrated by his choice of content presentation modes and activities.

The comparison of programs of action of activities across content complexity showed that students participated more in the maintenance and sustenance of the program of action in activities in which the content was less complex than they did in activities with more complex content. Furthermore, when the content was more complex, the teacher's control of the maintenance of the program of action was more apparent.

The length of transitions was found to impact negatively the subsequent program of action. On the other hand, lengthy opening activities emerged as contributors to the maintenance of programs of action.
CHAPTER I

INTRODUCTION

Statement of Problem

Too often efforts to understand classroom phenomena stop with an examination of surface features such as the results of standardized achievement tests, the frequency and quality of a teacher's desists, and the frequency of student disruptive behavior. Such efforts that ignore the ecology of the classroom and other factors that impact on teacher-student interactions can yield only minimal understanding. Such efforts cannot approximate a complete understanding of classroom events if these events are not studied in context, if the components of these events are not examined, and if the end result is a perception of teaching as simply skill enactment and not as an intellectual activity.

A major component of teaching in classroom is the creation and maintenance of efficient work systems. These work systems consist of activities that organize students for working, and rules and procedures which spell out actions for routine events (Carter, 1988). To understand the infrastructure of these work systems, one needs to look at a major component, the activity. An activity can be defined
as a bounded segment of time having an identifiable concern or focus and a program of action (Gump, 1982). Programs of action are vectors that define the stream of behavior attendant to a particular activity. In this study, the terms program of action and vector will be used interchangeably. In any classroom situation the program of action gets shaped and is pulled in different directions by events in the classroom. These events may be non-instructional occurrences such as transitions, or competing vectors which result from the tension that exists in the balancing of management and instruction, and/or from the tension manifested in the handling of content complexity.

An important dimension of the program of action in classrooms is academic work. The type of academic work determines the likelihood of student cooperation and involvement in a lesson, thereby compounding the management task of the teacher (Doyle, 1986). The academic tasks students are asked to accomplish in the classroom are characterized by ambiguity and risk (Doyle and Carter, 1984). Ambiguity refers to "the extent to which a precise answer can be defined in advance or a precise formula for generating an answer is available" (Doyle, 1983 p. 183). Risk refers to the stringency of the evaluation
criteria and the likelihood that these criteria can be met on a given occasion (Doyle and Carter, 1984). Students deal with this problem by negotiating with the teacher, a practice which at times may cause management problems or may force the teacher to proceduralize the curriculum. The behaviors of the students and the teacher in dealing with the complexity of the content are manifested in the shape and direction that the primary vector or program of action assumes. Two major functions of the teacher are directing the course of the stream of behavior that represents the program of action, and seeing it through completion with minimal interruptions and deviations. What the teacher does over time to guide the program of action and to protect it will be the focus of this study.

Purpose of the Study

The purpose of the study is to examine how programs of action or vectors in a classroom are affected by content complexity and transitions, and to investigate methods employed by the teacher to direct the course of the primary program of action and to prevent its disruption and deviation.
Background and Significance

In trying to increase knowledge and understanding of the classroom, researchers have looked at what is occurring in that setting and primarily what teachers do when they teach. Doyle (1988) has noted that the teacher's work in the classroom can be labeled as curriculum enactment. Curriculum enactment is the process by which content is transformed for classroom use and such a process in operation includes not only content, but also pedagogical processes and management of classroom action systems. When curriculum enactment is studied, the focus is on two areas: the processes involved in bringing the curriculum to the classroom and the factors that push the curriculum around and hold it in place during classroom events (Doyle, 1988). These factors will be the focus of this study.

For quite some time the prevalent notion was that classroom management meant the quality of a teacher's desists; that is the teacher's actions to stop misbehavior. But Kounin's (1970) ecological studies have led to the idea that classroom management is problem prevention. Other researchers have taken this idea a step forward by establishing that order in the classroom rests on the activity implemented within a classroom situation (Doyle, 1986; Kounin and Gump,
1974; Arlin, 1979). More specifically, Doyle (1986) pointed out that order is defined by the programs of action or vectors embedded in classroom activities. Programs of action have direction, momentum, and energy, and pull events and participants along their course (Doyle, 1986).

In the orchestrating of classroom activities, it is important to note that the forms of a particular lesson is jointly negotiating and constructed by students and the teacher. The teacher's management prowess, therefore, rests on how effectively he/she can usher along particular programs of action, protecting and guiding them from other competing vectors. Studies of effectiveness in classroom management have delineated the importance of establishing and maintaining efficient activity systems (Kounin, 1970; Kounin and Gump, 1974; Arlin, 1979; Emmer and Evertson, 1981). These studies have also emphasized the effective management practice of teaching directly the procedures and routines associated with different activities. These studies, however, have concentrated on the characteristics of effectively managed classrooms rather than on how this effectiveness is established and sustained over time (Doyle, 1986). An examination of how the programs of action within activities are maintained
and shaped over time should contribute significantly to the growing body of classroom knowledge.

Arlin (1979) suggested that transitions might serve as a barometer of the general classroom atmosphere. Transitions can be defined as points during the social interaction when context changes (Doyle, 1986). More specifically, transitions in the classroom are those periods of time when one activity has ended, and participants await the initiation of the next activity. Doyle (1986) differentiates between minor and major transitions. Minor transitions occur between speaking turns, and major transitions between activities, phases of a lesson, between lessons, and between class meetings. Because the quality of a transition determines the pace and tone of subsequent class segments (Arlin, 1979), and because it is fertile ground for disruptive behavior—a period of time when there might be nothing to do, time spent waiting for the next directive while the teacher's attention is not focused on the students—a look at transitions is necessary in a study that focuses on the management of activity systems.

The unique properties of a classroom—its multidimensionality, simultaneity, immediacy, unpredictability, publicness, and its history (Doyle, 1977)—make it a complex environment. Add to that the special
attribute of the secondary classroom, the 55-minute class period, and classroom management takes on another dimension. Doyle (1984) found that a problematic area for the secondary level teacher was fitting activities into 55-minute sessions. The session communicates a certain urgency to make good use of limited, bounded time, and at the same time provide multiple, varied activities that will hold students' attention. The nature of the secondary level class period has direct bearing on classroom management.

Arlin (1979) believes that it is not feasible or profitable to study transitions at the secondary level because of the relative homogeneity of activities during a single class period. However, this may not hold true across all high school classes. Given the limited nature of the bounded class session and the recent practice of some secondary schools to extend some class periods to an hour and a half, transitions within this setting merit some attention.

Doyle (1986) has also noted the dearth of management research that incorporates information about academic work accomplished by teachers and students in classrooms. He points to the necessity of this type of research because of the tension between management and instruction. This tension has significant implications for order and achievement and,
therefore, as a topic of research deserves priority. An examination of the management of programs of action and the factors influencing them is a study that looks closely at this tension and also at the enactment of classroom contexts over time.

Research Questions

This study seeks to answer the following research questions:

1. How is the primary vector affected by the complexity of content? What happens to the program of action under the following activity conditions:
   a. High in ambiguity, low in risk?
   b. Low in ambiguity, high in risk?
   c. Low in ambiguity, low in risk?
   d. High in ambiguity, high in risk?

2. How is the primary vectors protected from other vectors that might arise within the classroom?
   a. What actions does the teacher take to protect the primary vector from competing vectors?
   b. What actions do students take to protect the primary vector from competing vectors?
   c. Are there ways to categorize these actions?
d. What teacher and student actions give rise to other vectors?

3. What effect do transitions have on the program of action?
   a. What behaviors of students during transitions affect the subsequent program of action?
   b. What behaviors of the teacher during transitions affect the subsequent program of action?

Definition of Terms

In order to provide clarity, the following terms are defined:

**Program of action or vector:** The action taken to achieve the goal of an activity. These vectors have slots and sequences for participants' behavior as well as direction, momentum, and energy. They pull events and participants along their course. Programs of action have a social participation dimension which defines rules for interacting in the complex and crowded classroom environment, as well as an academic work dimension that serves as the vehicle for lessons (Doyle, 1986).
a. **Primary vector:** The program of action put into place generally by the teacher and which is expected to occupy the classroom subjects.

b. **Competing vector:** A program of action materializing in the classroom which threatens the life of the primary vector.

**Transitions:** The period demarcated by teacher signals to students to end one activity and begin another. Transitions are also points during the social interactions when context changes. Major transitions occur between activities, phases of a lesson, between lessons, and between class meetings. Minor transitions occur between speaking turns (Doyle, 1986).

**Activity:** A bounded segment of class time that has an action structure, a physical milieu (physical arrangement), a fit between the action structure and the milieu, and spatial and temporal boundaries (Gump, 1982). Classroom activities are commonly labeled according to seating arrangement (seatwork, small group discussions, whole-class presentations) and by content (art, reading, spelling). Activities are identified by their duration, the physical space in which they occur, the type and number of students, the props and resources used, and the expected behavior of teachers and students (Doyle, 1984).
Academic tasks: That which students are required to accomplish with subject matter. An academic task is composed of a product, operations to produce the product, resources with which to produce the product, and significance in the accountability systems of a class (Doyle and Carter, 1984; Doyle, 1987). Academic tasks are characterized by ambiguity and risk.

a. Ambiguity: The extent to which a precise answer can be defined in advance, or a precise formula for generating an answer is available (Doyle, 1983; Doyle and Carter, 1984).

b. Risk: How closely the criteria set up for a particular task is adhered to, and the likelihood of the accomplishment of that task within the set time limit (Doyle & Carter, 1984).

Narrative record: A written account of the events observed in a particular situation.

Procedures

A ninth grade honors English class was observed for this study. Data collection procedure included both formal observation and interviews. The class was observed for a period of ten weeks through two units of contrasting complexity. Focused observation (Spradley, 1980) was used to gather data, and a
descriptive system was used to record a narrative of the classroom events. Analysis of the data consisted of mapping the actions that maintained and protected programs of action on a continuing basis.
CHAPTER II

REVIEW OF LITERATURE

Introduction

Classroom management encompasses all the strategies, props, and routines a teacher employs to achieve and sustain order in the classroom. It is central to the task of teaching. Doyle and Carter (1984) see solving the problem of order as gaining and maintaining the cooperation of students in instructional activities. Cooperation is a key component because of the group nature of classroom learning.

Over the years the perception of classroom management has changed from one of discipline (reactive teacher behavior), to one of problem prevention (proactive teacher behavior). With the change in perception came the growing realization of the importance of classroom management. Management skills are, according to Kounin (1970), necessary tools which enable the teacher to accomplish teaching goals. Their absence has short term as well as long term consequences for classroom learning. In the classroom of an ineffective manager, instruction suffers (Evertson, 1985). Sanford (1984)
a poorly managed classroom. If students are not involved with academic tasks, then very little learning can take place.

Historical Background

The search for knowledge about classroom management has been an evolution of sorts, shifting from a focus on desists or the teacher' reaction to disruptive behavior, to a focus on problem prevention, or more broadly, from a focus on discipline to a focus on creating a learning environment for students. A concentration on particularistic behavior has given way to an ecological outlook which considers the whole classroom context. The purpose driving inquiry in the field of classroom management is also evolving. A focus on the identification and comparison of successful and unsuccessful manager attributes is giving way to a search for the most feasible way of understanding and imparting the reasons for classroom managerial decisions.

Kounin's (1970) study of first and second grade classrooms can be considered the seminal work in classroom management. In this study, each classroom was videotaped for a full day. The behavior of selected children was coded for work involvement and deviancy every twelve seconds during student
recitation and seatwork. Teacher behaviors were scored on six variables: with-it-ness, which characterizes the degree to which a teacher is aware and communicates awareness of student behavior; overlapping, the ability to attend to more than one event or issue at a time; smoothness, the ability to move through a lesson without interrupting the sequence; momentum, being able to sustain students' interest in the lesson without any slow downs; group alerting, the teacher's efforts to keep students attentive and with the group; variety and challenge in seatwork, providing tasks that are familiar and easy enough to ensure high levels of success, but challenging and varied enough to maintain interest and motivation.

Kounin used each of the teacher variables as predictors of each of two student behaviors (work involvement and freedom from deviancy) in both recitation and seatwork activities. He found that a teacher's success in classroom management, as indicated by high levels of student work involvement and low levels of disruption, depended on their possession of the teacher variables outlined above, as evidenced by the teacher's ability to monitor and guide a complex classroom system. These variables
were used in later studies on classroom management (Arlin, 1979; Emmer and Evertson, 1981).

Kounin's work is significant in four areas: (a) He shifted attention from discipline techniques to managerial skills. (b) He shifted attention from a focus on individual behavior to a group focus. (c) The teacher managerial variables identified provide a language that captures the dynamics of classroom processes, and (d) he brought to research an ecological framework that focused on the distinctive properties of the classroom and the demanding process of forging a relationship in such an environment.

Building on Kounin's work, Doyle (1979) ascribed the following attributes to the complex classroom environment: (a) Simultaneity - many things in the classroom happen at once; (b) multi-dimensionality - many different tasks and events in the classroom will have differing effects on the students; (c) unpredictability - it is difficult to anticipate everything that might happen; (d) immediacy - some things have to be attended to at once; the classroom's pace is rapid; (e) publicness - what happens in the classroom can be visible to all participants, and (f) history - the classroom contains an accumulation of experiences, routines, and norms, and this accumulation sets the stage for subsequent classroom
events. In such a setting a teacher has the task of securing students' cooperation so that task involvement is possible.

Management studies conducted at the Texas Research and Development Center have greatly contributed to knowledge about classroom management and organization. Specifically, these studies identified general principles and skills that appear to be important in managing classrooms (Sanford, 1984), and explored the ways effective managers established well-run, stimulating, and task-oriented setting from the first day of school (Evertson, 1987). More effective managers are found to spend considerable time at the beginning of the school year teaching students the procedures and routines of the classroom. They possessed effective instructional and communication skills, they monitored student behavior carefully, and they stopped disruptive behavior quickly (Emmer and Evertson, 1981; Evertson, 1987; Sanford, 1984). Formulating and establishing workable routines and procedures had to be accomplished early in the year, and the way these routines and procedures were structured had consequences for classroom management throughout the school year. The findings from these studies were used to train teachers extensively in effective classroom management
techniques (Sanford, 1984; Evertson, 1987; Good and Brophy, 1987), for the purpose of improving student involvement in classroom activities, and thereby improving achievement.

Evertson (1985) showed that effective management techniques can be taught to a number of teachers by local staff development personnel for the purpose of enhancing student task involvement. Several experts have indicated that successful classroom management is associated with student achievement gains (Good and Brophy, 1987; Evertson and Emmer, 1982). Therefore, the push has been to use the findings of research on classroom management to train teachers to be effective managers. Indeed, the notion exists that these characteristics of good managers—establishing and consistently using workable comprehensive procedures and rules, monitoring student work and behavior closely, dealing with inappropriate behavior quickly and consistently, communicating directions and instructions clearly, and organizing and pacing instruction so events flow smoothly (Sanford, 1984)—make for a seemingly simple prescription that can be used to help improve an unsuccessful manager or to help a beginning teacher. These studies, however, have been problematic in that like most process-product research, their purpose has
chiefly been prescriptive, and the view of the classroom communicated is that of an inert, immobile space in which management pillars can be erected. Once these pillars (establishing routines, intervening at the appropriate time, monitoring student work, etc.) are in place, the problem of management is solved, and instruction is smooth sailing. Forgotten in this scenario is the delicate balance between management and instruction and the power of the classroom activity to determine student cooperation and thereby set the tone for classroom management.

Activity Segments

In studying management, Gump (1982) recommends beginning with segments because they are relatively "natural" sections of the classroom's environment, and they function as contexts for more particular aspects of teacher and student action. Segments are activities such as lessons, opening routines, transitions, housekeeping sessions, etc. Each segment is characterized as having a concern or goal (Ross, 1984), an action structure (program of action), a physical milieu (physical arrangement), a fit between the action structure and the milieu, and spatial and temporal boundaries. Because the behavior of teachers and students is significantly related to the
activity pattern of segments, the segment is an ideal area for behavior management study.

The management task has been seen as one of securing and maintaining students' cooperation in educative activities that fit available time (Carter, 1988). Successful teaching is, therefore, dependent on the system of activities set up in the classroom. This premise posits the activity as a fundamental unit of classroom life. An activity is a "bounded segment of classroom time characterized by an identifiable focal content or concern and a pattern or program of action" (Gump, 1982).

Research has tried to relate the behavior of teacher and students to the type of activity being conducted. In his 1969 study, Gump analyzed a third grade classroom and found that externally paced group activities had the highest degree of student involvement followed by total class activities, and self-paced activities. An explanation for this finding is that when the input of stimuli is active, as in recitations and tests, students are pulled along through the work. But when materials are passively available as in seatwork, pacing and involvement depend on internal signals (motivation) and those derived from interaction with passive external objects and events (Gump, 1982).
Kounin and Gump's (1974) study on signal systems provides an explanation for the differential student involvement in activity types. In their study, they investigated the relationship between properties of a lesson and the behavior of the students. The dependent variable was the percentage of off-task behavior and the independent variables were lesson types as described in signal system terms. Signal systems are external cues that stimulate students' situational behavior. In teacher-led activities the signals to students were continuous and students were insulated from other programs of action. Therefore, there was a higher level of student task involvement. Activities with low student involvement were lessons with high intrusiveness such as music or movement lessons, or seatwork. In seatwork, in particular, unless work was very structured, students' attention was more easily diverted because the teacher did not have much control over the cues. The success of a lesson, therefore, was related to delivery of signals which supported appropriate behavior and prevention of inputs which might encourage inappropriate behavior.
Activities at the Secondary Level

Most of the research investigating the management of activities have been done at the elementary level. Exceptions are the work of Doyle and Carter (1984) and Doyle (1984), both of which explored the management of activities at the junior high level. The findings have some implications for the study of teaching at the secondary level, a level with its own unique attributes.

It is difficult to view classroom management as an entity separate from instruction. The results of the junior high management studies at the Texas Research and Development Center showed that the manner in which instruction is organized and presented is directly related to levels of student cooperation and task engagement (Sanford, 1984). Doyle (1986) adds that the nature of academic work influences the probability of student cooperation and task involvement and contributes to the complexity of the teacher's management tasks. The decisions teachers make to maintain order affect what students learn, and student reactions to academic tasks create pressures on the management system. As a result teachers may simplify task demand and/or lower the risk for mistakes (Doyle and Carter, 1984).
In their study of three English classes, Doyle and Carter (1984) examined the structure of academic work in classrooms. This study was built around Doyle's framework for integrating the managerial and academic dimensions of classroom life. Classroom tasks are a central component of this framework. Tasks are the medium through which curriculum content is translated into a classroom event. An academic task has the following elements: (a) a product or goal, (b) operations to produce the product, (c) resources, and (d) the significance or "weight" of a task in the accountability systems of a class. Students experience the curriculum through the tasks they are required to do with subject matter.

Teachers and students have a marked influence on curriculum. Teachers influence the curriculum by the selection and design of particular topics, by the emphasis which these topics receive in the classroom, by the metaphors and analogies used to explain the content, by reactions to students' questions and answers, and by the tasks assigned to students. Students shape the curriculum by the direct and indirect pressures which they place on teachers in getting their work accomplished (Doyle, 1988).

