INFORMATION TO USERS

This was produced from a copy of a document sent to us for microfilming. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the material submitted.

The following explanation of techniques is provided to help you understand markings or notations which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting through an image and duplicating adjacent pages to assure you of complete continuity.

2. When an image on the film is obliterated with a round black mark it is an indication that the film inspector noticed either blurred copy because of movement during exposure, or duplicate copy. Unless we meant to delete copyrighted materials that should not have been filmed, you will find a good image of the page in the adjacent frame.

3. When a map, drawing or chart, etc., is part of the material being photographed the photographer has followed a definite method in "sectioning" the material. It is customary to begin filming at the upper left hand corner of a large sheet and to continue from left to right in equal sections with small overlaps. If necessary, sectioning is continued again—beginning below the first row and continuing on until complete.

4. For any illustrations that cannot be reproduced satisfactorily by xerography, photographic prints can be purchased at additional cost and tipped into your xerographic copy. Requests can be made to our Dissertations Customer Services Department.

5. Some pages in any document may have indistinct print. In all cases we have filmed the best available copy.
DYCK, DONALD D.

HITCHES: PERCEPTUAL ANOMALIES AS A GUIDE IN TEACHING

The Ohio State University

University Microfilms International 300 N. Zeeb Road, Ann Arbor, MI 48106

Copyright 1980 by Dyck, Donald D. All Rights Reserved
PLEASE NOTE:

In all cases this material has been filmed in the best possible way from the available copy. Problems encountered with this document have been identified here with a check mark ✓.

1. Glossy photographs

2. Colored illustrations

3. Photographs with dark background

4. Illustrations are poor copy

5. Print shows through as there is text on both sides of page

6. Indistinct, broken or small print on several pages

7. Tightly bound copy with print lost in spine

8. Computer printout pages with indistinct print

9. Page(s) lacking when material received, and not available from school or author

10. Page(s) seem to be missing in numbering only as text follows

11. Poor carbon copy

12. Not original copy, several pages with blurred type

13. Appendix pages are poor copy

14. Original copy with light type

15. Curling and wrinkled pages

16. Other
HITCHES: PERCEPTUAL ANOMALIES AS A GUIDE IN TEACHING

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

Donald D. Dyck, B.A., M.A.T.

* * * * *

The Ohio State University

1980

Reading Committee: Approved By

Dr. Donald P. Sanders
Dr. Robert Bargar
Dr. James K. Duncan

Adviser

Educational Foundations and Research
To Anita, Amy, and Angie
ACKNOWLEDGMENTS

Many people have had a profound influence on me, and in so doing on this study. To all who have helped me, I am grateful and I will continue to tell them so as we continue life together. The following essay describes the essence of my human needs.

I feel an even deeper sense of gratitude to my Lord God for life, creation, and the very existence I study and enjoy.

Perhaps what most of us seek in life can be expressed in these three words: Connectedness, Competence, and Constancy. The ways we structure our lives help us move toward these qualities of life; for we need to feel part of something meaningful, and capable of making a lasting contribution toward it.

Connectedness--Family ties, friendships, religion, and political associations all offer chances to feel linked with systems, ideas, and above all--other people. For we need to feel taken in, not taken over, when times are rough.

Competence--We need success, for the confirmation it provides in our often-troubled and elusive lives. Schools, jobs, and organizations can give us the competence to help our world function in some way which matters to each of us individually.

Constancy--Life confronts us with many circumstances which are difficult to accept. But transience and impermanence are surely among the most troubling. We ask: Why do we struggle for grains of an answer, ways to leave a mark, experiences that will convince us that yes--We were here--and yes--It mattered. We cannot stop change, but perhaps we can see it in a positive light, as a stimulant of growth, and thereby operate meaningfully within its bounds.
We do not all need to be famous, but perhaps we must all be somebody--ourselves, the best we can be, in a human network that will not let our strivings go unnoticed.

Ellen Erlanger--September, 1979

Used by permission
VITA

July 14, 1941 . . . Born--Fort Wayne, Indiana

1965 . . . . . . B.A., Indiana University, Bloomington, Indiana

1964-1966 . . . Research assistant, Reading and Study Skills Center, Indiana University, Bloomington, Indiana

1966 . . . . . . M.A.T., Indiana University, Bloomington, Indiana


1968-1969 . . . Research coordinator, Montgomery County Public Schools, Dayton, Ohio


1973-1976 . . . Evaluation officer and project director, A School for Tomorrow, Westerville, Ohio

1976-1977 . . . Principal, Pickerington Primary School, Pickerington Local School District, Pickerington, Ohio


PUBLICATIONS


FIELDS OF STUDY

Major Field: Educational Development

Studies in Creative Behavior. Professor Robert Bargar

Studies in Curriculum and Instruction, and Educational Experimentation. Professor James K. Duncan

Studies in Comprehensive Program Development. Professor Donald P. Sanders

Studies in Educational Administration. Professor Frederick Staub
# TABLE OF CONTENTS

| DEDICATION | iii |
| ACKNOWLEDGEMENTS |  
| VITA | v |
| LIST OF TABLES | x |

**Chapter**

I. INTRODUCTION ................................................. 1
   A View of Teaching ............................................ 2
   The Research Question ........................................ 9
   Aim of the Research ........................................... 19

II. METHODOLOGY ................................................. 31
   Design .......................................................... 31
   Setting ......................................................... 39
   Procedures ...................................................... 44
   Strengths and Limitations .................................... 52

III. PERCEPTION, CONSCIOUSNESS, AND HITCHES ...... 54
   Perception ...................................................... 55
   Perception and Reality-Testing ........................... 58
   Perception and Consciousness ............................. 62
   Preconsciousness ............................................. 68
   Hitches .......................................................... 71

IV. EVIDENCE OF HITCHES ....................................... 76
   Selecting Teaching-Learning Activities to Investigate .... 76
   Examples of Hitches .......................................... 79
   Summary of Findings ......................................... 100
   Summary of Interpretations ................................. 104

vii
<table>
<thead>
<tr>
<th>V. INTRINSIC AND PERCEPTUAL CHARACTERISTICS OF HITCHES</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intrinsic Characteristics of Hitches</td>
<td>110</td>
</tr>
<tr>
<td>Perceptions Related to Hitches</td>
<td>121</td>
</tr>
<tr>
<td>Summary of Findings</td>
<td>137</td>
</tr>
<tr>
<td>Summary of Interpretations</td>
<td>139</td>
</tr>
<tr>
<td>VI. CHARACTERISTICS OF HITCHES RELATED TO TEACHING-LEARNING VARIABLES</td>
<td>147</td>
</tr>
<tr>
<td>Guiding and Extending Learning</td>
<td>148</td>
</tr>
<tr>
<td>Empathizing</td>
<td>157</td>
</tr>
<tr>
<td>Clarifying</td>
<td>159</td>
</tr>
<tr>
<td>Judging Instructional Worth</td>
<td>161</td>
</tr>
<tr>
<td>Interfering with Teaching-Learning Agenda</td>
<td>163</td>
</tr>
<tr>
<td>Improving Teaching-Learning Transactions</td>
<td>168</td>
</tr>
<tr>
<td>Summary of Findings</td>
<td>172</td>
</tr>
<tr>
<td>Summary of Interpretations</td>
<td>175</td>
</tr>
<tr>
<td>VII. BEING CONSCIOUS OF CONSCIOUSNESS CAN MAKE A DIFFERENCE IN TEACHING</td>
<td>183</td>
</tr>
<tr>
<td>Finding Hitches in Teaching</td>
<td>183</td>
</tr>
<tr>
<td>Methods</td>
<td>184</td>
</tr>
<tr>
<td>Hitching, Perceiving, Fitting, and Teaching.</td>
<td>188</td>
</tr>
<tr>
<td>Findings</td>
<td>194</td>
</tr>
<tr>
<td>Discussion</td>
<td>199</td>
</tr>
<tr>
<td>Implications and Recommendations</td>
<td>210</td>
</tr>
<tr>
<td>LIST OF REFERENCES</td>
<td>219</td>
</tr>
<tr>
<td>REFERENCE NOTES</td>
<td>225</td>
</tr>
</tbody>
</table>

APPENDIXES

A. Outline of the Research Design to Verify and Describe Hitches in Teaching. 228
B. General Weekly Class Schedule and Video Tape Schedule 232
C. Physical Arrangement of Cluster and Class Area. 234
D. Interview Procedures and Questions 236
E. Summary and One-Line Definition of Hitch Used During Data Collection 239
F. Log of Data-Collecting Events. 243
G. Transcript of Events Cited in Analysis of
    Hitches and Related Characteristics .......... 246

H. Index of Important Terms and Descriptions
    Related to Hitches ............................... 277
LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Description of Episodes Used for In-Depth Recall and Criteria for Selection</td>
</tr>
<tr>
<td>2.</td>
<td>Hitches Identified While Mary Eve Was Uninformed of the Definition</td>
</tr>
<tr>
<td>3.</td>
<td>Hitches Identified by Mary Eve and Gary After Being Informed of the Definition</td>
</tr>
<tr>
<td>4.</td>
<td>Hitches Identified from Primary Data Related to Eight Combinations of Fit and Compelling Action</td>
</tr>
<tr>
<td>5.</td>
<td>Example Events that Illustrate the Relationship of Compelling Action Associated with Hitches to Effects of Hitches</td>
</tr>
<tr>
<td>6.</td>
<td>Findings Indicating Intrinsic Characteristics of Hitches</td>
</tr>
<tr>
<td>7.</td>
<td>Findings Indicating Perceptual Characteristics of Hitches</td>
</tr>
<tr>
<td>8.</td>
<td>Interpreted Definitions of Intrinsic Characteristics of Hitches</td>
</tr>
<tr>
<td>9.</td>
<td>Interpreted Definitions of Perceptual Characteristics of Hitches</td>
</tr>
<tr>
<td>10.</td>
<td>Findings Indicating Characteristics of Hitches Related to Guiding and Extending Learning</td>
</tr>
<tr>
<td>11.</td>
<td>Findings Indicating Empathy as a Teaching-Learning Characteristic Related to Hitches</td>
</tr>
<tr>
<td>12.</td>
<td>Findings Indicating Characteristics of Hitches Related to Clarifying, Judging Instructional Worth, and Judging Interference with Agenda</td>
</tr>
</tbody>
</table>
INTRODUCTION

This study is about a certain perception by teachers in the classroom that I believe profoundly affects how they structure learning experiences for students. When I began this study in 1976, I had not seen this particular perception described in literature. However, literature on insight (Hilgard, 1956), experimentation (Davis, 1974; Sanders, 1973), creativity (Bargar, Trebiatowski, and Ronis, 1975), and the transactional nature of life in our environment (Mooney, 1963), along with my experience as a teacher and as a researcher observing teaching in schools, convinced me that this perceptual phenomenon did exist for teachers. I have found neurological and sociological evidence that is consistent with this notion since then (Kutas and Hillyard, 1980; Sanders and Schwab, 1980; Schwab, 1979).