Academic tasks are characterized by ambiguity and risk (Doyle, 1983). Ambiguity refers to the
extent to which a precise and predictable formula for generating a product can be defined. Risk refers to the stringency of the evaluation criteria and the likelihood that these criteria can be met on a given occasion. A writing assignment in an English class is high in ambiguity because the precise answer cannot be specified. Memorizing the meanings of fifty vocabulary words is low in ambiguity but a high risk assignment because students are being asked to reproduce answers, but the amount of the memorization may prove unwieldy.

In their study, Doyle and Carter (1984) found that tasks high in risk and ambiguity were accompanied by delays and interruptions caused by the students' efforts to reduce their complexity. As management of time and activities became threatened, the teacher employed actions that greatly reduced the risk associated with the assignments. The teacher reacted to management demands by adjusting the requirements for academic work. With algorithmic tasks management problems were greatly reduced. Teacher may, therefore, proceduralize subject matter to satisfy management needs. Both student and teacher actions in managing ambiguity and risk will affect the quality of academic work and thereby
increase the complexity of the teacher's management task.

Doyle's (1984) analysis of management data from the Texas Research and Development Studies yielded further insight into management functions. Attributes of successful managers had been identified (Kounin, 1970; Emmer and Evertson, 1981); however, how teachers achieved and sustained this effectiveness over long periods of time remained a question. Instead of focusing on teacher characteristics, Doyle took Gump's (1982) work a step further by focusing on mapping the requirements of activities over a period of time to establish what teachers needed to know to achieve and sustain order in classrooms. In this study, then, the focus of analysis was the activity, not teacher behavior.

The significance of this study is that it focused attention on the management of activities at the secondary level. Previous studies of activities had been done at the elementary level where class time is allocated in relatively large blocks, and it is the teacher who decides how to segment these blocks into activity units. At the secondary level, because sessions are usually 55 minutes long, there is an additional constraint on the teacher to schedule and pace segments to fit the available time. Doyle (1984)
calls this a class session effect. He found that teachers sometimes had difficulty fitting activities into the time constraints of the single class session. In selecting and arranging activities, a teacher must account for the time constraints and natural rhythms of individual sessions.

Doyle (1984) also reports a blurring of activity boundaries in his study of activities at the secondary level. Whole class presentations were usually introductions to specific seat work assignments. Most segments were a mixture of lecture, questions, and oral exercises or examples, communicating the sense that the different activities did not function independently, but worked jointly as a unit to make use of session time.

Programs of Action or Activity Vectors

Doyle's (1984) study yielded insight into the concept of the program of action or the vector of activity. To better understand the notion of program of action, one needs to visualize the class session as a large outer circle. Within the class session circle is a smaller circle denoting the lesson; within the lesson circle is a smaller circle designating the activity segment, and a tiny circle within the activity segment is the program of action. The program of
action represents the action pattern of an activity, and is the seat of management control.

Programs of actions are vectors which define how a segment operates. Gump (1969) identifies the following five dimensions that characterize the program of action: (1) the nature of teacher participation in the activity, (2) the grouping of students, (3) the prescribed action relationship between students, (4) the kinds of action taken by students, and (5) the way in which student action is paced. Numerous studies (Bossert, 1977; Gump, 1969 & 1982; Kounin, 1970, and Kounin & Gump, 1974) have found that in elementary classrooms, the behavior of teachers and students is significantly related to the activity pattern of segments.

In identifying and analyzing activities, Doyle (1984) was able to describe classrooms in a manner which respects their structure and internal differentiation. By tracking how a number of teachers in a variety of classes establish and maintain activities, Doyle's finding that successful managers protect activities until they are established by actively ushering them along, focusing public attention on work, and ignoring misbehavior that disrupted the rhythm and flow of events, points to the importance of the program of action or the activity vector. In
ushering activities along, what is really being protected is the program of action. The program of action is the backbone of activities, yet it is delicate in that unless protected, it can get molded and distorted so that an activity does not achieve its prescribed goals.

In another study, Gump (1982) showed more teacher reprimands and a higher level of student involvement in teacher-led activities than in student-led activities. This difference was attributed to the distinct program of action inherent in each activity. In teacher-led activities the teacher used reprimands to keep students involved and to shelter the program of action from intrusion. In student-led activities fewer reprimands meant that the teacher may not have been as vigilant in keeping the students involved; therefore the program of action was not as protected. It would appear, then, that in trying to decipher how activities are managed in classrooms, one must look past the activities to the activities' programs of action.

The five dimensions of the program of action outlined above can be used to illustrate the role of vectors in the operation of simultaneous activity segments. These types of segments generally occur at the elementary level where a teacher might work with
a reading group while the rest of the class is involved with seatwork or other activities. Visualize a fourth grade classroom where, at the moment, the teacher's role would be to engage the students' interest in reading a story, to check their understanding, and to ensure that the students doing seat work are following the program of action of the seat work activity which might be either doing math problems or supplying the right words for a workbook assignment. The reading group may consist of 6 to 8 students with the other 17 to 19 students seated at tables or desks. The students in the reading group may each be required to read a paragraph orally, follow quietly when it is not their turn, and respond one at a time when the teacher asks a comprehension check question. The students doing seatwork may be required to do the assignments alone and quietly, and to not disturb the teacher. A breakdown in any one of these dimensions can result in management problems.

Gump (1982) reports that a potential problem might occur when teachers are pressed to act in two different segments at the same time. They are put in an overlapping situation where not only must they process information from two sources, they are also urged to act in two directions. This is a challenging
managerial problem since acting appropriately toward one situation can conflict with acting adequately toward the other. Investigating problems with seatwork takes the teacher's attention away from the reading group which is dependent on continuous teacher input. The result is a loss of student involvement.

Program of Action and Student Behavior

Several researchers (Cazden, 1986; Merritt, 1982; Eder, 1982; Erickson, 1982) have provided insight into how students affect and are affected by activity vectors. Erickson (1982) attests that mistakes in terms of the social participation structures, that structure which defines parameters for participating in a lesson, can damage the academic task structure (activity vector). Because of this, he considers lessons as speech events characterized by the presence of frequent cognitive and interactional troubles and repair work. The troubles and repair work would appear to be manifested in the sustenance and maintenance of the primary activity vector.

Cazden (1986) illustrates the orchestrating of vectors in a lesson. Within a recitation activity student answers are essential for the progress of the lesson, and yet the expected answer is rarely obvious.
The ambiguity that results breaks the vector of activity providing fertile ground for testing hypotheses about the participation structure. This testing is what distorts the primary vector or may give rise to competing vectors resulting in managerial problems.

Cazden (1986) points out two ways in which teachers maintain the program of action in a question/answer sequence. Preformulating is one way. In preformulating, teachers preface a question that needs to be answered with some utterances which should orient students to the relevant area of experience needed to answer the question. Another way is reformulating. Here, the teacher tries to make the question more specific when the initial answer is wrong. The downside, however, is that making questions too specific can proceduralize the lesson.

Students adapt to what Erickson (1982) terms the social participation structure of a classroom. The social participation structure shows how all the roles of all the participants in an instructional event are configured. For example, students learn to initiate new topics only at certain junctures in the lesson.

Eder (1982) found a discrepancy in the maintenance of vectors in low and high ability groups. Students in low ability groups were allowed to
interrupt the primary vector more frequently than
were students in high ability groups. The result was
that students learned differential communicative norms
which impacted their potential for academic success.
Students in high ability groups were not allowed to
interrupt the primary vector as frequently.
Consequently, they learned to bring up comments
during appropriate junctures, for example, after
reading turns. Thus, the high ability group had more
frequent and longer discussions.

Merritt (1982) looked at vectors from the
perspectives of educational efficacy and educational
equity. In an analysis of 450 half hours of audio and
videotapes of ten elementary classrooms, she found
that behaviorally adaptive communication patterns that
people take for granted may not be universal. In
other words, becoming involved in two or more
vectors may be alien to some cultures. Other findings
were: (a) Children considered unable to work
independently may just be unable to become absorbed
in independent tasks in a classroom with several other
children. Therefore, these children may need help in
becoming good students. (b) The notions of attention
and participation are inherently complex and
interrelated. Teachers are incipient participants in all
instructional vectors of activity, whereas each student
has very limited participatory rights in other students' activities. (c) A critical concern for the issue of educational efficacy is how effectively an interrupted participant returns to the interrupted vector of activity, and an unexplored issue is how students learn to return to interrupted activities. How quickly students return to their work and what facilitates this return is worthy of exploration.

As interesting and informative as these research findings are, there are some weaknesses. All of this research has been done in conjunction with an exploration of the communicative aspect of the classroom. As relevant as that aspect is, it is not the whole picture. Communication is but one dimension of the classroom environment, and focusing on a corner of the classroom environment leaves the rest under-represented.

Another problem is the setting of this research. Most of it has been done at the elementary level, generally in the early grades. This is understandable because the early years are rich sources for the exploration of students' conditioning into the classroom system and their language development. Some of the research has also been done within the setting of individualized instruction. As enlightening as the research findings have been, there is a need to
broaden the focus to all aspects of the classroom environment, and to include a variety of grade levels as settings for research on vectors.

Transitions and the Program of Action

Transitions have a tendency to disrupt time flow. Because of this tendency, the management of transition segments could potentially influence subsequent programs of action or vectors. An exploration of the effects of transitions, and the reasons for these effects, on subsequent vectors could increase knowledge in the area of classroom management and organization.

Transitions, which occur between activities, are seen as important factors in effecting order (Doyle, 1986). Arlin's (1979) study on transitions has contributed to the increase of knowledge in the area of classroom management. He defines transitions as directions from the teacher to students to end one activity and start another. Gump (1982) assigns three phases to transitions: the closeout of the first segment, some kind of physical or mental "moving over", and an entering into the second segment. Transitions involve a change in the segment concern and in the orientation of teachers. In some cases,
they may require a change in objects, physical location, behavior mode, and personnel (Gump, 1982).

One effect of transitions is a loss of activity momentum. Kounin and Gump (1974) described two teacher behaviors at transition that can affect momentum. One such behavior is a "dangle." Students are left to "dangle" when a teacher starts a transition and then gets caught up in another matter causing her to leave the initial line of action. A "flip-flop" occurs when the teacher ends one activity, begins another, then resumes the first activity. Such behaviors deter the forward progress within transition periods.

Teachers and students have differential effects on transitions, and the effect of such behaviors can result in managerial problems. Teachers' behavior-corrective activity has been noted to increase at transitions (Gump, 1982). Teachers also deal with students on a one to one basis much more frequently during transitions between segments than during the segments themselves.

Students change their behavior during transitions. Arlin (1979) found that off-task behavior in transitions was almost double the rate occurring in non-transition activities. The off-task behavior may be due to numerous factors. There may be problems
removing students from the interests and actions of the first segment. The structure that deterred disruptive behavior during the first segment may be lost. Without a second structure, students are free to do what they will. A third factor is that students see the transition period as a time to deal with problems and tensions that have been saved up from the first segment. Another problem is sometimes delay in beginning the next segment. Delay in starting the second segment is much more often responsible for excessive transition time than the logistics of moving materials and students (Gump, 1982). Structuring transitions, then, becomes important if valuable educational time is not to be squandered.

Arlin (1979) found that structured transitions had less disruption than unstructured ones; in fact, there was no significant difference between structured transitions and non-transitional periods. In a structured transition procedures of transitions are present: a statement of how soon the first segment will end, some kind of closure of the first segment, and a procedure or routine for managing objects or moving across space, etc. The structured transition guides behavior so that there is no loss of momentum.
Arlin contends that because transitions serve as barometers of the management condition of a particular class, the study of transitions is useful. He applied Kounin's (1970) notions of momentum, smoothness, and signal continuity to the study of transitions. He found that like lessons, transitions with the least student disruptions were characterized by smoothness, momentum, and signal continuity. In effect, these transitions had minimal extraneous interruptions from the teachers; the momentum of one activity was stopped before beginning another, and students knew what was expected of them as they were well schooled in the particular transitional behavior. The management of transitions is of particular importance because understanding what facilitates and retards them can help maintain classroom momentum and avoid loss of valuable educational time (Gump, 1982).

It was previously assumed that teachers' decisions about transitions were made in an effort to maximize learning. But Doyle (1979) suggests that these decisions about the timing of transitions are made in accordance with group cooperation. In other words, the demands of the classroom force the teacher to end an activity or to let an activity continue. Arlin (1979) asserts that a transition made
with an appropriate steering criterion group should sustain a smooth flow of time within and between lessons. A steering criterion group is a group of students, usually at the 25th percentile, whose attention the teacher uses to shift to a new topic or to a new chapter. If the criterion group is too low, students may become bored waiting for other students. If the criterion group is too high, the transition may come too soon for most of the students. These students may become frustrated because of their inability to achieve closure of the first activity segment and focus on the new activity. Transitions not based on appropriate steering group criterion may be characterized by considerable student disruptions and off task behavior. A knowledge of classroom contexts, therefore, is imperative to understand such managerial decisions made by classroom teachers.

Program of Action and Innovation

Managing the program of action can also serve as a deterrent to innovation. Olson and Eaton (1987) found in their study of how teachers incorporated computer use into their classroom, that computer use necessitated "user friendly" software which would permit the teacher to operate simultaneous class segments. Because the software did not provide input
stimuli, students had difficulty working on their own. The result was an interruption of the main vector. Olson and Eaton (1987) suggested that if an innovation can fit into existing routines, in other words, its implementation does not give rise to competing and novel vectors, then it will be successful. An example is that for the teachers in the study, launching and sustaining drill and practice activities at the computer did not strain existing routines; therefore, incorporating elements of innovation within familiar activities of well-established routines is an important consideration.

This has certain implications for staff development programs. Perhaps what prevents teachers from taking ownership of, and internalizing a new idea is their inability to fit the program of action of activities into exiting routines and procedures.

**Program of Action and Teacher Classroom Knowledge**

Classroom knowledge is a body of organized conceptions grounded in the common experience of classroom events. This knowledge, which enables the teacher to navigate within a classroom setting, can be explored from two perspectives: (a) how the demands of the environment impact the thoughts and actions of participants, and (b) the organization of this
knowledge and the comprehension processes by which the knowledge is connected to on-going events in the environment.

From her review of research on classroom knowledge, Carter (1990) concludes that differences in teachers' disciplinary knowledge, background, experiences, and orientations have a significant impact on how teachers organize instruction and represent the substance of the curriculum to students. Could this knowledge, therefore, be the basis for teacher decisions and behavior in the management of programs of action?

Wilkes' (1989) notion of classroom themes falls in this category. She defines themes as tacit, implicit constructs negotiated into activities until they become indistinguishable from the fabric of the classroom itself. Her research focused on how teachers directed the attention of their students on classroom tasks without being distracted by classroom complexity. Her investigation led her to see emerging themes which gave direction and meaning to the complexity of teaching. Teachers made sense of the classroom by relying on themes. Three themes that surfaced in her investigation of a fourth grade classroom were physical growth, high level of ability, and creating an atmosphere of acceptance. These themes permeated
the teacher's conversations about her work and her interaction with her students.

A more thorough investigation of the relationship of teacher classroom knowledge and activity vectors or programs of action would add another dimension to understanding the way vectors are handled within an activity. What in a teacher's implicit theories causes her to deviate from the program of action at that particular juncture, by that particular question, asked by that particular student? What beliefs or themes does the teacher hold that makes it easy/hard for her to move in and out of vectors? These questions bear investigation, and their answers could add to the knowledge about life in the classroom.

Summary

This review traces the evolution of knowledge in classroom management beginning with Kounin's (1970) pivotal work which shifted focus from discipline to problem prevention to the current quest for a deeper understanding of teachers' managerial decisions. Studies have identified variables of successful and unsuccessful managers, investigated such classroom components as transitions, examined the role of activities in influencing managerial decisions, and emphasized the tremendous task teachers have of
maintaining a learning atmosphere in such a complex environment. Research has also provided evidence of the constant struggle teachers have in balancing management, curriculum, and instruction, and the consequences of sacrificing one for the other.

From this body of research has emerged the notion that for deeper understanding of the management of the curriculum one needs to look at the program of action or vectors because as Doyle (1986) asserts, "Order is defined by the programs of action embedded in classroom activities" (p. 403).

Research has pointed to the power and vulnerability of the program of action. It can not only deter innovations and determine behavior, but also be shaped and distorted as students and teacher negotiate and construct classroom reality.

Finally, the research findings on vectors or programs of action point to other areas that need exploring. The actual effects of teacher classroom knowledge on the program of action are not fully documented. Transitions have been shown to use up instruction time, but their effect on subsequent programs of action bears investigation. How activities are managed in classrooms has been explored, but more needs to be learned about what is done to sustain and maintain programs of action in classrooms.
over time. Lastly, the settings of research on programs of action need to include the upper grades since management of the curriculum at that level is also an important issue.
CHAPTER III

PROCEDURES FOR COLLECTION AND ANALYSIS OF DATA

The purpose of this chapter is to describe the methods used in this study. The chapter is divided into two major parts: (a) a description of the procedures for the collection of data, and (b) a presentation of the procedures for the analysis of the data.

Procedures for Collection of Data

This field study utilized passive participation as the chief data gathering technique. An ethnographer who is a passive participant is described by Spradley (1980) as being present at the scene of action without any extensive interaction or participation with those being observed. Data gathering using this technique was supplemented by interviews with the classroom teacher. The observations and interviews were used as data in this paper.

Sample

A ninth grade honors English class at a large urban high school in the Southwest was observed for this study. Students are in this class based on teacher recommendations and a motivation to do
challenging work. In an honors class students are able to move through the curriculum more quickly and with less difficulty than they would in a regular freshman English class. The teacher has a reputation of being well-respected by his students and is considered by his peers to be a successful manager and a very able teacher. Because the focus of this study was the effect of content complexity on the program of action, it was important that the teacher be a competent manager so as to avoid the extraneous effects that might result from having a less effective manager. In a less effective manager's classroom, the precarious balance between instruction and management may be so disturbed that instruction becomes just a procedural display (Bloome, Puro, & Theodorou, 1989). As a result, desist techniques may take center stage.

**Data Collection**

**Initial Preparation for Observation**

A week before observation began, the observer met with the classroom teacher to discuss curriculum content for the next nine weeks. The purpose of this discussion was for the observer to become apprised of the content to be covered, the degree of its complexity, session configurations, materials to be
used during the observation period, and the availability of these material to the observer. At this time, the organization of the room was noted, a map of the room drawn, and the observer picked a place to sit, a place that was unobtrusive, but one from where events in the classroom were easily visible.

**Subsequent Observation Days**

For the duration of the observation period, the observer arrived before class began. Any assignment or information on the chalkboard was copied or noted. The class was observed daily for a period of ten weeks. The teaching of two units with contrasting complexity, one characterized by high ambiguity and risk (Doyle & Carter, 1984; see definition in chapter 1), and another with less ambiguity and risk were followed through completion. The more complex unit included the writing of five-paragraph essays, character analyses, and vocabulary tests, and major unit test based on *The Odyssey*. The less complex unit included the writing of essays, character analyses, vocabulary tests and a major unit test based on the play *Antigone*. The complexity of the first unit stemmed in part from its novelty. Doyle (1986) has noted that predictability is low for novel work. Therefore, there is more ambiguity about products and
operations and a greater risk of not being able to meet evaluation criteria.