What I set out to do in this study in a practical and limited way was to understand the phenomenon as I could find it explained in literature, to search for examples of the phenomenon in teaching, and then to expand my knowledge of that particular teaching behavior by studying its meaning to the teachers who served as subjects. What results is an explanation of the phenomenon as it occurs in teaching that is useful to teachers and those interested in teacher development. In this first chapter I give my view (beliefs) of
teaching as a process, further describe the "interesting" phenomenon in terms of perception, teaching and learning, and then describe briefly my research approach to documenting the perceptual phenomenon I was interested in.

**A View of Teaching**

Schools are the cradle of our modern society. Virtually every person in developed and developing countries goes to school for an important part of his or her life. As an institution, schools will affect the life of virtually every person in the future. What happens in schools is a significant part of life as we know it during our younger years. With the expansion of schools to include community, adult, and lifelong education, schools are becoming a significant influence on our entire lives.

Schools are obviously a reflection of the people who are responsible for them. Teachers who sense the mission of their teaching tasks view each day as another opportunity to help learners achieve goals that are known or in the process of becoming known. Such a statement sounds less noble and more practical when teaching is considered as the many individual acts performed by teachers with students each day. All of these acts affect students; not necessarily catastrophically or irreversibly, but significantly, cumulatively, and uniquely.

The knowledge and emotions that exist in each teacher's consciousness become important factors in the learning environment of each learner in that teacher's class. Furthermore, the knowledge and perceptions which lie below the surface of consciousness but
which lead to acts committed nonconsciously or reflexively also affect learners significantly, cumulatively, and uniquely.

The view of teaching proposed so far is characterized by the teacher's focus on learners. This focus on learners carries with it certain meanings attached to the act of teaching. These meanings, which I will list shortly, make sense when learning is viewed as the natural outcome of creating order out of transactions with the environment and then using this order for guiding future transactions (Kohl, 1978; Mooney, 1963; Piaget, 1976; Rogers, 1969). Overstating my point a bit, to live is to learn and learning is a natural process.

To teach in a school then is to "live" and transact with learners and the curriculum in an environment formally established for that purpose. From this point of view, it seems that the following descriptions of teaching give important meaning to the act. Teaching involves helping the learner become aware of the uniqueness of her or his system for experiencing the world. Teaching becomes worthwhile when teachers contribute to learners in ways learners are not able to do alone. Teaching means being able to sense and then to place in the learning environment those things learners are capable of using at that point in time for improving their learning. Teaching means to view learners as purposeful and able, in varying degrees, to articulate their own lives. Teachers work with learners toward making their lives more what they, the learners, choose individually. When teaching is viewed as supporting learning, teachers strive to improve the quality of their perceptions of the learner's
purposes in order to interact helpfully with the learner.

This view of teaching requires balance between the active and reactive roles of teacher and learner. The teacher's role is not only to be the active, initiating agent in the process of schooling, but also to respond and react in reasonable, helpful ways to the learner, who also acts as an active, initiating part of the school environment. In other words, teachers and students are neither exclusively active nor passive in the school setting--their roles are interactive.

Teachers also are learners. They not only model learning for students, but they are constantly seeking to learn what is best for students at any given time. The teacher, as a learner, searches for ways to improve the consistency between the many, many teaching acts that occur each day and the interests, goals, needs, and development of students for whom the teacher is responsible.

If the significance of teaching is helping each student learn in a way that is in harmony with the conditions for learning affecting the student, then the teacher needs to be conscious of those conditions. Many things are important to teachers. These include how people learn in general, and how a particular learner functions, what the learner knows, what the learner wants to know, what the teacher knows, where additional knowledge exists, what knowledge the learner would benefit from in view of the learner's goals, what curricula are available to help the learner, and many others. The teacher needs to be conscious of many things in the classroom that affect the conditions for learning. Most of all, the teacher needs to
be conscious of the quality of person-person and person-object transactions in the classroom.

The development of interaction analysis systems by Flanders, Hough and Duncan, and many others has helped teachers mirror their classroom behaviors (Simon and Boyer, 1968). The interaction analysis helps them gain insightful and conscious interpretations of teacher and learner behaviors. The concern for being conscious of interactions that occur in the classroom extends beyond spoken words and involves consciously examining patterns of behavior that are nonverbal and that communicate meaning to teachers and students and affect student learning just as significantly as written curricula and oral statements.

Teachers who are student-centered and who concern themselves with the quality of human interaction in the classroom assume an "esthetic responsibility" where they design or consciously create learning environments that are in harmony with the learner's goals, functioning level, experience base, life needs, and abilities (Heubner, 1970). Esthetic responsibility involves designing educational environments that are responsive to the conditions and "givens" that determine educational possibilities (p. 145). It is called esthetic because it involves creating meaning that is sensed by both learner and teacher.

Esthetic responsibility involves vision by the teacher to look forward and understand what could be. It involves using experience as a cumulative base of what exists. It represents fusing into what appears to be the best possible learning situation the needs,
functioning conditions of learner and teacher, available life experiences at the point in question (curricula), and meaning of the experiences to teacher and learner. The teacher assumes esthetic responsibility by consciously and nonconsciously (call it preconsciously for the time being) trying to create teaching-learning events that are esthetically consistent with the functioning levels of the learner.

Esthetic responsibility in teaching is intentional. Classroom esthetics are the result of the teacher's behavior arising from concern for harmonious learning environments. Esthetic effectiveness may be learned and it may occur almost as "second nature" or preconsciously for gifted teachers. However it occurs, teachers who are able to use esthetic responsibility must constantly, systematically, and intentionally adjust the interactional learning conditions in classrooms selectively to fit the learner's "powers" of the moment--competencies, needs, and interests (Rosenburg, 1968). I believe helping teachers become conscious of individual differences and similarities in their students will lead them (naturally) to "harmonize" (selectively fit conditions for learning into harmony with learner "powers"). This natural process may be both conscious and preconscious.

Being conscious of learners and the conditions affecting learning in the classroom is a very important part of the mission of teachers, who rock the cradle of society. I believe that good teachers have that sense of mission and consciously focus on those important learning variables. They carry with them characteristic
combinations of perceptions and teaching styles that support and extend the learning of students with whom they interact.

Perceiving is the process of reading significance from the environment in a way that means something to the person sensing the environment.

Although past experiences affect what we are and our perceptions, they do not necessarily limit our ability to change in the future. Being a human includes the ability to interject will into future interactions with the environment and with other persons who also exercise their wills. From this transactional view, the personal meaning of perceptions is very important for projected future action. Being human means being able to perceive, to sense meaning, to learn from that meaning, and to improve the qualitative nature of perceptions and actions in the future.

The learner-centered teacher described earlier tries to improve the qualitative nature of perceptions and teaching actions that help students. This implies a flexible, adaptive lifestyle that emphasizes constantly using information in the teaching-learning environment to test how well teaching and learning activities seem to fit the situation. Some events will fit well (accepted), some will fit poorly (rejected), and some will be tolerated. This constant fitting process leads to new perceptions, new fit, and on and on in a fluid, changing relationship between present and past perceptions and actions.

This relationship between past and present perceptions is spiral and developmental. It leads to greater teacher differentiation of the teaching-learning environment, greater teacher flexibility,
greater understanding of learner and learning environment, and more selective fittings on which to base future action. This forward leading process continuously improves perceptions and subsequent actions based on perceptions.

Consciousness of cues from the teaching-learning environment and control of perceptions—both conscious and preconscious—are important for flexible, adaptive learner-focused teaching styles. Furthermore, teachers control their consciousness by using the sense of fit derived from the cues in the teaching-learning environment. These cues occur naturally, and teachers who are adept at following sense of fit are able to create improved learning conditions in the classroom.

All of the demands on the teacher's perceptual system from the cues in the teaching-learning environment, and the meanings associated with those cues, cannot be processed simultaneously by the teacher as we understand the conscious mind. Consequently, a visitor in a talented teacher's classroom will often say, "I don't know how you do so much with students and yet manage everything so well!" However, the teacher's mind may be processing most of those things preconsciously. To be efficient, the teacher will capitalize on the role of preconsciousness and gain access to preconscious processes by the conscious mind.

Thus, the teacher may be sensing and processing many classroom and student variables preconsciously and only dealing consciously and acting on a few at any one time. The basis for the connection between the two may be memory, common past
experiences, higher levels of differentiation of the persons and things in the classroom or school, emotions, and many others. However it occurs, there is an efficient interface between consciousness and preconsciousness that allows a teacher to pay attention to cues, use them, preconsciously process them, and then have access to them for use at fitting times.

The Research Question

The phenomenon that has caught my mind's eye, both in the classroom and in educational literature, is that selective fit seems to have dimensions in addition to the other characteristics of fit such as acceptable, tolerable, or unacceptable. What seems to exist are other qualitative dimensions that bring the sense of selective fit into consciousness and keep it there until some sort of decision about that fit has been made. The phenomenon gives the appearance of recurring, persisting, unshakeable, noticeable mental activity. Although it may occur very suddenly, it also may come into consciousness gradually. What is characteristic about it seems to be that it forces the teacher to act on selective fit by guiding teacher action, by requiring the teacher to reconsider plans, or by consuming the teacher's interest to the point where a related action eventually occurs.

I will illustrate the phenomenon which I am inferring exists by citing some teacher behaviors. An elementary teacher, while working with a child on regrouping in subtraction, hears another child say to a mother classroom volunteer, "May I take a turn reading to
you now?" While the one student works on arithmetic and counts out little bundles of tongue depressors, his concentrations uninter-
rupted, the teacher glances up and says to the passing child,
"Great, Travis! Why don't you read A Bed Just So to Mrs. Ard-
more." The book is not one the child would choose because he is not entirely certain he can read it. However, with help from an adult, it is just on the leading edge of his reading ability. It is a good book to try with a helpful adult listening and enjoying it with the student.