The teacher believed the first unit to be more frustrating because it occurred earlier in the year, and it was difficult to impress upon students the value of getting a background in good literature. By the time the second unit was introduced, the students were expected to have become more familiar with the teacher's practices, and they had gotten the background experiences needed to tackle Antigone. Besides, he claimed, Antigone is an easier piece of literature to read. Therefore, although the activities in which students were engaged during the course of both units followed the same pattern (five-paragraph essays, character analyses, vocabulary tests, and major unit tests), there was a marked difference in complexity. The complexity of the activities was greatly reduced in the second unit because of the familiarity of the procedures and routines stemming from repeated experiences within this classroom setting. As noted by Doyle (1986), although the unit was difficult, the work was quite predictable so that there was little ambiguity about what to do and how to do it and little risk that things would go wrong along with way.
Focused observation (Spradley, 1980) was used to gather data, and a descriptive system was used to record a narrative of the classroom events. Observation focused on actions that maintained and sustained activity vectors, actions that gave rise to other vectors, and the management of the transition period. Narrative records (see sample in Appendix B) included a running tabulation of time, activity requirements, the questions students had about assignments, and the negotiations between the teacher and students concerning requirements. Formal interviews (see sample questions in Appendix C) to ascertain the teacher's understanding of and beliefs on classroom management, teaching, learning, transitions, and discipline were conducted at the end of the third week of observations, and again at the end of the nine-week grading period. Informal interviews to clarify events observed in the classrooms were conducted as needed. Notes were taken by the observer during the observations and transformed into activity description soon after. Interviews were tape recorded and later transcribed.
Procedures for the Analysis of Data

Data analysis followed a three-phased process that has been used by some researchers (Gump, 1969, Doyle, 1984). This process, which consists of (a) activity description, (b) activity analysis, and (c) comparative analysis, would appear to respect the structure of the classroom and its differentiation.

Phase one was the transformation of narrative records to activity descriptions. Achieving this goal involved reading through the entire narrative, dividing class sessions into natural segments and calculating the number of minutes spent in each segment, a detailed description of each segment including the actions of both the teacher and students in maintaining and directing the program of action, a description of all transitions between segments, and recording comments about major themes or patterns which emerged from the descriptions.

Distinguishing features were used in differentiating between activities. These activity features were: patterns for arranging students, such as large-group presentations of information versus independent seat-work, resources used, the focal concern, or what Ross (1984) terms "the business" or "what it is all about" (p. 71), and the program of action which defined how the activity segment
operated. Of particular importance in activity differentiating was the nature of teacher participation in the activity, specifically what actions the teacher used to introduce and keep the program of action going and how successful the actions were, and the extent to which the whole class was involved or excluded from the core actions necessary to carry out the activity.

Transitions, which form activity boundaries, were identified and described. The description was later used in the exploration of the relationships of transitions to other activity segments.

Phase two of the analytic process was the activity analysis. Here, a quantitative summary of the activities was tallied as part of the process of producing a general description of how activities were managed across differing types of content complexity over the observation period. This summary included types of activities, the amount of time devoted to each type, and the types of class sessions.

A second part of the activity analysis was the scanning of activity summaries as a way to have the data inform the analytic process. This scanning yielded emerging contrast cases. The focus on the analysis of these contrast cases was the management of the programs of action which is the action system
of each activity. Included in this description was the format and routines which illustrated the prescribed ways of doing things in class, and strategies used by the teacher to sustain the program of action and kept it moving in spite of competing programs of action or vectors.

As patterns emerged, the programs of action that were especially informative were mapped in the next phase of data analysis. A semantic map in the field of reading is defined as a graphic arrangement showing how the major and minor ideas are related (Sinatra, Stahl-Gemake, Morgan, 1986). Mapping as a way of analyzing programs of action provided a way of discovering answers to the questions: (a) What keeps a vector going? (b) What shapes it and gives it direction? (c) How does one vector give rise to another one? (d) How is the primary vector protected from other competing vectors? (e) When do competing vectors emerge? (f) What form do they take? (g) Do competing vectors vary in timing and type across different activity units? In other words, mapping illustrated the interconnectedness of actions in the classroom and provided an opportunity to get a coherent, unified sense of classroom events.

Types of maps that were considered were (a) a sequential organization map where key components
responsible for shaping or directing the program of action would be identified, and arranged in sequence; (b) the thematic or descriptive map which would be particularly useful in illustrating the strategies used in maintaining and protecting the primary vector, as well as the elements giving rise to competing programs of action. A thematic map displays elements and details about persons, places, or things around the central theme (Sinatra, Stahl-Gemake, Morgan, 1986). This type of a framework displays associative connections among components.

Figure 1 is an example of a thematic map. The circle represents teacher action and the square, student action. Arrows indicate interaction with the arrow proceeding from the initiator of the interaction. The double line stretching across the width of the page and ending in an arrow is the primary vector or the main program of action. The time is recorded at the bottom of the page. The transition, competing vectors, and activity have been bracketed to show parameters.

In this particular map the illustrated segment begins with a two-minute transition. During the transition the teacher asks the student to pass up the quiz papers. While this is going on, students yell out questions about the quiz, and look in the book to
verify their answers. At 11:26 Mr. Lino signals the beginning of the lecture by asking if there are any more questions. Then he begins talking about Shakespeare. At about 11:32 a competing vector is generated by a student question. This particular student asks if she and another student can go to the computer room. The teacher and the student briefly discuss this situation taking attention momentarily from the primary vector. This deviation is shown on the map as a movement away from the main vector by the students and the teacher. The teacher returns focus to the primary vector when he tells the students that they can go, and he then resumes lecturing. The lecture continues with the teacher presenting information, drawing students' attention to the board, and asking questions. Students ask clarification questions and supply answers when possible. At times, teacher elaboration may give rise to the formation of a competing vector.

A third phase of the data analysis was the comparative analysis. This analysis entailed the comparison of activities across two levels of content complexity, and more specifically, the comparison of programs of action across two levels of content complexity, and across activity types, along with
comparisons of the timing and types of competing vectors.

Informal interviews were guided by themes emerging from the ongoing data analysis. The interviews yielded information that clarified teacher actions in the classroom and, therefore, were particularly beneficial in the interpretation of the observation data. In addition, data from the interviews provided necessary information about the setting, the subjects, and classroom routines and procedures.

Summary

In this chapter, the methodology used in this study was described. Two categories of procedures were described: (a) collection of data and (b) analysis of data.

The subject of this study was a ninth grade honors English class in the Southwest. The teacher is highly respected by students and colleagues as an able manager and highly competent teacher.

Data collection procedures consisted of formal observations and interviews. The class was observed over a ten week period across two units of contrasting complexity. A descriptive system was used to record a narrative of the classroom events.
Interviews with the teacher were conducted and transcribed.

Analysis of the data was a three-step process consisting of (a) activity description, (b) activity analysis, and (c) comparative analysis. Activity description entailed reading of narrative records and transforming them into activity descriptions. In the activity analysis phase, a quantitative summary of all activities over the observation period were compiled, and representative programs of action were mapped. Mapping of the programs of action were used to more clearly illustrate their configurations and maintenance. The comparative analysis phase consisted of the comparison of activity vectors across the two levels of content complexity. Data analysis, in effect, was a way to move from the particularistic descriptions of classroom events to the formulation of more generalized ideas about how the programs of action in activities were maintained in classroom over time.
CHAPTER IV

ANALYSIS OF DATA AND FINDINGS

A classroom is a complex social environment, the nature of which is determined by events and interactions that occupy the inhabitants. These events include content, pedagogical processes, and the management of the classroom action system. To develop an understanding of classroom events, one needs to study how these events are enacted over time. In other words one needs to examine what the teacher and the students do to enact the curriculum (Doyle, 1988). This chapter presents findings which generate possible insight into the nature of this enactment.

The first section of the chapter will deal with a description of the setting and the subjects: the classroom, the students, and the teacher, which formed the data base for this study. Next will follow a description of the five activity types used by the teacher in the study. These activities will be analyzed in terms of the following questions:

1. How is the program of action configured in the activity?
2. How is the program of action maintained?
3. What competing vectors emerge?
4. What is the nature of these competing vectors?

In the third section opening activities and transitions will be discussed as related factors in the management of the curriculum.

Finally, two literature units of contrasting complexity will be discussed. The discussion will be scaffolded by the four questions used in the earlier analysis of the activities.

The Setting and Subjects

The Classroom

Mr. Lino's classroom is located on the second floor of the main building of a campus which houses about 2200 students. The classroom is tucked between two other English classrooms all facing a hallway. These classrooms are on the east side of the building. The room, which is about 25 by 30 feet, has a door on the west side of the room which opens into the hallway (see map in Appendix B.) Windows take over the whole east wall, while chalkboards can be found on the other three walls.

The south chalkboard is used for recording schedules of up-coming exams and it is also where students record their names for detention. The chalkboard on the west wall is used for instructional
purposes. Students generally write their cultural literacy items on the chalkboard on the north wall. Cultural literacy items form part of the daily opening activity. These items are taken from Hirsch's (1987) list and given to students as research assignments. It is also on this chalkboard that Mr. Lino might put some notes if he were to run out of room on the west chalkboard.

Students' desks face the west chalkboard and the door. There are six rows of desks with six desks in each row, except for the two rows closest to the north wall. To make space for the teacher's desk which is located in the northeast corner of the room, there are five desks in the fifth row and four in the row right next to the north wall. The quarters are cramped with the last desks in each of these last two rows almost touching the teacher's desk. There is just enough room in the aisles for one person to pass.

The teacher's desk seems always cluttered with students' work, hand-outs, and books. Right next to the teacher's desk and between the desk and the east wall is a file cabinet. Behind the teacher's desk is a bulletin board where witty sayings, posters, and clippings are placed. There is also a bulletin board on either end of the south chalkboard. The one closer to the east wall also contains posters and
newspaper clippings. These clippings are usually newspaper articles written by one of the students in the school. The bulletin board on the west end of the south chalkboard has the calendar and is reserved for notices about school events. This bulletin board lies directly above a small book case.

The only bookshelf in the room is located against the north wall. Grammar books and dictionaries are housed there. About three feet south of the bookshelf, between the students' desks and the west chalkboard is the podium. It is from this podium that Mr. Lino lectures. This is also where he has the notes and hand-outs he will use during the class.

There is always an amicable and comfortable air about the room. Mr. Lino can usually be found just outside the door visiting with students before the class period begins. Students have assigned seating which was revised at the beginning of the second quarter. Students can usually be found visiting with each other, or putting cultural literacy items on the board, or visiting with the teacher at the beginning of the class period. Although all the desk are not occupied, students for the most part stay in their assigned seats.
**The Class**

A third period freshman honors English class was observed for this study. The class was selected because it took place during the time most feasible for the observer to be present. There are 24 students in this class, six boys and eighteen girls. Their rapport with each other and with the teacher is quite obvious. Before class some of these students can be found visiting with Mr. Lino in the hallway, or hovering around his desk or the podium, wherever he might be. They are quick to compliment him on his tie, and they can usually be heard sharing with him some of their personal experiences. When cultural literacy items are placed on the chalkboards, a few of them take turns writing the notes. When asked by the teacher why they are not taking down the information, they tell Mr. Lino that they take turns copying the items. During the unit on *The Odyssey* Mr. Lino assigned writing topics by rows. Students in each row were responsible for passing on the information to absent students. They did not seem to have difficulty carrying out this task.

According to the curriculum guide for this school's freshman honors English program, prerequisites for entry into the program are teacher recommendation, performance on standardized
achievement tests and/or a holistic assessment of a writing sample, plus a verbal expression by the student of a desire to do challenging work. The freshman honors English course is an accelerated and enriched English class. The curriculum includes personal writing, expository essays on literary topics, and more extensive study of literature with additional selections from classical literature. Grammar and usage are reviewed as necessary. These students are expected to move through the freshman English curriculum more quickly than students in a regular freshman English class. Because of these qualities, except for vocabulary work, quizzes, and exams, students do very little seatwork in class. In Mr. Lino's class the reading, essays, and cultural literacy research were assigned as homework. Likewise, preparation for weekly vocabulary tests was, for the most part, done outside of class time. Class time is generally reserved for quizzes to check reading comprehension, lectures to augment and clarify readings, oral grammar review, and preparation for the different writing assignments.

Students participate in discussions quite readily, although there are those who remain quiet unless called upon. They do not seem bothered by the nicknames (Exxon, Gorilla, Chiquita, J. Snott) they are
assigned by the teacher. They laugh readily at the jokes and puns that punctuate the vocabulary quizzes, and a few will even tease, or in the students' words, "rag" the teacher about his tie.

**The Teacher**

Mr. Lino is a highly regarded teacher at his school. He has been an educator for nineteen years and holds a bachelor's degree in English and a master of education degree in reading. When he walks down the hall, several students will stop to visit with him. He always seems to have time for both former and present students. On one occasion during the observation period, two former students stopped by his classroom to show off their togas. They said that they wanted him to know that they had not forgotten what they had learned in his mythology unit.

Mr. Lino is highly respected by his colleagues. Although he is self-effacing, he is regularly sought after for advice. He is perceived by his colleagues as an authority in grammar, writing, and the classics. Colleagues from other schools also think highly of him, and feel that he has much to offer not only students, but also his peers in education.

A professional who is committed to his students, Mr. Lino is at school by 6:30 every morning even
though employee hours do not begin until 7:30. He provides this time in the morning for students who need to do detention, to make up assignments, or to get help with an assignment. Lunch time is another time when Mr. Lion is available to students. He says that the volume of students who drop in voluntarily increases as the year progresses.

One of Mr. Lino's outstanding features is his sense of humor. He assigns his students nicknames which are humorous corruptions of their names. A student whose last name is Valdez becomes Exxon, Scott becomes Snott, and Christopher becomes Christopher Robin. This action, he says, is one way to make the individual student feel special. Throughout the class period but more conspicuously during the weekly vocabulary tests, his use of puns keep the students entertained. The humorous examples in his lectures appear to make a tedious topic more interesting.

Managing the Curriculum

Studying how teaching takes place in the classroom is equivalent to studying the way curriculum is enacted. Curriculum enactment involves not only the bringing of the curriculum to the classroom but also the factors that push the curriculum around and
hold it in place during classroom events (Doyle, 1988). Bringing the curriculum to the classroom includes the pedagogical processes used by the teacher in getting students involved with content. Factors that push the curriculum around and hold it in place during classroom events can be the actions taken by the teacher and students to keep the program of action in place and competing vectors that may emerge during a lesson.

The program of action or vector of an activity defines the stream of behavior involved in accomplishing that activity. The disruptions and distortions of the primary program of action can at times result in the creation of competing vectors. Competing vectors or programs of action are extraneous occurrences which take the teacher and students away from the matter at hand, from the primary program of action. Writing, vocabulary, literature, and grammar lessons of Mr. Lino’s class were analyzed to explore the nature of the presence of the above factors, and to see how they impeded or aided teaching events.

The first stage of analysis involved looking at the configuration of Mr. Lino’s class offerings. Mr. Lino had a set schedule which defined the weekly activities for his honors English class. On Mondays,
the class was involved in writing; on Tuesdays, the emphasis was on vocabulary; Thursdays (a 95-minute period), literature, and on Fridays, the topic was grammar. These weekly occurrences are labeled lessons in this study. Each lesson was, for the most part, comprised of two or more activities, except for the writing lesson which consisted of just one activity.

A total of 40 activities were observed, with narrative data recorded and analyzed. These activities consisted of 23 lectures, 10 quizzes, four quiz reviews, one test, one oral practice exercise, and one seatwork/individual conference. Six of the lecture activities were writing activities and five seatwork activities were found in the vocabulary lessons. Literature lessons yielded 13 lectures, four quizzes, and four quiz reviews, and one seatwork/conference. Grammar lessons were comprised of two tests and one oral practice exercise.

Although this schedule was set, during the observation period there were deviations to make up for lost time, time the teacher was attending National Faculty sessions, and time lost due to vacations. In every case the area accommodated was literature.
Six writing activities were observed during the ten-week observation period. The observed writing component of Mr. Lino's curriculum comprised 236 minutes or 15.8% of the total observation period. Mondays were days designated for lectures on writing. During a writing lesson, topics for the next essay assignment were announced, a due date set, followed by a lecture on some aspect of writing. Topics covered during the observation period included the seven-paragraph essay, character analysis, and the essay on ideas. The lecture generally consisted of Mr. Lino reading from a hand-out, with the students following in their copies. Mr. Lino would read a short passage, stop to explain or to ask a question, maybe elaborate on a student answer or comment, and then resume reading.

There was some deviation from this format. During two class sessions, Mr. Lino, instead of lecturing from a hand-out, used the students' corrected essays to point out positive as well as negative examples of writing. He informed students that this would become a regular practice, but those were the only occurrences during the ten-week period of observation.
Lectures provided the means for presenting information about writing. Hand-outs were used except on two occasions when the teacher used student essays as the resources for those days. Mr. Lino repeatedly reassured students of his empathy regarding the tedium of talking about writing and the difficulty of writing. For example:

"I know talking about writing is boring. Try to pay attention."

or

"There is no easy way to teach writing. You need to pay attention and listen carefully. We all hate writing..."

The topic for students' writing assignments came from the literature they were reading. As a result, most of the time during writing segments was spent trying to frame a style or mode of writing on characters or ideas from the literary readings.

The following narrative record and semantic map will illustrate the manner in which the program of action was maintained during a representative writing activity:

At 10:16 Mr. Lino has three students pass out some papers on essay writing. He tells them that they will begin with the first paper. He introduces essay writing by telling students that there is no easy way to teach essay writing and that they need to listen carefully. "We all hate writing," he says.
At 10:25 Mr. Lino begins reading from the hand-out. Periodically, he asks questions to which the students respond with chorus answers. He intersperses the reading with rhetorical questions like, "What is economy?"

He lectures on two types of essays: formal and informal. They will not be writing informal essays in this class since all the essays will be about literature they have read. He asks students if they know why they will be writing only formal essays. When no answer is forthcoming, he draws connections to their future job situations. "Do you think in your own jobs you'll have a choice of topics?" He relates work-related writing to their writing about literature. Mr. Lino expounds on the need to choose topics that students are interested in, that have meaning for them. He then directs them to circle items in the hand-out that are of significance. Next, he discusses the importance of audience and thesis statements. He reads and periodically stops to elaborate.

At 10:36, Mr. Lino continues to read. Questions, some rhetorical and some requiring simple answers, punctuate his reading:

"Why seven paragraphs?"
"This quarter, how many sentences should you have in your introductory paragraphs?"
"Two or more."

He answers the question when students seem slow to respond. He tells them that he does not care if they outline or not. A student asks, "Are those all the things we need to do?"

In response, Mr. Lino uses Telemachus, a character from The Odyssey, to frame the essay. He does this with input from two or three students. When they are done, a student, Jon, remarks, "Now we don't have to do one, do we?"