Roger is taking a timed arithmetic test and covers his paper when another classmate comes up to ask the teacher a question. The teacher moves away so that future interruptions are minimized, puts a number line on the table next to Roger, and whispers encourage-
ment. Later in the day, when Roger shows interest in the artist Van Gogh while reading a Snoopy cartoon book, the teacher checks her materials for a print by the artist. Unable to find one, she asks teachers at lunch if they know of a Van Gogh print in school. She eventually checks in the school media center and then at home that night.

The two incidents above illustrate responses by teachers who selectively fit what happens in the classroom with what they per-
ceive about the student, the classroom or school environment, themselves as persons, and themselves as caring teachers whose mission is to make a difference in the development of their students. What is interesting to me is the nature of the intervening
perception(s) that leads them in the first place to concern themselves with the qualitative nature of the fit between what they perceive in the classroom and what they are as persons and teachers.

In the first example, there is no obvious indication to an observer of unfitting behavior by the student. What catches the teacher's attention is the chance to make a difference in the student's reading development. The consuming interest is related somehow to a learning agenda in the teacher's mind for that student. The teacher has most likely often contemplated that student's reading and general learning over a period of time, and when some of the critical variables are apparent, it is time to intervene—quickly and efficiently.

In the second example, the student's behavior is not fitting, and the incident remains with the teacher all day. The teacher cannot shake it, thinks about it at different times throughout the day, and spontaneously rehearses in her mind events that might help Roger achieve—both as a person in the school and as a student of arithmetic. In both cases, the teachers' actions seem to be motivated by a constant search for better fit between what they know about the student, what is happening in the classroom at the time, and what could potentially happen for the student.

The literature from several fields provides many descriptors of conditions that accompany processes related to acting selectively within the environment based on the significance of perceptions to the individual who is acting. Some of the descriptors are related to curiosity, seeking, or sensing the known or unknown. Some are related to dimensions of harmony, integration, wholeness,
dissonance, fit, lack of fit, ambiguity, certainty, toleration, and conflict. Other descriptors are tension or energy, persistence, reflection, awareness, and altered consciousness. Still others are insight, shock, click, trigger, and spontaneous.

Based on examples both in teaching and from descriptions in literature, I am proposing that a phenomenal part of mental processing by teachers causes consideration and reconsideration (consciously and preconsciously) of transactions with the teaching-learning environment. This phenomenon, as part of the conditions under which a teacher transacts and tests the fit of transactions with the teaching-learning environment, seems to affect at least the following: extent of meaning or understanding of concepts (cognitive structure), level of consciousness at which the transaction is mentally processed, and degree of harmony perceived between the teaching-learning environment and the meaning associated with the environment in the teacher's cognitive structure. All of these affect the perceptual basis for future transactions, meaning, sense of fit, and events of which teachers are conscious in classrooms.

This phenomenon in teaching will be called a hitch in this study based on the work of several persons (Note 1). Hitch has very seldom been used in educational literature (Cantril, Ames, Hastorf and Ittleson, 1961; Sanders and Schwab, 1980; Schwab, 1979). It is an ambiguous term when used in teaching that corresponds to an ambiguous phenomenon. The aim of this study is to explain and clarify the phenomenon, give an educational meaning to the
phenomenon, and lessen its ambiguity in the process. Hitch is a useful word for the study and, as we shall see later, its colloquial use is not that much different from its specific use in this study.

Hitches seem to be related to teaching as a helping activity characterized by flexible, adaptive testing of the suitability of events and conditions in the teaching-learning environment for learners. Hitches assist teachers as they derive meaning from transactions with the teaching-learning environment. Hitches affect the continual improvement of teaching-learning conditions as teachers' perceptions evolve improved perceptions characteristic of effective teaching. Hitches are used by teachers to become conscious of what needs doing when it seems best to do it in a way that capitalizes on available or apparent teacher and student energies. Each of these statements will be explained in the text that follows.

A hitch is part of the natural process that teachers use when sensing past, present, and future meaning from transactions in the classroom. In the example cited where the teacher suggests a book to read, the teacher knows what reading materials are available in the classroom, senses the learner's eagerness to read with the volunteer, and evaluates the learner's confidence in what reading materials can be mastered. All of these thoughts are processed by the teacher as the teaching act occurs. The thoughts very likely are accompanied by others such as the efficacy of having the mother volunteer work with this child rather than other children on special learning activities for them. There doesn't seem to be anything
else happening that fits incongruously with the teacher's image of what might be or should be or was. The teacher's action seems to be part of a caring desire to have things going well for each individual child and to keep it that way.

In the second example, the teacher's image of both the child's ability to do arithmetic successfully and his general interest in school is not supported by what is happening in class. The poor fit leads the teacher to adjust conditions very naturally and to search futilely but persistently for an art print. In this example, the teacher's actions also seem to be part of a desire to have things going well for each individual child. Since they aren't going well for this child, the teacher's actions are aimed at adjusting conditions so that they will fit better.