At 10:48, Mr. Lino has the class turn to the I-shaped hand-out. He reads and stops to explain using the following question: "Notice what you have at the end of each paragraph. We're supposed to have a...?"

He supplies the term "transition." He next refers to the concluding paragraph.

At 10:52 he asks a student to read something from the hand-out. This student has problems pronouncing the word "statistics." Mr. Lino provides the correct pronunciation and takes this opportunity to go around the classroom asking individual students to practice
pronouncing the word. This activity continues until a student asks, "Why are you doing this?"

Mr. Lino replies that it is important that students pronounce words properly. He would like to see that they do. Besides, quite a few people tend to have problems pronouncing the word "statistics."

It is now 10:55, and Mr. Lino returns the class to the main program of action by talking about the concluding paragraph. He says, "A conclusion is usually..." And then he is interrupted by a question from a student who needs to know where they are.

"I've lost you."
"Well, find me."

A student completes the previous statement. Mr. Lino continues to read and explain. When he sees attention waning at 10:58 he injects some humor by using words such as "don'ts" and "ain'ts." This action prompts the following exchange between a student and Mr. Lino:

"I don't think English teachers should use 'ain't.'"
"But I used it to gain your attention, and I did."

Other students want to know that the exchange is about.

At 10:59, Mr. Lino draws student's attention to the back of the hand-out where there is a list of words they should use in their essays. They should keep this list all year. The topic of discussion is now transitions. Mr. Lino asks, "Do we put them at the end or the beginning?"

"Usually at the beginning."
"But the I-shaped hand-out says to put them at the end?"

Mr. Lino clarifies. He illustrates on the chalkboard how to write a three-paragraph essay by modifying the essay form. Telemachus' good breeding is used to frame this essay. He tries to engage students in this endeavor, but they are slow to respond.

At 11:03, Mr. Lino draws student's attention to the back of the hand-out where there is an example of a form that their writing can take. As the class draws to a close, students ask several questions:

"When are you going to give us our topics?"
"Does it have to be five paragraphs?"

The bell rings, and Mr. Lino opens the door.
The Program of Action in Writing Activities

Configuration of the Program of Action

The semantic map in Figure 2 illustrates the configuration of the program of action of the writing activity detailed in the narrative record. The arrow extending the length of the activity represents the primary program of action or vector. Circles denote the teacher, and students are represented by the squares. Arrows illustrate interaction, with the arrows leading from the initiator of the interaction.

This particular map shows the teacher, Mr. Lino, as the person controlling the program of action. He lectures, and to guide the program of action along, he uses questions requiring chorus answers. He answers questions students cannot answer. Most of the questions asked are factual questions, usually requiring one- or two-word answers.

This map also shows the occurrence of two competing vectors, one at about 10:50 and the second at 10:59. These competing vectors are easily discerned since they radiate vertically from the primary vector, showing a movement away or a deviation from the primary vector. The maps shows the program of action of the writing activity ending at 11:04 with the teacher still at the helm.
Maintaining the Program of Action

In Mr. Lino's writing class, the program of action during a lecture included the role of the teacher, which was reading and explaining from the hand-out, and making sure that the students were attending. The role of the students was following along in their copies of the hand-out, taking notes, and responding to questions when they were asked. An important dimension of the program of action was the grouping of the students. Sitting any other way but in rows might have interfered with the teacher's ability to discern attentiveness, and therefore, would have left the door wide open for the distortion or the diversion of the primary program of action.

An analysis of the writing lesson illustrates Mr. Lino's role in the maintenance of the program of action. Because the mode of content delivery was the lecture, Mr. Lino was able to control the vector. The semantic map (see Figure 2) clearly illustrates Mr. Lino as the person driving the program of action.

Another factor emerging from the analysis of the writing lessons was the importance of keeping students' attention focused on the program of action. Mr. Lino used three techniques to ensure this attention: (a) questions eliciting chorus answers from the students, (b) questions eliciting completion
answers, and (c) humor. Even when the use of humor diverted as in the case where Mr. Lino used "ain'ts" and "don'ts," the diversion secured the students' attention, and Mr. Lino was able to refocus class.

There seemed to be a hesitancy on the students' part to participate. When students were slow to respond to questions he had posed Mr. Lino supplied the answers. A possible reason for this hesitancy could be the requirement imposed upon the students by the discussion to make a cognitive leap from the literal level of the literary discussions in literature segments. The nature of the writing lessons required students to interpret, make inferences, analyze, and synthesize their reading. Their reluctance to participate in the discussion on writing may be indicative of the problem students were encountering making this cognitive leap.

In subsequent writing segments when Mr. Lino helped students make this leap by providing examples from their experiential background (movie characters like Rocky or Batman, or current events), students were willing and enthusiastic participants. Furthermore, when Mr. Lino could use examples from their writing to illustrate a point, there was a difference in the volume of student participation.
The configuration of the program of action of the writing activity as depicted by the map in Figure 2 is typical of the other writing activities observed in this study. Mr. Lino always lectured; therefore, he, for the most part, guided and insulated the program of action. To keep the program of action on its course, Mr. Lino typically used rhetorical questions, questions requiring completion answers, questions eliciting chorus answers, and humor. For example on November 14, 1989 as students were getting restless during a lecture on character analysis, Mr. Lino asked, "Do we need three paragraphs?"

The chorused answer was, "No."

During that same lecture in framing a character analysis essay, Mr. Lino used students as examples. The students appeared quite entertained by this activity.

On December 12, 1989 when discussing student essays, Mr. Lino asked, "Is there a problem here?"

The students again chorused, "No."

During a lecture on January 12, 1990 on the essay on ideas, Mr. Lino posed the question: "What were the Greek virtues?"

This question elicited a chorus response from the students. During the same lecture Mr. Lino asked a series of questions eliciting chorus answers:
"What does he say about kings?"
"They are supposed to act that way?"
"When are they supposed to act that way?"
"What happens when they act like Creon?"

**Competing Vectors**

Minor competing vectors occurred during the writing segments, sometimes teacher-initiated, other times student-initiated. These were usually quickly stopped and had no noticeable effect on the program of action. There were times, however, when the competing vectors interrupted the primary vector for an extended period as when Mr. Lino went around the class asking students to pronounce "statistics" (see Figure 2). This activity took about three minutes and a student's query about the relevance of this activity returned focus on the main program of action. The handling of the competing vector showed a shared manipulation of the program of action by both student and teacher. It is possible that Mr. Lino might have prolonged the competing vector had not the student questioned the relevance of this activity. The student's question prompted Mr. Lino to return to the main vector. The student's action demonstrated that protecting the program of action was part of his role of being a student.
Shortly after the first competing vector, another one occurred at 10:59 (see Figure 2.) This one was also teacher-initiated. Mr. Lino, seeing attention waning, injected some humor into his reading. One student commented on Mr. Lino's choice of humor, and that triggered an exchange between that student and the teacher. The exchange piqued other students' interest and they asked what the exchange was about. Instead of answering their questions Mr. Lino returned focus on the program of action by directing students' attention to a list on the back of the handout.

The following was one other occurrence of a competing vector during one of the writing activities observed:

At 10:37 Mr. Lino has passed out the handout and begins his lecture on writing. He introduces the essay on ideas. Then he tells students that the essay exam will be on ideas, so they need to pay attention. He refers to the essay they have been assigned. His announcement triggers questions from students:

"So when is the essay due?"
"The essay on Bill Thomas?"
There are more questions about their work for this quarter:
"Won't the cultural literacy test be easier this quarter?"
"No, but they are automatic A's. You should do those."
"If you don't do cultural literacy items, do you get a zero?"
"Yes."

There are two other questions, one about a cultural literacy assignment. Then at 10:42 Mr. Lino resumes the lecture by encouraging the students to pay attention.
This competing vector was teacher-initiated. Mr. Lino began lecturing on the essay on ideas, then in motivating the students—a way of grounding the program of action—he created a competing vector. This competing vector lasted five minutes and it was Mr. Lino who returned the focus to the primary vector by telling the students, "I know talking about writing is boring. Try to pay attention."

To summarize, an analysis of the writing segments shows Mr. Lino as the driver or controller of the program of action. Because of Mr. Lino's method of presentation very few competing vectors occurred. A major emphasis during these lectures was maintaining students' attention. Mr. Lino was able to secure this attention by using questions that elicited chorus answers, completion questions, and humor. Students were slow to participate when they were forced to make cognitive leaps from their readings to the more interpretive and evaluative nature of writing discussions. However, when this leap was mediated, participation in discussions increased.

Vocabulary

Five vocabulary lessons totalling 185 minutes, were observed during the ten-week observation period. Vocabulary lessons made up 12.4% of the observation
data. These lessons generally took place on Tuesdays. On those days even before the class period began, students could be seen studying their vocabulary or going up to the teacher to clarify meaning and pronunciations.

Two vocabulary activities made up each vocabulary lesson. The first activity, the vocabulary quiz, lasted an average of six minutes. After taking roll and conducting some housekeeping activities, Mr. Lino gave the vocabulary quiz. He dictated fifteen words and students were expected to spell them correctly. A list of words had been given to the students at the beginning of the year, and they were given a quiz on fifteen of these words every week.

During the quiz, Mr. Lino usually made up nonsense sentences and puns with the words. An example might be:

"Number three, brigand. The leader of the Mormons was Brigand Young." Or, "Number four, enjoin. Come on in enjoin us."

Such sentences would elicit groans, laughter, and comments from the students. Because of such practices, the weekly vocabulary tests became light-hearted occasions instead of times of tension.

Following the dictation, the teacher would assign the topic on which the students were to write that day. During the first quarter, the requirement was
fifteen sentences using each of the dictated words, and in the second quarter the requirement was a paragraph. The students were expected to show that they knew the meaning of the words through the sentences or the paragraphs. During the observation period, the topics (with one exception before Christmas vacation) came from the literature under study. The choice of topics usually elicited groans and negotiations from the students.

While the students were writing their sentences or paragraphs, Mr. Lino would call them up individually to have their spelling checked. This checking was interactive and interspersed with a friendly banter. Mr. Lino would call the students by their nicknames and tease them about the words they missed. This teasing would cause the students to engage in a repartee with a teacher:

"Now, Misty, that was a stupid mistake."
"Well, you said it wrong!"
"Blame it on me. I've got big shoulders."

After their spelling was checked, the students were required to write each misspelled word thirty times. During the first quarter, they had to write each misspelled word fifteen times, thirty times in the second quarter, and in the third quarter it would be sixty times.
The rest of the class period on vocabulary days was devoted to the writing of misspelled words and the completion of the writing assignment. If students completed these activities before the period was over, they could spend the rest of the period looking up meanings in the dictionary to prepare for the next vocabulary test. The class was generally quiet until towards the end of the period, when Mr. Lino would have to desist a little to keep them on task.

The following narrative illustrates a typical vocabulary segment:

At 10:48 Mr. Lino gets students' attention by saying, "Okay, chill."
Then he begins the vocabulary test. He calls out the words: "Number one, epicure. Number two, dissipate. Number three, electorate. Number four, diversion. Number five, encumber. Number six, dross. as in Steve shops at dross."
This sentence triggers some laughter and comments from students. A student asks how many times each misspelled word is to be written this quarter. Mr. Lino says, "30 times. Then next quarter it's 60 times, and the quarter after that, 120 times."
There are groans and cries of protests. "But why?"
"Number seven, hey, this is a test. Enjoin, come on in and enjoin us." Number eight, decorum, as in what do you do with a bunch of apples? Number nine, emaciate. Number 10, dulcet. Number 11, dogmatic. Number 12 is engender."
"Is that 12 or 13?"
"What is 13?"
"Number 13 is elite. Number 14 is effrontery. Every house should have an effrontery. Number 15 is emetic."
There are individual questions as to what word was what number. Then at 10:50 the seatwork activity begins when Mr. Lino directs
students to check their spelling as he will be calling them momentarily. He assigns today's topic: "Rudolph the Red-Nosed Reindeer." He tells the students that they have 25 minutes. They should check over their spelling because he will be calling them.

At 10:53 he calls the first student to his podium. He tells her, "Mary, look at this you misspelled."

"Oh, be quite!" She replies.

A student asks, "What's number three?"

"Electorate."

Mr. Lino calls the students one by one to have their spelling checked. He teases them and some of them join in.

"Raymond, come on down!"

"Come on, Exxon. Gorilla, are you talking during my test? What a pervert!"

Students laugh. Then he calls another student. "John-Boy, come on. I want a good laugh."

John-Boy comes back, "Look in the mirror."

The students laugh and comment. It gets somewhat loud in the classroom. Mr. Lino finally tells them that he wants it quiet. The students settle down. More students are called, and the repartee continues.

"Peter Rabbit, you're going to join me for lunch. 120 times."

"Let's go for 150."

At 11:05 Mr. Lino has finished checking the spelling. He settles down in a student desk in front of the students. The students are working quietly at their desks on the vocabulary, writing their paragraphs or writing down the misspelled words. Occasionally a student goes up to consult with the teacher, or to use the stapler which is on the chalkboard ledge. One student, Barry, appears to be having difficulty with the assignment. He drums on the desk with his pencil and turns his paper over.

At 11:10 the first student finishes and turns in his work. Mr. Lino directs him, "Write those words over or you can look up next week's words."

Mr. Lino notices Barry, and looks at himquestioningly. Barry tells him that he needs paper.

At 11:12 more students are finished. They begin stirring around, some going to sharpen pencils, others to consult on today's assignment,
ask for a pass, and to get dictionaries. When the volume of noise gets a little high, Mr. Lino desists, reminding them that they should be preparing for next week's test by looking up the words.

At 11:15 Barry goes up to Mr. Lino who is seated in a desk in front of the class. "How do you spell 'Blitzen'?" Mr. Lino laughs and asks, "Do you know their names?"
"Well, I'm singing the song trying to remember the names."
"That's wonderful!"
The class and Mr. Lino laugh. Students continue to work or visit quietly, until the volume of noise indicates that the period is almost over.

At 11:27 Mr. Lino asks, "How many of you are still working? You can kick back. Make sure you have cultural literacy words for Monday."

The Program of Action in Vocabulary Activities

Configuration of the Program of Action

During the vocabulary quiz, the program of action put in place by Mr. Lino called for the students to listen quietly for the dictated words, and to write them down as they were dictated. They had to be quiet if they were to hear the words and they had to be sitting down, equipped with the appropriate materials if the program of action was to be maintained.

Following the vocabulary quiz, the program of action for the rest of the period appeared in Mr. Lino's class to include the following behaviors: the teacher quietly monitored the class to ensure that
students fulfilled their function. The students' role was to sit at their desks writing their paragraphs and their misspelled words. This work had to be done quietly so no one would be distracted. Any deviation by the teacher and students from their respective roles meant an interruption of the vector and its possible distortion.

Two vocabulary activities made up each vocabulary lessons. The first activity, the vocabulary quiz lasted three minutes. Mr. Lino quickly dictated 15 words. This dictation was accompanied by nonsense sentences. As illustrated by the semantic map (Figure 3) the program of action of this activity was almost immediately interrupted by a competing vector which lasted a minute from 10:52 to 10:53. The map shows the teacher, who is the driving force behind the program of action, being momentarily moved off course by the students' questions and comments.

The second activity in the vocabulary lesson begins almost immediately after the quiz. As in the quiz activity, the teacher is shown on the map to be controlling the program of action. He draws comments and laughter from students with his humorous exchanges, but when the possibility of a competing vector emerges, he quickly aborts it and
returns focus to the program of action by desisting, as he does at 11:02 when the exchange with John-Boy leads to laughter and comments from students. Before the competing vector can fully develop, Mr. Lino tells the class that he wants it quiet. As soon as he notices that students are finished, he reminds them about the next assignment. This vigilance keeps the vector going until at 11:27 when Mr. Lino tells them that they can stop working.

**Maintaining the Program of Action**

An analysis of the vocabulary segment and the semantic map showed that Mr. Lino dominated these activities and therefore directed the course of the primary program of action. He entertained the students, an action that helped relieve some anxiety for students. The anxiety stemmed from the fact that this was a fairly high risk task for the students, although much risk was reduced by allowing students to use the words in a paragraph or sentences instead of requiring that they supply the exact meaning. Still, the task required some memorization.

The configuration of the program of action and its maintenance in the other vocabulary activities observed followed the same pattern as in the recorded narrative. In every case, although Mr. Lino used nonsense sentences during the vocabulary quiz, he
controlled the primary vector by moving through the activity very quickly leaving very little time for the development of competing vectors. The following times were recorded for the other vocabulary quizzes: four, four, five and nine minutes. The quiz lasting nine minutes was one where Mr. Lino had to administer two separate quizzes because quite a number of the students had been absent the previous week. Likewise in the seatwork activities, Mr. Lino manipulated the vector with his exchanges with his students and his desists and reminders. The exchanges threatened to divert the primary vector, but Mr. Lino's desists and reminders kept the vector going in the intended direction. An exchange with Melvin on October 27, 1989 threatened to divert the program of action when students took that opportunity to visit. Mr. Lino told Melvin that he was disrupting the class, and he asked students to settle down.

At one point he asked a student why she was talking during his test. Although this was a friendly exchange she stopped talking and resumed working. On another occasion when students were distracted by John-Boy's comeback to look in the mirror if the teacher wanted a laugh, Mr. Lino let them laugh for a
moment, and then he told the class that he would like it quiet. They complied.

**Competing Vectors**

Occurrence of competing vectors in vocabulary activities was very infrequent although a few did materialize, most of them triggered by the teacher's repartee with students. But these vectors never lasted more than a minute as Mr. Lino was quick to return attention to the primary vector. In the narrative recorded, at about 10:51 a competing vector was initiated by a student's question about the number of times each misspelled word was to be written this quarter. This interruption came in the middle of the vocabulary quiz (see Figure 3). Mr. Lino answered the question and then returned the class' attention to the main vector.

Another possible reason for the rarity of competing vectors in the vocabulary segments was that the spelling task was very structured. It had signal continuity, meaning the task had internal cues to guide the students through the steps of the activity, thus providing insulation from disruption. Therefore, Mr. Lino could exchange wisecracks with his students, cause everyone to laugh, and still his students were not totally distracted from the main vector.
In addition, during seatwork activity Mr. Lino sat in front of the class where he kept a vigilant eye on the students. When it appeared that a disruption might be possible, he quickly desisted or reminded the students of what needed to be done. Examples of such activity were recorded on November 19, 1989 when during a vocabulary seatwork activity Mr. Lino said, "When you're finished, I'd appreciate your going to study the words you missed. But I don't want it loud in here until everyone is finished."

On December 5, he said, "When you are finished, please use your time well."

On December 19 the direction was, "You guys be quiet until everyone is finished."

The only other competing vector to be noted in vocabulary activities was initiated by a student during the vocabulary seatwork activity on October 27, 1989.

At about 10:10, Melvin is called to have his vocabulary checked. Students generally go up quietly. However, Melvin asks loudly, "Is this really necessary, sir? Why does everyone have to be graded?"

Mr. Lino admonishes, "Melvin, you're disrupting the class."

This exchange provides a diversion which allows students to take attention from their task and to visit with each other. They resume their task, however, when Mr. Lino asks them to quiet down at 10:12.

This competing vector did take attention from the main vector, but Mr. Lino desisted and returned
attention to the main vector. The infrequency of competing vectors shows Mr. Lino's prowess in keeping the program of action on its course.

In conclusion, the major program of action of a vocabulary activity was controlled by Mr. Lino. He was able to take students away from it with the many exchanges he initiated with individual students. Yet when required, he could easily refocus students. One possible reason Mr. Lino was able to do this was the structure of the vocabulary task; another may have been his rapport with the students; a third reason may well be his general managerial abilities.

Literature

Literature activities comprised 690 minutes or 46.2% of the total observation period. Although the set schedule indicated that Thursdays were literature days, there were times when the other areas of vocabulary and grammar were preempted in an effort to finish a major unit, *The Odyssey*.

Mr. Lino claimed that he did not work in units. However, the major literature being covered for a particular period formed the basic core of the classes as it was from this piece of literature that writing topics for vocabulary came, lessons on writing were conducted using this piece of literature as the focal
point, and topics for essay assignments came from the literature under study.

Three activity types were evident in the literature lessons: the lecture, the quiz, and the quiz review. The method of content delivery during literature was the lecture. On some days, a short quiz preceded the lecture. On such a day, following the opening activities, Mr. Lino would ask the students to have their notes out on their desks so that he could check them. Checking the notes provided him with an indication as to who had done the assigned reading. Those students who did not have their notes were not allowed to take the quiz, and would have to serve detention.

The quiz generally took an average of six minutes depending on its difficulty. Although the questions were all factual, students seem to have difficulty with them as would appear to be indicated by their negotiations and their questions:

Teacher: Who is the first suitor to be called?  
Student: Does spelling count?  

Teacher: How many suitors were there?  
Student: Exact number? Say within five?  

After students had turned in their papers, Mr. Lino would begin the next activity, the quiz review. This was usually a noisy affair with students yelling
out answers, questioning the answers, and making comments about their performance on the quiz.

Next would follow the lecture activity. During the observation period, Mr. Lino lectured on mythology, The Odyssey, Antigone, and Romeo and Juliet. Except for two occasions when he was providing background information, all lectures followed the same format. Mr. Lino would read a short passage out of the text, then stop to explain or to ask a question. An incorrect response could result in the teacher providing the correct response with some elaboration. A correct response could also be elaborated upon, but not in every case. When the students appeared to find a particular concept difficult, then he might provide some elaboration. Because students were expected to have read this material, some of them might interject a comment here and there or ask for clarification.

The following is a narrative record of a representative literature lesson:

At 10:26, Mr. Lino announces, "While you are copying the cultural literacy items from the board, I'll come to check your notes on The Odyssey. Please have them ready for me."

He reminds students that if they do not have notes, they cannot take the quiz. The students who are finished are sitting and waiting, or visiting with other students. Greg announces that he does not have all the notes, but he read the book. So can he take the test?
Other students offer reasons for not having much notes. The class is somewhat noisy.
"Sir, you didn't check mine."

At 10:26 Mr. Lino directs the students to put everything on the floor except for a sheet of paper and a writing implement. One student asks, "Do you make up the questions as you go along?"

At 10:28 Mr. Lino calls out the questions: "Number one, we'll make the first one easy. Who is Melantho? Number two, whose name means the victim of enmity?"

The teacher mocks the students when he sees the puzzled looks on their faces. "Number three, how did Odysseus prevent Eurycleia from recognizing his identity?"

Mr. Lino elaborates when a student asks for a clarification. "Number four, how did Penelope say she would choose her next husband? Number five---"

"Hold on! Wait!" yells a student.
"I'm sorry. Excuse me. Number five, who is the first suitor who was called?"
"Does spelling count?"

Mr. Lino asks a student to be quiet. "Number six, how many suitors were there?"
"Exact number? Say within five?"

"Number seven, which of Odysseus' men was injured in the fight? Number eight, how many serving maids turned bad while Odysseus was away? Number nine, how does Penelope test Odysseus to make sure he is the real Odysseus? Number ten, true or false, everyone believed Odysseus to be dead."

Mr. Lino is asked to elaborate on the last question. There are some questions from students, and at 10:39 Mr. Lino asks students to pass papers up quickly. Students discuss the questions with each other as they are passing up the papers. Then the next activity, the quiz review, begins.

Mr. Lino calls out the questions, and students provide chorus answers. There are groans and comments when students hear the correct answers. They yell to show approval or disapproval. There are some negotiations.

"Sir, how many points are you giving us for the suitors?"

Mr. Lino answers and then asks if there are any other questions. Students seem very
hyperactive. They continue to yell out questions, answers and comments.
"Was the last one true or false?"
"True."
There are groans and more yelling.
"Children, Margaret is trying to ask a question."
"Does that have to be exact?"
The exchange is drowned by the noise of the students.
At 10:44 the lecture activity begins when Mr. Lino asks the students to take out the hand-outs, but he is interrupted by an exchange between two students. He goes over to their desks, talks quietly with them for awhile and then he moves back to the podium. The two students settle down.
At 10:45 Mr. Lino reviews the reading assignment. The students read, listen, and take notes. He asks questions periodically as he takes them to the point where the hand-out begins.
As Mr. Lino begins reading from the hand-out, the students rustle as they search for their hand-outs. Mr. Lino reads and elaborates from time to time.
The students seem somewhat inattentive. However, when Mr. Lino calls on a specific student, the students stop rustling and become attentive. He draws parallels from the literature they are reading to current events and to their daily lives.
The teacher continues reading. The students seem restless. The teacher asks questions and calls on students who appear not to be paying attention. In the reading is the answer to one of the quiz questions. There are some comments as students recognize this.
At 10:59 Mr. Lino resumes reading, and stops with this sentence: "And the dog dies."
There are moans and groans from the students. Mr. Lino asks, "Why does the dog die?"
He calls on Greg, but Greg does not have an answer. Another student volunteers the correct answer. Mr. Lino elaborates on the significance of the death of the dog.
"You know what happens when you get home how your dog acts? He wags his tail?"
"John-Boy remarks, "My dog does not even pay attention to me when I get home."
There are comments and laughter from students.

"Well, it figures that you would have a dog like that."

"Well, we can certainly tell why."

There are more comments and laughter, and some students take this opportunity to begin visiting with each other.

At 11:02 the discussion goes back to the main segment. Students seem distracted. One looks at a compact. Two are writing. Two boys are wrestling and having their own discussion. The noise level peaks, and Mr. Lino asks students to settle down. The students comply, and Mr. Lino continues reading. He asks a question, "Why is that ironic?"

A few students offer some answers. Mr. Lino moves to the podium and picks up a book. The students reach for their books as he asks them to turn to page 20. One student asks a question; Mr. Lino answers and asks for more questions. When none are forthcoming, he reads then asks, "Who lights the way?"

"Rudolph," mutters a student.

Everyone laughs, and Mr. Lino tells them, "We'll finish on Monday" as the bell rings.

The Program of Action in Literature Activities

Configuration

During the literature quizzes, the stream of behavior in Mr. Lino’s intended program of action consisted of the teacher reading the questions orally, and the students listening quietly and recording the answers to the questions. For the quiz review, the teacher asked the questions, and the student supplied the answers. The purpose of this exercise was for students to clarify questions they may have had about the quiz.
During the lecture activity, the role of the teacher as established by Mr. Lino was to present the information, ask questions, make clear explanations so that students could understand. The students' role was to listen attentively, make some indication that they were following the teacher—comments, questions, laughter—supply answers to questions asked, and to take notes as the occasion warranted. The attention of the students was on the teacher or the textbook. Students were seated in rows, and all were able to see the teacher and the chalkboard.

The semantic map illustrates the configuration and the maintenance of the programs of action of the literature activities described in the recorded narrative (see Figure 4). The first activity, the literature quiz, began at 10:28 when Mr. Lino started asking the questions. Students' requests for clarifications and their negotiations punctuated the quiz. Mr. Lino responded briefly and then quickly moved on to the next question. The quiz activity ended at 10:39 when he asked the students to pass up the papers.

The next activity, the quiz review, began almost immediately. Mr. Lino asked the questions and students yelled out answers. There were questions
about the quiz from the students and as noted in Figure 4, all directed at Mr. Lino.

The lecture activity began at 10:44 when Mr. Lino asked students to take out their hand-outs. A competing vector emerged almost immediately, triggered by two students yelling at each other (note the two consecutive student actions above the teacher's circle at 10:44). Mr. Lino desisted and began reviewing the reading assignment. He kept the vector going by reading and elaborating, at times asking rhetorical questions, at times asking questions of inattentive students. There were occasional comments from students.

At 10:58 a competing vector (see Figure 4) was created when Mr. Lino elaborated on the response of a student to a question, "Why does the dog die?" This vector, which took the teacher away from the main vector, lasted two minutes until Mr. Lino asked students to settle down and then he quickly posed another question. The lecture activity and the literature lesson ended at 11:04.

Maintaining the Program of Action

As in the writing activities, during the literature activities Mr. Lino dominated, although some attempt was made by the students to manipulate the vector by their negotiations and delaying tactics. However,
because Mr. Lino moved through both the quiz and the quiz review (segments where there was much interaction) fairly quickly, there was not much opportunity for students to distort or cause the program of action to deviate. Although Mr. Lino entertained some questions, he was very businesslike and kept students focused on the matter at hand, leaving very little opportunity for the fomenting of competing vectors. The quiz reviews were usually marked by noisy interactions, but when the noise level rose, Mr. Lino desisted and students settled down. In the narrative recorded when students yelled, he said, "Children, Margaret is trying to ask a question here."

On December 14, when Mr. Lino asked students about the turning point in the play Antigone, they yelled out answers, and Mr. Lino had to ask them to settle down.

During the lecture activity, Mr. Lino was again in control. This part of the literature lesson was not characterized by as much interaction as the quiz and quiz review. To keep the program of action in motion, Mr. Lino asked rhetorical questions, related the reading assignment to current events and students' daily lives, and called on inattentive students, but also other students who were becoming
restless. Another technique was the use of page numbers to refocus students. The following examples were noted during several lecture activities:

Mr. Lino is discussing the treatment of women in the book _The Odyssey_. Students comment, and to refocus students Mr. Lino says, "Bottom of page 298, what does Odysseus mean by 'the victim of enmity?'"

After some discussion, he says, "Now on page 299...," then he reads. Next he calls out, "On page 300," and he continues reading. "Okay, on page 301..."

On October 26, 1989:  
"I want you on page 106."  
"Top of page 123..."  
"First story he tells ...on page 124..."  
"Bottom of page 125..."

On November 20, 1989:  
"On page 320...," then the teacher reads.  
"On page 322..."  
"On page 323..."  
"On page 325 he tells his mother..."

On November 21, 1989:  
"Now on page 330..."  
"Who was wounded on page 335?"

After a competing vector, Mr. Lino refocused students with,  
"And on page 338...how many maids...?"  
"Bottom of page 339..."  
"Bottom of page 346..."  
"Very bottom of page 364..."

Another of his strategies to hold students' attention was his use of humor. As mentioned earlier in this chapter Mr. Lino assigned nicknames to students, and at moments when attention wandered using these names helped to refocus attention.

Mr. Lino entertained the students particularly during the literature lecture activities by using humorous examples in his explanations of the reading.
He capitalized on the sordid in literature to hook students' interest and attention. For example when providing background information on Shakespeare, the toilet habits of 16th century Europe was especially captivating:

"Let's talk about health conditions. Who saw 'Dangerous Liaisons?' In those days, they didn't believing in bathing. What did the French invent?"
"Perfume."
"So they didn't even have deodorant back then?"
"No. How many of you saw 'The Name of the Rose?' That was the medieval period in all its ugliness. People didn't have toilets back then."
"Where did they go?"
"In a pot, a chamber pot. What would you do with its contents? Throw it out the window. Do they even look before they do that? If you're outside looking up with your mouth open...?"

Mr. Lino's method of content presentation played a crucial role in the guidance and the protection of the program of action in literature lecture activities. During a lecture, Mr. Lino stood at the podium in front of the classroom which afforded him an unobstructed view of the class, or he paced to and fro in front of the desks, at times venturing three desks deep down one or two of the center aisles. He could see all the students all the time, and he or the book or the hand-out was expected to be the focus of their attention. As he lectured, it was easy for him to notice inattentive students, notice difficulty in
understanding, and rectify such matters without fanfare.

Competing Vectors

A majority of the competing vectors noted during the observation period occurred in literature lessons. Of twelve competing vectors occurring during literature lessons, one emerged during the quiz review activities.

On December 14, 1989 Mr. Lino is reviewing the questions asked on a quiz. At about 11:40 a student asks, "Mr. Lino, when is the test on this?"

Mr. Lino replies, "After Christmas."

Another student asks, "How long is it?"

"Just like the other tests on mythology and The Odyssey."

"About a hundred?"

"I think so; I don't know."

With that last answer Mr. Lino puts an end to this vector and takes the class back to the main vector by asking the next review question, "What is the original meaning of hypocrites?"

The other eleven competing vectors recorded during literature lessons occurred during lecture activities. In the particular narrative recorded two competing vectors occurred. The first one was initiated by students still arguing over the literature quiz answers at 10:44 (see Figure 4). Mr. Lino was giving the directive to get out hand-outs when he was interrupted by the disruptive students. He had to stop what he was doing to go over and settle them down.
Some of these competing vectors stemmed from the teacher's explanations as in the narrative recorded. Figure 4 shows Mr. Lino saying at about 10:58, "And the dog dies. Why does the dog die?" The map shows several student reactions, and then Mr. Lino leaves the main vector to elaborate on a student response. The elaboration becomes extended as it triggers comments and laughter from students. The interplay between the teacher and the small group of students communicates to the others the presence of an opportunity to start their own discussion with other classmates. However, after two to three minutes, Mr. Lino desists and is able to return students to the primary vector.

Another competing vector stemming from the teacher's explanation was triggered by a student's question on November 20, 1989:

A few students seem restless. One plays with his head. Another one scribbles in a student handbook. Then at 10:40, a hand goes up, "Why do they spell "Kronos" in the book C-r-o-n-o-s?" This question has very little to do with the subject at hand. Mr. Lino explains by demonstrating Greek spelling on the board. He uses several examples. He asks students if they understand. They chorus, "No." Mr. Lino clarifies further by providing more examples. He tells students that there are no letters to represent K and J in Greek orthography. The students seem to be understanding better.

At 10:47 Mr. Lino asks, "How did we get on this tangent?" This question signals the need to get back to the main vector. He does so by announcing that they are on page 301.
Other competing vectors in lecture activities were discipline oriented:

On November 20, Mr. Lino is reading and lecturing. At the beginning of this activity quite a few students are not paying attention. Two students, Jon and Greg, are visiting inobtrusively. Mr. Lino sees them and asks them to stop, and he continues to lecture.

At 10:28 Greg asks, "Where are you at?"

Mr. Lino continues reading, and Greg and Jon continue to visit. Then Mr. Lino says "Greg, if I see your lips move one more time...!"

Jon intervenes, "He's asking me where we are."

Mr. Lino, not to be swayed says, "Greg, come over here!" He moves Greg to a vacant front seat, then asks, "Now can we continue?"

Another student yells out, "Wait a minute. Where are we?"

Mr. Lino and the students establish the place in the book, and he continues reading. It is now 10:30.

Again on November 21, 1989:

Mr. Lino is lecturing when at 10:30 someone passes candy to Jon. Mr. Lino notices Jon with the candy and tells him to put away the candy. Then he asks Jon to write his name on the chalkboard for detention. Jon tries to get out of it, but he moves to the chalkboard to write his name. As he does this, Mr. Lino berates him kindly. Meanwhile, the students sit and wait. It is 10:33 when the main program of action resumes.

Some vectors were triggered by students' irrelevant question as in the data recorded on November 30, 1989:

At 11:39 Mr. Lino is providing background for the play Antigone when Greg asks, "Mr. L., what was that red stuff that was on the ceiling?"

Another student chimes in, "Yeah, what was it?"
Mr. Lino answers that some other class was responsible for putting it there. "First period?" is the question from another student.

Mr. Lino tells the class that this subject can be deferred for later discussion. Then he poses a question to take students back to the main segment at 11:40. "What happens at Delphi?"

He calls on a student to answer it.

On January 18, 1990, the following competing vector was recorded:

At about 11:33 Mr. Lino is lecturing about the components of entertainment. He is trying to establish a link between Shakespeare and soap operas when a student catches his eye and asks, "Are you going to let us go to the computer room?"

Mr. Lino replies, "Why do you need to go there?"
"We need to do our final exam. It was in the note."
"What do you plan to do about this class?"
The student indicates that she and her friend will get the notes from another student in the class, and he lets them go. The lecture resumes at 11:34.

Because of the length of the literature period and because of the complexity of content, the teacher's strategies for maintaining the program of action were particularly apparent during this period. To keep the students' attention, Mr. Lino called out page numbers regularly so students could know from where he was reading. Elaborations led to the creation of competing vectors, but Mr. Lino's reprimands and reminders plus the students' timely
questions and responses served to guide and protect the main program of action.

**Grammar**

The observer was present for two grammar classes. One period was devoted to a test. The second period consisted of two activities, a quiz and an oral practice exercise. The quiz (which was preceded by negotiations from the students and given orally by the teacher), was comprised of questions on parts of speech. That particular day was an "A+ day" which meant that if a student received an A on the grammar quiz, he/she could substitute that grade for a lower grade. Mr. Lino said that he made grammar days A+ days because the students had the least problem with grammar. Students worked for about 18 minutes on the grammar quiz, but it became somewhat difficult to keep them on task since they finished at different times. And although the students who were finished with the test were directed to do some studying, not all of them complied.

The second activity which took the rest of the period was a practice exercise out of the grammar textbook. Each student was called upon to identify the parts of speech in a sentence. When all the students had had a turn, Mr. Lino ended the lesson
even though there was about five minutes of class
time left. He said that they were tired and they
could use the rest of the period to visit. What
follows is a narrative of that grammar lesson.

At 10:18 Mr. Lino says, "Okay let's do this
thing."
A student asks, "What kind of test is this
anyway?"
"Grammar"
"Let's do it on Monday."
Mr. Lino asks the following questions
orally:
1. Name three questions an adjective will
answer.
2. Tell what an adjective is. How do you
define an adjective?
3. What is the comparative form of
'incredible?'
4. List the forty prepositions.

At 10:22 he directs the students to study
until all the papers are in, and then they will do
some grammar.
"Today is an A+ day. If you receive an A
on today's test, you can drop one of your lower
grades."

At 10:25 Mr. Lino settles in a student desk
facing the class. The students are working
quietly.

At 10:26 a student is finished and turns in
her work. Mr. Lino tells her, "Jolene, learn
those questions."

There is no response or indication from
Jolene that she has heard him.
"Get out those papers and study." This last
directive is focused on Jolene. Mr. Lino catches
her eye and she complies.

At 10:29 more students are finished. There
is some exchange between the teacher and a
student about the last item, and then Mr. Lino
says, "Okay, I'll give you a few more minutes
and then I'll ask you to stop."

A student asks, "What were two, three, and
four?"