In both examples, perceiving what is happening, projecting a possible helping activity into the classroom, acting in the way projected or in a modified way, and being conscious of those acts are natural teaching activities that are affected by the hitch that causes consideration and reconsideration (consciously and preconsciously) of the activities. A hitch affects the meaning associated with being a teacher and the meaning of teaching activities by affecting the teacher who is transacting with the teaching-learning environment. These teaching activities or conditions in the classroom and these events give new meaning to future events. These teaching activities are the result of what teaching means to those teachers as a helping, student-centered activity that is guided by sensitivity to conditions that stimulate learning and that are in
harmony with the abilities and motivations for learning that exist in the students.

A hitch plays a part in forming the characteristic combinations of teacher perceptions and teaching styles that better support and extend the learning of students with whom teachers interact. The learner-centered teacher constantly uses information from the teaching-learning environment to test (consciously and preconsciously) how well teaching and learning activities fit the teacher's image of the situation. As hitches bring those teaching-learning events to consciousness and associated periods of critical reflection, new perceptions are formed and new fitting activities occur with their levels of consciousness and associated meaning for classroom events. This instant fitting process leads to new, improved teacher perceptions and greater, more specific meaning associated with events in the teaching-learning environment. The entire spiral, changing relationship between present and improved future perceptions is aided by the effect of hitches on the conscious processes of the teacher.

Hitches provide an effective way of consciously and preconsciously managing classrooms so that helpful teaching-learning activities occur at teachable, optimum moments. The only way that either teacher cited in the previous examples could have effectively used knowledge of the many materials and experiences available that were suited to the developmental learning needs of students individually was to have paid very close attention over long periods of time to many appropriate factors affecting students and learning
environment. Being conscious of helpful learning experiences at appropriate times seems to be how teachers use hitches to improve teaching and learning continually. By responding to hitches, teachers seem to be able to be conscious of the appropriate factor in the teaching-learning combination at a time it most requires attention in balance with all other factors.

Some form of mental function triggers the teacher's consciousness so that the appropriate factor is considered and acted upon. That mental function, considered from both my perceptions as a classroom observer and from a teacher's self-perceptions, is the unique phenomenon that I am trying to describe in this study. Incidents similar to the ones recounted earlier are common everyday events in classrooms. They are, as I understand teaching and learning, a basic part of natural teaching behavior. They are more obvious in classrooms with higher levels of student-teacher interaction. However, interaction may only reflect the phenomenon. Hitches also occur very frequently in classes with low levels of teacher-student interaction, but they are less known or observable.

I have proposed so far that hitches are part of the natural process of "living" in classrooms, and that they are a perceptual phenomenon that accompanies transactions between teacher and teaching-learning environment. I have also proposed that hitches are used by teachers to derive meaning from transactions in the teaching-learning environment and thus improve cognitive structure, that they are a natural part of the process of forming characteristic perceptions that evolve into more adequate perceptions.
that lead to evolving improvement of teaching, and that they enable teachers to use conscious moments during teaching to a greater advantage.

What has been described is essentially the process of psychological change in the teacher toward more adequate, adaptive, and flexible transactions with events and materials in the teaching-learning environment. The contemporary name given to activities in schools designed to accomplish this change is staff development. Hitches are important to staff development.

A psychological state that is more useful to an adaptive, flexible teacher is one with less distorted perceptions of reality and more self-managed knowledge of oneself (Weinstein, 1975, pp. xviii–xx). When teachers act with greater self-confidence in ways that are closer to reality and less under unconscious domination by distorted perceptions, more self-predictable, and more like known potentialities, they are characterized as growing. Such teachers are moving toward internal psychological freedom. Hitches, as the processes that bring transactions with the teaching-learning environment to consciousness which in turn leads to more adequate teaching acts, are the means for developing greater internal psychological freedom and, thus, for growing and developing as a teacher.

During consciousness that is altered by a hitch, the teacher considers the teaching-learning environment through selective thought processes that focus attention on a limited, important set of variables in the teaching-learning environment. As the conditions of fit between the image projected by the teacher into the
teaching-learning environment and information from the environment are considered, a newly realized set of perceptions or responses results from selective attention and becomes fitted or tolerated in the teacher's consciousness. These are integrated into a repertoire of perceptions and potential responses that become unmediated, reflexive, and preconscious.

This repertoire of behaviors becomes available for deliberate conscious or preconscious use as part of a total collection of teaching abilities monitored through the teacher's perceptual screen. The increased repertoire of teaching behaviors and perceptions provides greater flexibility and adaptability by the teacher in the classroom. As hitches create new states of altered consciousness, new questions of fit are considered and the entire interactive process continues to be used to develop and refine the repertoire of teaching behaviors. The entire process of becoming more psychologically free internally; making use of altered consciousness as hitches bring new questions of fit into contemplation; and developing more differentiated, adequate, adaptive teaching behaviors that can be deliberately used as part of preconscious teaching behavior explains how teaching can be improved in schools. Hitches appear to be the catalyst for this self-development process by bringing appropriate questions of fit to consciousness. Being attentive to questions of fit is a crucial motivator for self-developmental changes.

The proposal that development in the schools will be affected by self-conscious direction of the members making up the institution is an important and nontraditional view of staff development. It breaks
with the tradition of formal training and development activities that have been relied upon so heavily in the past at the expense of individual, self-managed teacher growth. It is based on the assumption that moving toward a more adequate psychological state for teachers involves self-conscious contemplative perceptions in a search for fitting solutions. This search is part of the natural process of creating order out of transactions with the teaching-learning environment and using this order to guide future transactions.