Name three things an adjective does."

Students are not studying quietly. One is
trying to sneak a peek from a neighbor's paper.
Two are playing tic-tac-toe, and another group is visiting. Mr. Lino keeps reminding them of what they should be doing—studying.

"Hi, Jacob. Okay, settle down," says Mr. Lino as he notices that Jacob is trying to distract a neighbor.

As more students finish, they begin to surround the teacher's desk asking questions about the test. Finally at 10:35, Mr. Lino says, "Okay, time's up. Pass your papers up and get out an orange grammar book."

The students go to the bookcase for the grammar books. Some stop to join the group around Mr. Lino's desk to check on their test. At 10:37 a student asks a question about one of the test items. Mr. Lino asks Nolan to supply the correct response. "What are the three most commonly used adjectives?"

Some elaboration and discussion ensue. At 10:40 Mr. Lino asks students to open books to page 33 in the red. Jon is just now picking up his book. His excuse is that he had been studying his words.

Mr. Lino proceeds with the exercise on page 33. He reads the sentence and calls on individual students to identify the parts of speech. Some students visit as this procedure is going on.

"After the game the crowd rushed for the post." He calls on Helen who answers correctly. Meanwhile, a couple of students, Bella and Nolan, are visiting. Mr. Lino asks Bella to pay attention, and he takes about a minute to discuss appropriate behavior. He also lectures on the importance of paying attention.

Mr. Lino calls on Bella as he reads the sentence, "Everyone but John had seen the approaching car."

Bella has difficulty with this sentence. "But, preposition; I don't know what had is; the, adjective, car, thing, noun."

"What do you suppose 'approaching' is?" asks Mr. Lino.

"Adjective," volunteers another student.

Mr. Lino reads out another sentence, "All but one of trees died during the winter."

He calls on a student. Then Mr. Lino provides reasons why the answers given are correct.

Most of the students are paying attention. Mr. Lino takes a moment at 10:50 to discuss
with Jacob how he is feeling. Then he talks a little about how the students are performing. Then it is back to the main segment. Mr. Lino continues calling on students to do an exercise. When all the students have had a turn, he tells them that he will only ask them to do this today because they are tired.

At 11:00 Mr. Lino asks students to put books back neatly. Students go back to their desks to visit with classmates. Others hover around the teacher's podium.

The Program of Action in Grammar Activities

Configuration

During the grammar activities the program of action put into place by Mr. Lino required certain behaviors from the students as well as the teacher. For the test to proceed in the manner appeared to be intended by Mr. Lino, he had to read out the questions and give clear directions as to the procedures that students were to follow once they were through with the test. Mr. Lino realized that students would finish at differing rates.

Once everyone had been provided with adequate time to complete the test, another program of action was put into play. Now the activity was a practice exercise out of a grammar textbook. This new program of action called for Mr. Lino to read out the sentences and call on individual students to respond. The students were expected to follow along in the textbook, be ready to respond when called upon, and
to listen quietly while their classmates were responding.

As illustrated by the map of the program of action of the grammar activities (Figure 5), the first activity which was the test, began at 10:19 and lasted until 10:36 when Mr. Lino asked students to get out their grammar books. During the test activity Mr. Lino took two minutes to call out the questions, 10:20 to 10:22, and then until 10:35 the students worked on the test. The first student finished the test at 10:26 and Mr. Lino had to remind her about what she was supposed to be doing. During this time there were also clarification questions about the test, and Mr. Lino had to keep reminding them of what they should be doing and asking the students to settled down.

There was a marked transition between the test activity and the oral practice activity. This transition lasted from 10:35 to 10:40. At this time students checked to see if their tests had been graded, picked up grammar books, and asked questions about their tests. The teacher tried to get ready for the next activity while answering students' questions.

The second activity, the oral practice exercise, was begun at 10:40. At about 10:41, Mr. Lino was diverted from the program of action by the students'
inattention. This is illustrated on the map by the placement of a circle representing the teacher off the main course of the program of action (see Figure 5). After Mr. Lino had dealt with this behavior he proceeded with the exercise asking the questions and calling on students to respond. At 10:50, Mr. Lino again diverted the program of action with his question about Jacob’s health and his discussion of students’ performance. He then returned to the main program of action and the activity ended when he asked students to put their books away at 11:00.

The recorded narrative and the semantic map of the lesson show that the course of the primary vector during the grammar lesson was not always smooth. Mr. Lino tried to guide the program of action by telling students that they were to study until all were finished with the test. Studying would keep students occupied and prevent them from disturbing the ones still working on the quiz. Mr. Lino also provided an incentive for students to maintain the program of action by reminding them that this was an A+ day. This incentive should have kept students’ attention on their work, and thereby helped to maintain the course of the primary vector.

What happened, however, was that once students finished their test, some were reluctant to do any
studying. Instead, they wanted to visit with each other or with the teacher. Mr. Lino had to remind student a number of times about what they were supposed to be doing. No major damage was done to the program of action; however, Mr. Lino had to do much desisting.

Competing Vectors

This particular segment was marked by two fairly extensive transitions. The first transition occurred between the opening activity and the grammar test. At this time the students prepared for the test. They sharpened pencils, asked for paper, visited with friends, and tried to delay the test. Activities following these transitions seemed particularly affected by them. The students found it difficult to stay on task, and the textbook activity was interrupted by two competing vectors.

One competing vector resulted when two students were visiting. Mr. Lino had to stop what the class was involved in to desist and to discuss appropriate behavior and the importance of paying attention. This episode is represented in Figure 5 with the circle denoting the teacher moving off the course of the primary program of action.

The second competing vector initiated by Mr. Lino can also be seen in Figure 5 as a movement of
the teacher from the primary program of action. It is
difficult to tell if this was a desist or a way to
maintain students' attention. Close to the end of the
period, Mr. Lino inquired about the health of a
student. He proceeded to talk for a while about the
students' performance on this particular exercise.
They continued the exercise after that interlude.

Comparing Programs of Action

There is great similarity in the guidance and the
protection of the primary programs of action in both
the writing and the literature activity segments. In
both areas the mode of content presentation was the
lecture. Lecturing afforded Mr. Lino almost total
control of the program of action. Rhetorical
questions, questions eliciting chorus and/or completion
answers from students were used to usher the
program of action along. Calling on inattentive
students and the use of humor were techniques used
by Mr. Lino to focus attention on the primary vector.

One difference in the course of the primary
vectors of the writing and literature activities
stemmed from the occasional literature quizzes. There
were no quizzes in the writing segments. The quizzes
in the literature lessons were times when the students
tried to manipulate the program of action through their negotiations and delaying tactics.

Both the literature and vocabulary lessons contained occasional quizzes. In both instances Mr. Lino conducted the quizzes orally and moved through them fairly quickly. In the literature quizzes the students used negotiations and delaying tactics to manipulate the program of action; whereas in the vocabulary quizzes, Mr. Lino manipulated the main vector through the use of humor.

Both the vocabulary and grammar lessons included seat work activities. However, although the vocabulary seatwork was intended to take the rest of the period, the grammar seatwork had no set time limit. As a result, lag time was created for students with differential completion times. The end result was that more desists were necessary to keep the program of action going in the grammar activity than in the vocabulary activity.

The quality of competing vectors was another area of difference in the activity segments. The competing vectors that emerged during the grammar and vocabulary segments tended to be triggered by discipline problems. Some of those that emerged in the literature and writing segments were also triggered by discipline problems, but there were those
that occurred because of extended elaboration of a concept.

**A Contrasting Case of Programs of Action Across Content Complexity**

Two units of contrasting complexity were observed for this study. Six weeks were spent on *The Odyssey* unit which was the more complex unit, and four weeks on the *Antigone* unit. In the four weeks spent on the second unit, two versions of *Antigone* were assigned for reading and discussed in class. *The Odyssey* was more complex because it was introduced quite early in the school year before the students were relatively familiar with Mr. Lino's system. *The Odyssey* was also a longer book, longer than both versions of *Antigone* combined. *Antigone* was less complex because *The Odyssey* unit and a unit on mythology provided students with a background for *Antigone*. Furthermore, by the time *Antigone* was assigned, students were already familiar with Mr. Lino's system and their study system was in place.

Because of the length of time spent on *The Odyssey*, more class periods of *The Odyssey* than of *Antigone* were observed. The observations, however, yielded interesting information about the manipulation of the program of action under both content
situations. The following is a representative narrative of a typical lecture activity in *The Odyssey*.

At 10:20 Mr Lino begins the lecture activity by saying, "We can now try to finish up this book."

He proceeds to summarize the reading assignment, stopping to ask a question from time to time. When Sheila does not know the answer he tells her, "We've done this before."

He goes on to explain, read, and ask questions. Students chorus completion answers. Jon is talking, playing with some paper, and talking to the student behind him. Mr. Lino asks him to be quiet and he settles down. Mr. Lino continues lecturing and then asks, "What is Penelope likened to?"

Students chorus the answer. At 10:28 two students, Jon and Greg, visit inobtrusively. Then Greg asks, "Where are you at?"

Mr. Lino reads and Jon and Greg continue to visit. The teacher notices them and says, "Greg, if I see your lips move one more time ...!"

Jon volunteers, "He's asking me where we are."

Mr. Lino says, "Greg, come over here!" Then he moves Greg to a vacant front desk. "Now, can we continue?" he asks.

"Wait a minute! Where are we?" asks another student.

At 10:30 Mr. Lino and the class establish their place in the book, and the teacher continues reading, discussing, and calling out page numbers as he goes along. He asks questions. One goes to Sheila. She does not know the answer and he stops to cajole her. There are comments and laughter from the other students. Mr. Lino tries to get back to where they were, but he has momentarily lost the place. Eventually, he finds it, and gets students back on task. He proceeds to read, and ask questions for which students provide chorus answers. There is laughter if an answer is wrong.

At 10:35 Mr. Lino talks about two pieces of diversion in *The Odyssey*. "Why does Homer create this diversion?" he asks. "Leona, you can talk louder; you're almost always right," he tells a student.
Mr. Lino discusses the mythology connection. Jon visits with a classmate near him and Jolene makes a comment about the treatment of women in *The Odyssey*. The discussion continues and there are more comments from students.

Mr. Lino continues reading and explaining. "Bottom of page 293 . . . what does Odysseus mean?" he asks.

A student answers, "The victim of enmity."

"On page 299 and on page 300 . . ." Mr. Lino continues reading.

At 10:39 Jon is playing with his hair and another student scribbles on a student handbook. Nolan appears restless. Some students are taking notes. At 10:40 Nolan's hand goes up. "Why do they spell Kronos on the book C-R-O-N-O-S?"

Mr. Lino explains and demonstrates Greek spelling on the board. Then he asks students if they understand.

They chorus, "No."

Mr. Lino clarifies further using several examples, explaining that there are no letters for J and K in Greek orthography. The students appear to be understanding.

At 10:47 Mr Lino asks, "How did we get on this tangent?" Then he gets students back on track by saying, "On page 301..." and he reads.

A student asks a question about Athena.

Mr. Lino leads the student to figure out the answer by asking her several questions. There is another question and the teacher answers it. Mr. Lino reads, and asks questions and students provide chorus answers.

At 10:50, Mr. Lino refocuses attention, "Okay, on page 301 . . ." He reads and elaborates. Nolan's head is on the desk. "On page 302 . . ." Mr. Lino reads, discusses, then asks, "How does he interpret the dream?"

He calls on a student to respond, but she does not have an answer. Mr. Lino chides her for not paying attention. Then he re-establishes their place in the book on page 303. He reads, discusses, and questions. Whenever there is a question from a student, it leads to an elaborate explanation.

At 10:55 Mr. Lino refocuses students by announcing. "We need to finish this."

He continues to read, taking the class to chapter 21. "On page 317 . . ." he explains.
"What page are we on?" asks a student. Students follow the reading, taking notes, or just sitting and listening. Mr. Lino reads, discusses and some students try to extend the discussion. He asks them to be quiet, and establishes the place in the book on page 319.

At 11:02, the lecture continues. Mr. Lino calls out the page numbers 320, 322, 323. Students start getting their packs ready, but Mr. Lino continues, "On page 323, 324, 325, he tells his mother . . . Has this happened before?"

The bell rings and the teacher says as the students leave, "We'll finish tomorrow."

Program of Action in The Odyssey Activities

Configuration

The map (Figure 7) of the program of action of the lecture activity of The Odyssey shows the beginning of the main vector at 10:28. Mr. Lino was lecturing and then he asked a question. Almost immediately a competing vector was created, triggered by a discipline situation. This vector was illustrated on the map by a movement of the teacher away from the main vector. Note the circles. This vector lasted two minutes before Mr. Lino was able to return the class to the main vector by establishing their place in the book.

Mr. Lino's lecture consisted of reading, stopping to ask questions and explaining. When he asked a question, students supplied chorus answers. There were occasional student comments.
At 10:40 a competing vector was triggered by a student's question about the spelling of Kronos. This question moved the teacher off the course of the main program of action once again, this time for seven minutes.

The teacher redirected the program of action at 10:47 and he continued the lecture, reading, explaining, and questioning until 11:04 when he signaled the end of the vector by saying, "We'll finish tomorrow."

Maintaining the Program of Action

Mr. Lino maintained the program by asking questions which allowed for chorus responses. He also asked factual questions and questions requiring one- or two-word answers. After an explanation or an elaboration, Mr. Lino refocused attention on the main vector by calling out page numbers to establish the place in the book. This was especially notable after the first competing vector at 10:30 and the second one at 10:47 (see Figure 7).

Mr. Lino was the one responsible for the protection and the guidance of the program of action. This was shown on the map of activity vector as the preponderance of circles representing the teacher in the path of the main vector. Indeed, students were involved but only as far as responding to questions
posed by the teacher, an occasional comment, and in this case initiating one of the competing vectors.

During a lecture on *The Odyssey*, Mr. Lino's strategies for holding the curriculum in place, in other words, for guiding and protecting the primary vector, were apparent. He asked most of the questions, usually factual, to check students' comprehension. He elicited chorus answers from the students to ensure that their attention was focused on the topic of discussion. For example when discussing Odysseus's characteristics, questions like the following were asked:

"His favorite animals were ____ and ____?"

Mr. Lino also called out page numbers to focus students' attention. The following example was recorded during a lecture:

"We're now on book eight."
"Top of page 123 . . . ."
"First story he tells is on page 124."
"Bottom of page 125 . . . ."

**Competing Vectors**

Especially noteworthy was the creation of competing vectors or programs of action. Because *The Odyssey* was difficult reading, Mr. Lino had to do extensive explanations and clarifications during his lectures. If he asked a question, and a student responded with a wrong answer, he at times provided
the correct answer. At other times, Mr. Lino elaborated on a correct answer provided by a student. The elaboration at times led to the creation of competing vectors. An example of these vectors is as follows:

Mr. Lino is lecturing when he poses this question at 10:46. "What happens to Hyperion's cattle?"

The question is answered and a student draws connections between these cattle and the cattle in India and the way they are treated. A discussion ensues. To get the class back to the main segment, Mr. Lino asks where they are. A student calls out a page number and class resumes.

Typically the competing vectors during *The Odyssey* were lengthier and occurred more frequently than during the *Antigone* lectures. Also, the majority of the competing vectors occurring during the lectures on *The Odyssey* were teacher initiated. This situation would seem to indicate an active manipulation of the program of action on the part of the teacher. Because the teacher was in control of the vector, he could provide extended examples when necessary, even if these examples resulted in competing vectors. Likewise, when he needed to, he was also able to return focus on the main program of action with his questions and page reminders.

Other types of competing vectors occurred during *The Odyssey* lectures. Some were triggered by discipline problems. At one point Mr. Lino made an
extended desist, and at the end the students had to be refocused. Another teacher-initiated competing vector occurred when a student was perceived by the class to be sleeping. Students' focus on the student alerted Mr. Lino to the situation. He stopped and walked over to the sleeping student. She opened her eyes and assured him that she was paying attention. Then, before returning to the primary vector, a mini lecture on the importance of good posture followed.

Student-initiated competing vectors did occur during the unit on *The Odyssey*. One such vector was precipitated by an irrelevant question from a student. The purpose of the question was to find out the reason for reading *The Odyssey*. Mr. Lino and various other students supplied reasons to justify studying *The Odyssey*. This discussion lasted about two minutes and afterwards, it took some effort to refocus students.

Two competing vectors materialized during this recorded activity. The first one was created at 10:28 when Mr. Lino had to deal with two students who were being disruptive. He had to stop lecturing to move one of the students, and this vector took him away from the main program of action for two minutes. Mr. Lino refocused attention on the main vector by calling out a page number.
A second competing vector emerged at 10:40 when a restless student asked about the difference in the spelling of Kronos (see Figure 7). The teacher went into a detailed explanation which lasted seven minutes. Mr. Lino returned focus on the primary vector by asking, "How did we get on this tangent?" He then announced the page in the book on which the class should be.

In comparing the conduct of both units, one can see that Mr. Lino's method of content presentation made the daily task less ambiguous and less risky. It could be argued, however, that there was more ambiguity in *The Odyssey* unit mostly because it was the unit first presented. From a chronological and developmental viewpoint the *Antigone* unit was less ambiguous because *The Odyssey* unit had paved the way. During *The Odyssey* unit, Mr. Lino installed the procedures and routines that would scaffold the unit lessons. Students were familiarized with these procedures during *The Odyssey* unit, and during the *Antigone* unit more attention could be devoted to content, rather than sharing the time and focus with the learning of procedures and routines. The results of the tests would appear to corroborate this observation. The average grade for *The Odyssey* test
was 2.5; whereas the average for the Antigone test was 3.2, A being equal to 4.0.

The Antigone Unit

The following narrative details activities in the Antigone unit:

At 11:21 Mr. Lino begins the first activity, the quiz on Antigone by saying, "Okay, here we go. Number one . . ." A student yells out, "Wait! Don't go." Mr. Lino waits a little and begins again. "Number one and number two, name the daughters of Oedipus. Number three, who is Oedipus? Number four, who is Haimon?" "Wait!" from a student. "Number five, how does Antigone defy Creon?" A student asks for a clarification and Mr. Lino repeats the question. "Number six, what will be the result of their defiance? Number seven, what do you think is the turning point of Antigone?" The students sigh, Mr. Lino elaborates, and a student asks, "Mr. Lino does spelling count?" Mr. Lino replies, "I want to know that you know. Number eight, what does Teiresias predict? Number nine, in the play, Creon and Haimon have a talk; how does Creon react to Haimon's advice? Number nine . . . " "Wait, wait!" yells a student. "Number ten, when approximately did Sophocles live?" A student remarks, "When did Sophocles live? A long time ago. Is it between . . . ?" Another student asks, "What's number eight and number seven? You're looking for a date?" Mr. Lino answers as many of the questions as possible, and at 11:30 he asks the students to hand in the papers, and tells them that they will be going over the questions. Mr. Lino picks up the papers and begins the next activity, the quiz review. "What is the turning point?" Students yell out answers, and Mr. Lino asks them to settle down. He calls on Greg.
Greg answers, "When Antigone buries her brother."

Two students query this answer. They each have their own ideas. Mr. Lino explains why Greg is right. A student in the front refuses to accept it. The teacher elaborates. "It's not an opinion," he says.

Two students have their hands up. Nolan asks, "Was it a turning point or the turning point? But you should specify. How can you assume?"

Mr. Lino deftly handles this inquiry by telling Nolan to raise points before and after the teacher established turning point. He goes on to say that students are improving. Their success on the Antigone quizzes are much higher than those on The Odyssey quizzes. Then he asks the second question.

Nolan questions the next answer, but Mr. Lino tells him that he is wrong. The teacher asks the next question. But before someone can answer the question a student interrupts, "Mr. Lino, when is the test on this?"

"After Christmas," he replies.

"How long is it? About a 100?"

"I think . . . I don't know. What is the original meaning of hypocrites?"

Students continue to yell out answers. It is now 11:41. Mr. Lino begins the next activity, the lecture, by telling students to take notes, to take out paper and pencil.

Mr. Lino begins talking about Oedipus. The students listen; some are taking notes. "Where would you go? To the lady over the hole? Who is the lady over the hole?"

Students chorus, "Delphi."

The teacher talks about Delphi's prediction, "Your son will kill his father and marry his mother."

Students contribute comments and answers. They are very attentive.

At 11:54 Mr. Lino refers to some kid wanting to give her baby for adoption, to elaborate the age difference between Jocasta and Oedipus. During the explanation, Bella asks a question to take the teacher back to the main vector. He explains, and during the explanation he gets Oedipus and Odysseus mixed up. A student comments that it is because he is senile. The class laughs, and another student asks a
question that takes the focus back to the main vector.

Students ask questions and the teacher responds, "So Antigone and Creon are related?"
"Haimon and Creon are cousins?"
"Haimon was going to marry his cousin?"
The teacher elaborates and explains hybrid situations using as examples dogs, wheat, etc.

At 12:06, they are ready to start reading the play. Mr. Lino asks, "What time is this class over?" He checks the clock. Students reach for their books.

Mr. Lino begins reading from the book, and a hand goes up. "How did Oedipus die?"
Mr. Lino answers the question, another one is asked. "Are these plays true?"
"No, they're legends." Mr. Lino proceeds to explain why these types of plays are written and why they are taught. He explains that Sophocles is teaching through the play.

Mr. Lino returns to the play and resumes reading. He asks questions and students provide chorus answers. Some students take notes.

At 12:20, a student asks about Polynesus, one of the characters. Mr. Lino responds and resumes reading. There are several questions and comments from students indicating that they are following the play and they are making connections to other literature:
"Like the suitors?"
"Does that mean Polynesus died in battle?"
At 12:26 Mr. Lino resumes reading. He elaborates by using the students as example. Several students are contributing to the discussion.

Mr. Lino continues reading, explaining, and discussing, and at 12:34 when the notices students getting ready to leave, he tries to end at an appropriate spot. "How do you know what man is," he asks.

The bell rings, and as students leave Mr. Lino reminds them, "I guess you know that you have a vocab test tomorrow."
Program of Action in Antigone Activities

Configuration

The first activity was the quiz. The teacher moved through this quiz fairly quickly although there were several requests from the students to slow down and to repeat some questions. The quiz lasted approximately nine minutes. It was also attended by negotiations about some of the answers. For example:

"Does spelling count?"

"When did Sophocles live? A long time ago. Is it between . . . ?"

The quiz review activity began at 11:30. This was a very noisy affair with students yelling out answers and questions and even arguing about answers. One argument was about a question on the turning point of Antigone. This argument became fairly extended, as can be seen on the map in Figure 8. Mr. Lino, however, allowed students to air their grievances, but was able to get them refocused without too much trouble.

One competing vector emerged during the quiz review at 11:40 (see Figure 8). It lasted bout a minute.

At 11:44 Mr. Lino introduced the next activity, the lecture. Mr. Lino read, explained, and questioned. When students responded, he sometimes elaborated on
their answers. Students also posed questions leading the teacher to make elaborate explanations.

A minor transition occurred at 12:06 between the first part of the lecture and the reading of the play. Mr. Lino checked to see what time it was and then announced that they would start the play. His words signalled to students to reach for their books.

Maintaining the Program of Action

Antigone unit lectures differed from The Odyssey unit lectures in both the frequency and the type of competing vectors that emerged. Lectures during the unit on Antigone were characterized by more student participation. During the quiz review, they were more raucous and assertive. They were assertive to the point that on one occasion an extended argument occurred between the teacher and a student regarding the test item.

One question that had been asked in the quiz was "What do you think is the turning point in Antigone?" During the review a student gave the turning point as the time when Antigone buried her brother. Immediately two students questioned this answer, volunteering their reasons for challenging it. Mr. Lino explained that the first student was right, but several students refused to accept it. One student wanted to know if it was a turning point or the turning point. He continued by saying that Mr. Lino should have specified. Mr. Lino deftly handled this challenge, and assured students that they were improving, that their success on the Antigone quizzes were higher than they had been on The Odyssey quizzes.
This assertiveness would seem to indicate a comfort with and a better grasp of Antigone. Another piece of evidence that would support this idea is that where in The Odyssey the teacher had appeared to be the one manipulating the program of action, in Antigone the students played a very active role in the manipulation of the program of action. Cognitive maps of lectures and quizzes illustrate this active manipulation of vectors by students (see Figures 8 and 9). Competing vectors were initiated by students, although a few resulted from irrelevant questions.

During a lecture on Antigone, students participated more actively. They asked questions, diverted the teacher off the main vector, and returned the class back to the main vector. The teacher's explanations were questioned, and students' questions at times led to the creation of competing vector. In other words, there seemed to be a shared orchestration of events in the classroom that was not apparent during The Odyssey unit.

Related Factors in Managing the Curriculum

Transitions and competing vectors have the potential to disrupt and distort the primary program of action, and because of this potential, the study of
their management can reveal much about how the curriculum is held in place. In this particular study, a third element surfaced as a factor in the management of the classroom action systems. This third element was the opening activity which seemed to anchor the program of action in place and forestall problems that might be potentially disruptive. The reiterating of accountability criteria and due dates during opening activities in part ensured students' attention and task involvement. Transitions and opening activities are described below.

Transitions

Transitions occurred between the opening activities and the lectures, between opening activities and quizzes, and between the quizzes and the lectures or the seatwork activities. In Mr. Lino's class, transitions appeared to be more problematic before and after the vocabulary quizzes, and before and after the literature quizzes than at any other time. Before quizzes, students usually took this time to go up to the podium to ask the teacher questions about the vocabulary--the pronunciation, meaning, and to ask clarification questions about their reading assignments in literature. Other students in their seats took this time to visit socially, or to discuss the reading
assignment with their classmates. How these transitions affect subsequent programs of action in literature is illustrated by the following examples:

At 11:22, Mr. Lino asks the students to prepare for the quiz. They are told to get out paper and writing utensils. At this point, a student goes up to the podium with his notes to ask the teacher some questions. The rest of the students get ready.

At 11:23, Mr. Lino asks the students if they are ready. He says there will only be ten questions. He calls out number one. But he is interrupted by more clarification questions from several students. Finally, at 11:24, Mr. Lino begins the quiz. The quiz takes about three minutes; then the teacher asks the students to pass up their papers. Because they are noisily discussing questions, Mr. Lino tells them that there is no need to talk.

During the second transitory period, a student asks to make a comment, but is ignored. The next phase of the period is reviewing the quiz questions. This is a noisy affair as students yell out answers, yell out questions and comments, and try to argue about the correct answer. Some are differentially attentive, so they might ask questions that have already been answered.

At 11:35, Mr. Lino is ready to begin the major lesson. He asks students to go back to book six. The student who wanted to make a comment earlier now asks:

"May I make my comment now? Why are we learning about this?"

Mr. Lino and the students discuss Melvin's question, and offer some justifications for reading The Odyssey. Some students take this opportunity to go to the board to staple papers and to write down their names for detention.

At 11:38, they get back to the main segment, but during this subsequent segment the main program of action is distorted twice by the creation of two competing vectors.

In another literature period, the following transitions were noted:
At 10:26, Mr. Lino asks students to put everything on the floor except for the paper on which they will be writing. A student asks if he makes up the questions as he goes along. The teacher is busy at the podium, then at his desk trying to get ready. At 10:28 the quiz begins.

The quiz, over at 10:39, is followed by the quiz review which last from 10:39 to 10:44. During the quiz review, the atmosphere is loud and noisy as Mr. Lino asks questions and chorus answers are yelled out by the students. There are groans and moans, and everyone seems to talk at once.

At 10:44, another transition occurs. Mr. Lino is ready to begin the main segment, and students reach for their hand-outs. But before he can begin lecturing, he has to deal with two disruptive students who are having a loud argument. He leaves the podium, goes over to talk with them, and they quiet down.

The subsequent segment is interrupted once by a competing vector which is teacher initiated. The segment is marked by noise; the students seem louder, have difficulty attending, and once during this segment, the noise reaches a certain volume and Mr. Lino has to desist.

Generally, one transition period occurred on writing days. This transition would take place after the opening activities and before the lecture on writing. This time would be occupied with the students and the teacher hunting for hand-outs, or the passing out of hand-outs. Except for one or two occasions, the transitions on writing days were innocuous and appeared to have minimal effects on the subsequent program of action. The following example illustrates one of these exceptions:

The transition period begins at 10:17 with Mr. Lino asking the students to take out their character analysis sheets. The students hunt around for their sheets. Some students were
absent when the sheets were passed out. They go over to the teacher's desk to obtain some hand-outs. At 10:20, Mr. Lino begins the lecture on writing. Almost immediately a question about the next day's vocabulary test leads to a competing vector.

During the grammar period observed, two transitions were noted. The first one occurred before the grammar quiz.

At 10:17, Mr. Lino asks, "Take out a piece of paper to prepare for your test."
At this point a few students go up to sharpen their pencils. One asks his neighbor for paper, and the teacher visits with the students as they get ready.
At 10:18, Mr. Lino says, "Okay, let's do this thing."
This remark triggers a question and comments:
"What kind of test is this anyway?"
"Grammar."
"Let's do it on Monday."
The test beings at 10:19.

Another transition occurred after the test.

At 10:35 Mr. Lino says, "Okay, time's up. Pass your papers up and get out an orange grammar book."
The students go to get the books from the bookshelf against the north wall. Some students cluster around the teacher's podium to check on their test. One student asks a question and Mr. Lino asks another student to provide the answer:
"Nolan, what are the three most commonly used adjectives?"
Nolan replies, and there is some discussion. The grammar lesson begins at 10:40, and at 10:48 a competing vector materializes.

A feature of transitions that occurred between the opening activities and the subsequent activity was that it was difficult at times to draw a boundary between those two segments. This difficulty was
evident on the occasions when cultural literacy items had to be copied from the chalkboard. Because no set time limit was given for this activity, an extended transition period resulted.

At 10:11, when class begins, a student is putting up a cultural literacy item on the board. Students are supposed to be copying this while the teacher takes roll, does some paper work at the podium, and conducts some housekeeping activities. On this particular day, after Mr. Lino takes roll, he announces that he will be passing around a sign-up sheet for a second version of Antigone. He reminds students of the cultural literacy item on the board. Students are to copy this item and talk quietly while the sign-up sheet is going around and also while he is going around to show them individually the results of their mythology test.

At 10:20, Mr. Lino asks students if they are finished. They are not. At 10:22 he asks, "May we begin now?"
The answer is no. He waits, and at 10:24, the lecture on writing begins.

At times it would appear that the length of the transition period could be related to student behavior in subsequent segments. For example during one class period, the transition between the opening activities and the writing lecture lasted seven minutes.

It begins at 10:22 when Mr. Lino signals by saying, "Let's start class."

When the class clamors that they are not yet ready, he gives them more time. Then at 10:26 some students are finished and waiting; two students are passing out papers. Some are stapling papers, and others are bantering with the teacher. It is not until 10:29 that Mr. Lino is able to begin the lecture on writing.

The behavior of the students during the subsequent segment was characterized by noise,
inattentiveness, and restlessness. As character analysis topics were assigned by rows, students protested loudly, and made suggestions. One student stamped his foot on the floor. Later on in the segment, some students were initially inattentive, and Mr. Lino had to put some effort into holding their attention.

The length of transitions would appear to affect the behavior of students in the subsequent segments. Lengthy transitions may be attributed in part to student negotiations before a quiz. The extreme flexibility of the length of the opening activity period also contributed to extended transitions periods between segments.

Opening Activities

During the period of observation, 11% of the total time observed was devoted to opening activities. This percentage was the third highest time devoted to a particular segment, surpassed only by literature and writing. That so much time is spent in opening activities may indicate the degree of importance such activities bear.

The term opening activities has been ascribed to the activities in which the teacher and students are occupied from when the bell signals the start of the
class period to the time when the teacher indicates
the start of a new segment. The opening activities in
Mr. Lino's class lasted an average of nine minutes and
ranged from two to twenty minutes in length. A
pattern that emerged from the analysis of the opening
activities was that the lengthiest opening activities
occurred on the days when a quiz was to be
administered and there were also cultural literacy
items to be copied from the board.

Each semester students were assigned two
cultural literacy items apiece to research. These
items were taken from Hirsch's (1987) *Cultural
Literacy*, and each student was given a day on which
to write his/her findings on the board for the class
to copy. Mr. Lino thought this would be an
appropriate opening activity, something with which
the students could be occupied while he was taking
roll and doing necessary paper work. What happened,
however, was that there were days when no cultural
literacy items appeared on the board, and other days
when two or three might appear, hence the
fluctuation in the length of the opening activities.
Students were quizzed on these items, and a test on
cultural literacy made up one part of the final
semester exam along with the vocabulary, essay, and
grammar tests.
Opening activities took the shortest time on the days when there were no quizzes and no cultural literacy items to be copied. In the middle were those days when there might be a cultural literacy item to be copied and no quiz or a quiz with no cultural literacy item to be copied, with the latter situation winning out in length.

During opening activities, Mr. Lino took roll orally, always inquiring about absent students and visiting with students who had been absent. He also used this time to gather up materials in preparation for this period's major lesson. Mr. Lino would also go around the class to show students the grade they received on a test, pick up essay assignments, or visit with students. The students engaged in visiting with the teacher, visiting with classmates, preparing for class, finishing up assignments, or copying cultural literacy items from the chalkboard. On quiz days, the students used some of this time to study.

Other activities reserved for this period were checking of students' notes to see if they were eligible for the day's quiz. If they did not have notes, they could not take the test and they had to sign up for detention. In addition, students were directed to boo and hiss at these recalcitrant students. It was also at this time that students who
chose not to serve detention passed out candies and cookies to their classmates.

It was during the opening activities that Mr. Lino anchored the subsequent program of action. He did this when he reviewed the week's schedule and the month's schedule, highlighting exam and due dates. He ensured students' attention by reiterating the accountability system—for example, "How many times is the essay grade entered in the grade book?"

It was at this time that Mr. Lino showed extreme patience as he answered students' questions. Especially before a test they would go up to the podium asking for clarifications on their reading, and checking pronunciations and meanings of vocabulary words. Mr. Lino was always accommodating, at times providing extra time either directly or indirectly for students to study for the test.

On the days when there were no quizzes or cultural literacy items to copy, the time reserved for opening activities was short, but nonetheless, it was a time for the teacher to recognize the individual student, make that affective contact, a time when a student could go up and ask questions. Most of all, it was a time to set the tone for the rest of the class period.
Summary

Analysis of the data showed the configuration of the programs of action and their management. The configuration depicted in the maps and in the body of the text showed the vectors of lecture, seatwork, quiz, and oral practice activities being guided and protected by the teacher and, to a lesser extent, by the students.

In every activity the teacher, Mr. Lino, was in control. He managed the programs of action by his choice of presentation modes, pattern of desists, questioning techniques, calling out page numbers, and his use of humor.

Lectures assured him of control of the program of action. Quizzes were administered orally and quickly, leaving very little opportunity for students to divert the program of action. The seatwork that was assigned was very structured. The program of action of seatwork activities was protected from deviation by the internal cues in the assignments.

Mr. Lino’s desists were mostly for the purpose of refocusing students’ attention. Rhetorical questions and questions eliciting chorus answers as well as the use of humor kept students’ attention on the activity at hand, and therefore, kept the program of action in the intended direction.
There was some occurrence of competing vectors, particularly during literature lecture activities. Competing vectors that emerged during these and other activities were teacher as well as student initiated. Student-initiated vectors were usually generated by irrelevant questions. Teacher-initiated competing vectors were generally triggered by the need for concept elaboration or to correct student disruptive behavior.

A comparison of two units of contrasting complexity showed that in the more complex unit, The Odyssey, Mr. Lino was responsible for keeping the program of action on its course. He manipulated the vector when he used extended explanations, at times taking attention from the main vector, and also when he returned focus on the vector.

In the less complex unit, students actively participated in the guidance and protection of the main program of action. Their questions at times took attention away from the main vector, and also refocused attention on the vector. Mr. Lino never relinquished control of the management of the program of action in the activities of either unit. However, where he almost singlehandedly directed the course of the program of action in The Odyssey unit
activities, the students joined him in the same endeavor in the *Antigone* unit activities.

Finally, data analysis showed that transitions and opening activities were critical events in the management of the curriculum. Lengthy transitions led to the emergence of competing vectors in subsequent activities. Opening activities were shown to contribute to the maintenance of the program of action. Opening activities provided an avenue for dealing with such factors as logistical issues that were potentially disruptive to the program of action.
Summary

A study of classroom activities was conducted to determine and compare the nature of programs of action under conditions of content complexity and transitions. For ten weeks various forms of data relevant to the subject under study were collected. The collected data included narrative records, interview transcripts, copies of schedules, exams, and hand-outs.

Data were analyzed over the course of seven months with daily analysis during the observation period resulting in typed and highlighted activity summaries. Four months of post observation analysis resulted in the description and mapping of programs of action and competing vectors. Programs of action were mapped to show their configuration, the nature of their maintenance, and the occurrence and nature of competing vectors. The results of the analysis will be discussed under the following four major topics:

1. Configuration of the program of action
2. Maintenance of the program of action
3. Competing vectors
4. Transitions
Configuration of the Program of Action

In lecture activities the teacher controlled the program of action. As mentioned in Chapter four, the teacher in the study was identified as a good manager. This factor was reflected in the configuration of the program of action in each of the five activity types analyzed by the infrequency of the occurrence of competing vectors. The occurrence of competing vectors varied by content complexity and activity. Depending on the complexity of content one or two vectors were observed. These vectors materialized when the complexity of the content forced the teacher to provide elaborate explanations. The elaborate explanations at times became extended causing attention to be diverted from the main vector of activity.

Quiz activities were also guided by the teacher, although these occurrences were marked by some negotiations and manipulation attempts by students. No competing vectors were noted during literature quizzes although a few did materialize in the quiz review activities. The converse was true for vocabulary activities. Competing vectors were more apt to occur in the quiz activities than in the vocabulary seatwork activities.

The oral practice activity was marked by much manipulation by the teacher and students. This
manipulation came in the form of reminders and desists from the teacher as students' attention strayed from the primary vector. Two competing vectors were noted during the oral practice activity.