Teacher learning over time—staff development—may be improved by helping teachers exploit selectively altered levels of consciousness of teaching behaviors that hitches have brought into contemplation and that have been subsequently refined to become more fitting. Such a dynamic, pervasive, and intrinsically motivated process will lead to integrating more selectively fitted responses into cognitive structure that in turn will be used reflexively and preconsciously by teachers as part of the natural process of teaching and learning.

**Aim of the Research**

The phenomenon that I have studied is a qualitative dimension of selective fit—a teacher's assessment of how images projected onto the environment fit with information received back from the environment. I have proposed that the phenomenon, called a hitch, causes recurring preconscious and conscious consideration of transactions with the teaching-learning environment and therefore affects the perceptual basis for future transactions, meaning, sense
of fit, and events in the environment to which the teacher gives conscious attention.

What I have done in this study is look for and identify events in the teaching-learning activities of a teacher that occurred under conditions when a hitch was considered likely to be affecting the teacher's mental processes. These events were then studied more carefully with the teacher who experienced the hitch. By doing this I have been able to increase knowledge of hitches and to explain more fully the meaning of hitches for teaching. This explanation is balanced by both researcher and participant perspectives.

The purpose of this study is to find hitches in teaching and to define hitches in a way that is useful to understanding them as part of teaching and its improvement. Finding and defining involves documenting the existence of hitches, describing them in terms of teaching, analyzing the circumstances under which they occurred, and explaining the significance of them for (improved) teaching. In this particular study it involves explaining the meaning of hitches in terms of both my view of teaching and the teacher's experience of them. The end result of this study is a preliminary definition of hitches that provides not only an understanding of hitches in teaching but also provides a heuristic base for additional research of hitches.

The purpose of this study is to provide evidence that hitches exist in the minds of teachers. The first step in this research is to show that the phenomenon I had observed in teaching and for
which I found supporting evidence in related literature can be observed and described sufficiently to study it in a teaching-learning environment. The documentation of the phenomenon hitch is done from two perspectives—from mine as an investigating observer of the events in the classroom that seemed to indicate hitches and from that of a participating teacher's as a case study of a person experiencing the hitches in perception. This documentation is done by describing the hitch, the events and conditions accompanying its occurrence, and the feelings and insights of the teacher during the time the hitch occurred.

In addition to providing evidence that hitches exist, the purpose of this study is also to explain hitches as part of teaching. This explanation is related to the view that teaching is a living, helping, spirally developmental, flexible, adaptive, perceptually-grounded, student-centered, transactional activity. The explanation of hitches in relation to teaching also includes how hitches are useful for "healthy" teaching—teaching that can continually be improved as better teaching and learning evolves from better perception of the teaching-learning environment. Examples of hitches and their observed effect on teaching, a teacher's recall of perceptions during the hitches, and comparison of one teacher's perceptions to another teacher's are used in this study to show the significance of hitches to teaching. Thus, the meaning of events to a teacher in the teaching-learning environment as hitches affect a teacher's perception of those events is explained.
After documenting the existence of hitches, showing their rela-
tionship and usefulness to teaching, and explaining their signifi-
cance in terms of the meaning hitches give to events in the school
environment, the final section of this study includes a comprehen-
sive definition of "hitch" as a theoretically significant product of
the research conducted. The usefulness of this broad definition is
to provide a basis for additional research beyond this preliminary
study. This comprehensive definition treats "hitch" as a unique
entity or gestalt. It gives deeper meaning to abstract relationships
that define the concept of hitch. This deeper meaning is related to
literature and research, observations and analysis of hitches in the
teaching-learning environment studied, and the teacher's percep-
tions as the one who experienced the phenomenon being defined.

The research question of this study concerns finding out how
the perceptual phenomenon that I observed in teaching, and whose
existence is supported by various related fields of literature, affects
a teacher's perceptions in the teaching-learning environment of the
classroom or school. Stated in question form, it is:

How does recurring, attention-demanding, and sometimes
sudden consideration of transactions with the teaching-
learning environment (called hitches) affect a teacher's
perceptions as further transactions, cognitive restructur-
ing, sensing fit, and changes in consciousness occur in
the teaching-learning process?

Ancillary questions that arise from this major research question are:

1. How can hitches be described in terms of classroom activi-
ties in which a teacher participates?

2. How do antecedent, accompanying, and subsequent events
to hitches affect teacher perceptions when teaching is
viewed as a natural, transactional, student-centered
activity in schools?
3. What are the common characteristics of hitches that can be identified in the typical teaching-learning activities of a teacher?

4. What significance or meaning do hitches have for a teacher in terms of hitch-sensing and hitch-using behaviors?

5. How do hitches affect evolving improvement of individual teacher perceptions and teacher behaviors?

I have made several necessary assumptions as the study was conducted. I began the study assuming that the view of human existence and the meaning of teaching expressed earlier in this chapter were adequate and reasonable descriptions of teaching-learning conditions in schools. I also assumed that hitches are a universal phenomenon in teaching. Although the central variable hitch was identified a priori based on observations and experiences from which I inferred that hitches occur, I made the assumption that an investigative view in which the important characteristics of a hitch were developed as part of the unfolding data from the study was more appropriate than a view in which the specific characteristics were predicted, manipulated, and then measured in terms of effects on teacher or learner performance. Thus, the design assumption for the study was that the most accurate and helpful characterization of a hitch would result from analyzing various, thoroughly explored, particular instances in a teaching-learning environment.