**Maintaining the Program of Action**

In all the activities observed, the teacher emerged as the controller of the program of action. This control was evident in the way the primary vector was ushered and protected from competing vectors. Lengthy opening activities anchored the program of action. At this time the teacher reiterated the accountability system so that the students were apprised of the value of the subsequent activity. Also, it was at this time that students would ask questions about the schedules of upcoming tests, assignments, and due dates.

The method of content presentation and choice of activities insured the teacher's control of the direction of the program of action. Lectures were the content presentation modes in writing and literature activities. During the lecture, the teacher was the focus of attention. Vocabulary seatwork was very structured because the activity had signal continuity. Quizzes were conducted orally ensuring that there was relatively little lag time for extraneous vectors to develop.
During a quiz, the teacher was in control. He controlled the timing and pace of the questions, and he ensured that all students had the same completion time.

Humor, desists, and different questioning techniques were used to protect the program of action. The humor was manifested in the puns the teacher would use during vocabulary activities, the nicknames he attached to the students which could usually jolt their attention, and examples he used to explain difficult concepts and to stimulate student interest. The desists were generally to refocus students' attention. Rhetorical questions, questions requiring completion answers, and questions eliciting chorus answers served to keep the vector going leaving very little time or opportunity for disruptions.

**Competing Vectors**

Competing vectors emerged more frequently during literature lecture activities. Competing vectors could be teacher-initiated or student-initiated. Teacher-initiated competing vectors served the purpose of clarification, discipline, or housekeeping. Student-initiated competing vectors were in every case triggered by irrelevant questions. Five of the twelve competing vectors occurring during literature lecture
activities were for clarification purposes and tended to be lengthier than other types of competing vectors.

Transitions

Transitions appeared to be more problematic before and after quiz activities as they were lengthier then than at any other time. These lengthy transitions tended to negatively impact the students' behavior in subsequent activities. After lengthy transitions competing vectors were more likely to develop. Conversely, transitions were almost nonexistent between some activities because the activities overlapped causing the transition period to blur.

Once the configuration of the program of action and factors affecting its maintenance were determined, the following research questions were addressed:

1. How is the primary vector affected by the complexity of content?

2. How is the primary vector protected from other vectors that might arise within the classroom?

3. What effect do transitions have on the program of action?

Comparing content complexity was somewhat problematic because the nature of both units was very similar. Both units had tasks that were low in
ambiguity—the items in the unit quizzes and tests were mostly factual—and high in risk. Quizzes in both units always consisted of ten items, and each unit test contained about a hundred items. The difference in complexity became one that was chronological and developmental. The Odyssey unit proved more complex than the Antigone unit because in the former unit the teacher installed procedures and routines to scaffold the activities. Students had to expend effort to learn these procedures and routines in addition to the content of the unit which was also more complex. During the Antigone unit, the less complex unit, more time was devoted to the content than to procedures and routines. The results of the unit tests and students' grades on the essay assignments reflected this progression.

Mapping of the activity vectors of both units showed that students more readily accepted the teacher as the controller of the program of action in the activities of the more complex unit. The competing vectors that materialized during this unit's activities generally stemmed from the teacher's extended explanations and elaborations.

Analysis of the activities of the less complex unit showed a more shared maintenance of the program of action. Students initiated competing
vectors, but they also returned focus to the primary vector of the activity.

The first part of the second research question concerned teacher and student actions that protected the primary vector. It was concluded that the primary vector was protected by a pattern of desists, elaborate opening activities, humor and a system of questioning on the teacher's part. On the other hand, students protected the vector by maintaining their participant roles as students and in some cases asking questions that returned attention to the main vector.

The second part of the question dealt with student and teacher actions that gave rise to competing vectors. It was found that competing vectors at times were generated by the teacher's elaborate explanations particularly if the topic under discussion was especially complex. Competing vectors were also triggered when the teacher had to discipline students to refocus their attention. The asking of irrelevant questions and inattention were student behaviors that led to the creation of competing vectors.

The final question dealt with the effects of transitions on the subsequent program of action. It was concluded that the length of the transition impacted the subsequent program of action giving rise to disruptive student behavior which in turn triggered
competing vectors. The lack of boundaries around transition periods let to their becoming extensive and led to the creation of competing vectors in subsequent program of action.

On the other hand, overlapping activities which practically obliterated transition periods helped to keep the primary vector intact. This action was made possible by the lengthy opening activities which grounded the programs of action, eliminating those activities like obtaining books or passing out hand-outs, which were generally reserved for the transition period.

Discussion

This study contributes to the search for a better understanding of the classroom system and the nature of the actions of the inhabitants. First of all, it fills a vacuum that has been created by the recent dearth of research in the area of classroom management and organization. What has been attempted in this study is to go beyond the isolation of behavior such as the surface features of frequency of disruptive behavior and the frequency and quality of a teacher’s desists. Instead, the focus of this study is the nature in which teacher and student behavior interact in the maintenance of the program of action, a feature that
indeed may be the "life blood" of activities and the pivot on which management and organization rests.

In this section findings from the study will be discussed and related to previous research in the area of classroom management and organization.

A major finding of this study was that the mode of content presentation appeared to determine the fate of the program of action. Lecturing, which was the method of instruction in the classroom in this study, appeared to entrench the teacher at the helm and insure the life of the program of action. It may be that the teacher's choice of content presentation modes is not always determined by a deliberation of what method would best help convey the information. Rather, the choice of modes may be determined by the need to protect and insulate the program of action, in other words, the method which will best hold students' attention and secure their cooperation. For example, choice of lecturing about writing instead of having students write in class may have been based on the notion that a lecture is easier to manage than actual writing, which is ambiguous at best. This finding corroborates Doyle's (1986) notion that acquiring students' cooperation in activities that serve educative purposes is paramount to the teaching function. Carter (1988) has also pointed out that teachers' cognition is often management driven;
therefore, decisions on how content is presented may often depend on teachers' predictions about how students will behave.

Another finding of this study concerned the maintenance of the program of action in activities across contrasting content complexity. It was found that the more complex the content, the greater the likelihood that students would leave the maintenance of the program of action to the teacher. However, when content was a little less complex, students were more apt to share in the orchestration of classroom events.

This finding confounded general expectations that students' negotiations and frustrations would be manifested by deviations and distortions of the main vector. Perhaps the caliber and maturity of the students and their trust in their teacher were contributing factors to this finding. Also, it could be that because of the teacher's managerial ability he could not relinquish control to the students when he knew that they might encounter difficulty with the content.

A third finding was the role of opening activities and transitions in the maintenance of the program of action. The importance of having a structured opening activity has been touted by those who have carried out studies comparing effective and less
effective managers (Doyle 1984; Emmer, Evertson, Sanford, Clements, and Worsham, 1984; Sanford, 1984). The teacher in this study did not always have a structured opening activity, although a pattern of flexible time use had developed over the course of the school year. The flexibility of time available for opening activities proved beneficial for the most part. Because housekeeping activities such as taking roll, passing out papers, announcing deadlines, and reiterating accountability responsibilities were dealt with then, the need for an extended transition period later on was eliminated. Furthermore, because students could ask questions at this time, this factor may have accounted for the infrequency of competing vectors. Students did not have to interrupt the primary vector to ask these particular questions. The transition period became just a change in focus where the teacher asked the students to get out their handouts and proceeded with the next activity. As a result, on such occasions very little time was lost to transitions since there was no need to refocus students. The data suggests that the blurring of transition boundaries seems to be a common management practice of secondary teachers designed to keep the program of action unadulterated.

The above finding complements another conclusion of this study which corroborates Arlin's
(1979) and Doyle's (1984) findings that successful managers explicitly mark the boundaries of activities and transition periods. In this study the length of transitions had an effect on the subsequent program of action. The lengthier and less structured the transitions the greater the likelihood that more effort would have to be exerted by the teacher in the guidance and protection of the main vector. The findings on the roles of transitions and opening activities in the maintenance of the program of action show that although there are common behaviors that successful managers share, their most important attribute is not an isolated behavior, rather it is their store of event-structured knowledge (Carter & Gonzalez, 1990; Doyle, 1990) which equips them with a keen understanding of the classroom. This understanding allows them to be flexible, provides them with a confidence to let things go knowing that they can always redirect activities and attention when the program of action appears to be in jeopardy.

Implications of This Study

Findings from a study of the programs of action of activities in a classroom leads to the following implications:

1. Most recently studies in classroom management and organization have become scarce. This study
serves to show the need for further research in this area, particularly in the areas of overlap between management and instruction.

2. Findings of this study can be used in formulating ideas for staff development. The issue of control is an important one in the classroom, and procedures and routines ensure this control. When new strategies are introduced they are usually reluctantly adopted because they do not readily fit into the teacher's scaffold of procedures and routines which insulate and guide the program of action. If staff development activities fail because of the vulnerability of the program of action, then efforts should be expended into not only generating new strategies, but also into providing a framework for the new program of action. In addition, efforts could be put into helping teachers fit new strategies into existing routines.

3. In this study it is suggested that classroom management is an intellectual activity going beyond the teacher's reactive behavior. This knowledge is of particular importance to evaluators and researchers if their observations are to render a valid picture of classroom life.

4. It is not enough to look at isolated behaviors of classroom inhabitants if one's goal is to acquire
an understanding of the classroom. One needs to look at the interactions of the inhabitants and the relationship of the interactions to the setting.

5. Finally, this study serves to make teachers more aware of what they are doing in the classroom. In addition, the study provides language to communicate about classroom events.

Suggestions for Future Research

The following are recommendations for future studies of programs of action:

1. Clark and Clark (1983) pointed to the continuation of traditional programs in middle level schools in spite of calls from educators for more developmentally responsive programs. Perhaps a study could be conducted to see if the reluctance to face change could in part stem from reluctance to use new strategies that could possibly threaten the life of the programs of action of activities.

2. Studies need to be done to show what happens to the program of action in a classroom with a constructivist notion of the orchestration of classroom events. Recently there has been a push towards constructivist classrooms particularly by proponents of the whole language
approach to literacy, and the resurgence of interest in interdisciplinary education. Given this push there is a need for new teachers to be made aware of the fate of the program of action in such a setting.

3. Additional studies should be carried out to determine the consistency of students' and teachers' handling of the program of action as found in this study. Of interest would be looking at the program of action from a social context, particularly how students' skill at departure from and re-entry into a vector affects academic success.

4. Studies should be conducted in the classroom of a less able manager to determine what happens to the program of action in such a situation. The mapping of the programs of action of activities in such a classroom should prove quite informative.

5. The present study was conducted in an honors English classroom. A study needs to be carried out in a more generalized classroom. This study would be expected to refute or support Eder's (1982) findings that low ability students are allowed to interrupt vectors more often than students of higher ability. Perhaps comparisons
could be made between that study and the present one.

6. A study of factors affecting the maintenance of the program of action needs to be carried out in other subject areas. What triggers competing vectors in the program of action in a math activity? How is the program of action maintained in a lab activity? What are the implications of such findings?

General Comments

The study of phenomena in the classroom becomes an arduous task if it is to be done thoroughly. After a week of observation, it became apparent that periodic forays into the classroom could not yield an approximate understanding of the intricate webbing of events in this complex environment. During the observations of the succeeding weeks and the subsequent data analyses, gaps in understanding began to disappear. The final result was a wholistic perspective of a microunit of a classroom year.

Being a practicing classroom teacher compounded problems as even under the most ideal conditions, a qualitative study is a demanding undertaking. However, being a practicing classroom teacher was also advantageous. This advantage manifested itself
in an enriched understanding reaching past the study to the researcher’s own teaching practice. The result was not a comparison of teaching strategies or methodologies, but a conscious reflection on one’s own teaching, particularly on the management of the program of action in various activity types. Likewise, people with whom the study was discussed began to look at phenomena in the classroom from a different perspective. An educator reported that observation of how a teacher maintains the program of action provided insight into that teacher’s decisions and planning process. The far reaching effects of this study underscore the tremendous energizing value of research in informing practice.
APPENDIX A

ACTIVITY SUMMARY

10-26-89

11:05 - Before the bell rings, the teacher is visiting with students outside the door. His rapport with students is very obvious from the comments that are exchanged.

11:06 - After the bell rings, the teacher takes roll. He does this orally, calling out students' names, but not waiting for a response from the students who are present. He asks about students who are absent to see if anyone knows where they might be. Whilst he is taking roll, two students wearing togas walk in. They are juniors. They visit with the teacher for a while; then they leave. 23 students are present today.

Teacher checks students to see if they have their notes to see if they are eligible to take today's quiz. One student is standing in the front of the room visiting; others visit with each other by just turning around in their desks. Some students just sit and wait.

As the teacher checks students' notes, he makes comments:

"You need to start writing them down." He tells students to boo and hiss if a student does not have his/her notes. There are more comments:

"Your hair looks good." "What's the name of that dude?"

As the teacher checks notes, he continues to converse with students, cajoling and kidding:

"Don't worry about . . . ," he clarifies. Other students continue to study quietly.

"John-Boy, I worry about you . . . "

He checks each student's notes. Melvin does not have his notes, and he is not sitting in his assigned seat. He is asked to move.

11:22 - The teacher asks students to prepare for the test, to have paper and writing utensils ready, and to have notes on the floor. A student asks for clarification on his notes; teacher responds. Students prepare pencil and papers for test.
Teacher asks, "Are you ready?" There will only be ten questions. "#1." Students interrupt with a question about procedure.

"#1." The teacher asks question orally, "What are books . . . ?" Student protest about the complexity of the first question. Teacher tells them that they can answer the question in two words.

"#2. Who are the Cicones? Look intelligent. Doobie, you forgot?" Student replies, "Not funny, sir."

"#3. Polyphemus, why did they decide to stay?" The students who did not have their notes are not taking the test.

"#4. "Hold on, please." This is a request from a student as he tries to finish up the previous question.

"#5, who is Polyphemus?" "You asked that the last time."

"#6, What is hubris?" "Oh, God!" "Easy question, and stop praying in my room."

"#7 and 8, what did I just say, Dane?" Dane does not answer. "Name two ways in which Cyclops curses Odysseus? Two of the five curses."

"#9, who is Aeolus?"

"#10, name one of the four Greek virtues." The teacher gives an extra credit question. Students ask questions about the extra credit item. There are other requests for clarifications on other items on the quiz.

Teacher asks the students to pass papers to the front. As the noise level rises, he tells them that there is no need to talk. As the papers are being passed, one student, Melvin, who has been trying to make a comment during the quiz, asks: "Sir, now can I make my comment?" Teacher ignores the question and says, "Let's go over the questions. #1 . . . " Students yell out answers, make comments, and ask for clarifications. They at times discuss the questions with each other while the teacher is occupied with a small segment of the class, usually a group of students in the front. One student is not paying attention, rifling through papers. The discussion continues. Some students take notes. A runner comes in with a call slip. The teacher attends to him.
"Next question." Five hands go up. A student answers the question. The teacher clarifies. "Why is Aeolus important?" He calls names to direct attention of students. Two students are reading books.

11:35 -
"Let's go back to Book 6." This is a signal that there is going to be a change in activities. "Can I make my comment now?" This question from Melvin. "Why are we learning about this?" One student staples papers. One puts his name on the board under detention. The other students discuss the importance of Melvin's question. Teacher asks Melvin to settle down, and there's a short amicable interplay with Melvin. Then he explains the necessity of having a background in good literature if they are going to pursue a college education.

11:38 -
Back to the main segment. A student asks, "Is Hermes the guy in the FTD commercial?" Teacher comments on the student's good observation. The students keep asking questions. Occasionally there is laughter. The teacher continues the explanation. Then he establishes the place where they should be in the book.

11:40 -
Everyone is paying attention. Some students are taking notes. Melvin raises his hand. Teacher asks, "Melvin, question? Better be a good one." Melvin's question is on the term "Phiacea." He is directed to take notes. The middle part of the class is doing most of the participation. Students occasionally interject a comment, causing a digression. Then it's back to the main segment. The students usually provide chorus answers for the teacher's questions. When students get too exuberant, he asks them to quiet down, or he gets a bit louder. If they are not paying attention, he calls on students by name, or he reprimands: "Bella, turn around."

11:50 -
"I want you on page 106." The teacher reads, then asks questions. Students answer; the teacher elaborates. Loud conversation is coming from one area of the room. The teacher asks Melvin to settle down. The teacher continues the discussion. "Why do students bow during performances? And, Melvin, when you clap . . . Back to Nausecaia . . . "
11:55 - There is another digression. The teacher continues reading out of the book, then asks questions of students. He asks students to settle down. Melvin is writing on his desk, talks to the girl in front of him. There's a question from Jolene.

11:58 - The teacher says, "We're now on Book 8. Melvin interrupts. He is ignored. Jolene asks another question.

12:00 - The teacher continues, "Top of page 123." He reads, discusses, asks questions. Students provide chorus answers. Karen interrupts with a comment. Melvin asks a question.

12:01 - Teacher ignores the question and says, "The first story he tells . . . on page 124 . . . story is told by Odysseus."

12:04 - "All right, are you ready? Bottom of page 125." The teacher continues reading, questioning, discussing.
APPENDIX B

INTERVIEW QUESTIONS

1. What made you go into teaching?

2. What do you like most about it? What do you like least?

3. How do you get kids to learn?

4. Describe a classroom where learning is taking place.

5. What would you say is classroom management?

6. How do you create order in the classroom?

7. Do you ever encounter any discipline problems? How do you deal with them?

8. What are some things you do to keep students' attention on what you are teaching?

9. How do your students react to complex material?

10. In what area do you see your students experiencing the most difficulty?
APPENDIX C

Mr. Lino's Classroom
APPENDIX D

Semantic Maps of Programs of Action
Figure 1. Program of action in a lecture activity
Figure 2 Writing
Lecture Activity
10:16 - 11:04

Competing Vector

Competing Vector

29x141

10:16-11:04

Mr. Lin goes around the room asking students to petenecy statistics.

"Statistics"

"Why are you doing this?"

"I've lost you."

"It's a good question. A conclusion in usually..."

"Well, that's me. He made an interesting gesture."

"I don't think the teachers should do this."

"But, I need it to gain your attention and all."

"I'll need it to gain your attention and all."

"The students want to know what the expectation is about."

"Statistics"
Other students wanted to know what he was about.

"But I took all your answers and did it." (Diagram notation)

"I don't think English teachers ought to use J ist." (Diagram notation)

"But, find me." He again presented humor.

He takes about questions.

Directs students' attention to list on back of hand-out.

"When are you going to give us our topics?" (Diagram notation)

"Sure it has to be five paragraphs?" (Diagram notation)

Teacher illustrates three paragraph essay—how to modify essay term.

He brings close to a close.
Figure 3  Vocabulary
Figure 4 Literature
Figure 5 Grammar
Figure 6  Quiz and Quiz Review  The Odyssey
Figure 7 Lecture on The Odyssey
Figure 8  Quiz and Quiz Review  Antigone
Figure 9  Lecture on Antigone
REFERENCES


Carter (1990). Teachers' knowledge and learning to teach. In W. Houston (Ed.), *Handbook of*


in junior high classes. *Journal of Educational Psychology, 74*, 485-498.