I assumed throughout the study that a teacher's manifest behaviors during the natural activity of teaching adequately indicated when a hitch was likely to be affecting a teacher's perceptions. I assumed that a teacher's recall of perceptions and thoughts during a prior event could be accurately remembered when viewed, using a
video tape recorder later in the same school day. I also assumed that involving the teacher who experienced the perceptual phenomenon "hitch" in the thoughtful analysis of the data with myself as the observer added to the richness, completeness, and meaningfulness of the data on hitches by helping direct attention of the analysis to important and less random factors of the phenomenon (Note 2).

The universe of data available for this study was considered to be the perceptions that one teacher experienced throughout a variety of teaching-learning transactions in a school rather than characteristic perceptions generalizable from the behaviors of many teachers. The assumption was that the general process of selectively engaging certain aspects of the teaching-learning environment as the basis for future action is a perceptual phenomenon common to teaching. The sampling procedure that followed from the assumption was to select diverse and meaningful instances to study when hitches were inferred to be evident in the teaching-learning environment (Wadsworth, 1973, p. 7). This assumption allowed a more reasonable limit to be placed on the data to be considered during the study.

In this study it was necessary to search for hitches in the teaching-learning environment and synthesize the observed characteristics of hitches into a definition that would be useful for future study, corroboration, and generalization. The research procedures of this study were designed to discover new variables related to hitches and to add important information to the limited description of hitches available at the beginning of the study.
What was selected at the onset of this study was a research process guided by a point of view of what a hitch might be. I did not know what constituted significant data. The outline of satisfactory outcomes was necessarily vague. The duration of the inquiry was indefinite when viewed from the perspective that new theory was being created as a result of the research that would lead to important questions for future studies of hitches.

Research of this type is called fluid enquiry (Schwab, 1960, pp. 20-21). The task of fluid enquiry is "not to traverse a marked route but to determine a route and a destination and to do so with uncertainty as a conspicuous factor at each step" (p. 21). In this study, fluid enquiry represented a test of theory that had been derived from the literature of perception, reality-testing, and pedagogy.

A case study approach that incorporated participant data was the method chosen to implement this research. The case study approach I used is based on the teacher activities in the teaching-learning environment of a second grade teacher, Mary Eve, in a suburban elementary open space school. Although the basic characteristics of the school were typical of many relatively new, suburban schools, this particular school has been considered a very good school by educators who have visited it and by those who have studied the attitudes and perceptions of staff and students at the school. Consequently, it has been the subject of several studies and publications. Two of them, in particular, describe the development of the school and its natural history (Sanders and Schwab,
The data for the study of hitches in Mary Eve's teaching came from taped interviews with her and with a cooperating teacher who helped corroborate Mary Eve's responses about hitches. The primary data considered were stimulated recall responses by Mary Eve to video taped episodes in her teaching that I identified as having a high probability of containing a hitch according to specified criteria. The episodes were selected from one-hour periods video taped of her teaching on each of five consecutive days. The times when periods were to be taped were selected in advance cooperatively by both of us based on the criteria of being reasonable and theoretically representative of the school week that had been divided into 30 such one-hour periods according to natural breaks in the school day.

Three episodes ranging from one to three minutes were selected daily from each one-hour period following the video taping. The episode I considered most likely to contain a hitch, or to contain a different type of hitch than considered on previous days, was then replayed for Mary Eve at the end of the day. Her thoughts and perceptions related to that episode were probed through a structured interview supplemented with additional solicitation, clarification, and free association comments in order to get a complete recall of the event.

Throughout this five-day process, Mary Eve was not told what I was looking for. Based on this procedure, her role during these first five days was as an uninformed participant. The interviews
that followed were for the purpose of clarifying the descriptions she had given earlier of her perceptions. Mary Eve also assisted in defining hitches for a cooperating teacher, Gary, and she and Gary both recorded hitches they recognized in their teaching following that explanation. Both teachers completed their assistance in this study by participating in a culminating interview on the meaning of hitches for them as teachers. The data for this study are transcripts of the interviews and related explanations with both teachers about their perceptions during selected episodes and the accompanying field notes made about those comments of their perceptions as they were reviewed after the interviews and during subsequent analysis.

The purpose of this study is to develop a comprehensive definition of hitches that treats the phenomenon as a unique entity or gestalt. In order to arrive at this broad, integrated definition, the nature of the language used throughout this study satisfies at least three conditions. First, the relationship among definitions, descriptions, and the phenomenon hitch is characterized by adequate generalizations and accurate discussions of hitches. This language relates hitches to the activities and concepts characteristic of teaching-learning environments. This language gives descriptive substance to the definition. It is based on data collected as Mary Eve, Gary, and I identified perceptions and activities in the teaching-learning environment that were related specifically to hitches.
Second, the language provides a frame of reference that leads to important and trustworthy descriptions of hitches in teaching. This frame of reference is characterized by sensible language that fits together consistently and gives the definition of hitches an adequate theoretical perspective. This language helps to understand hitches in the framework of perception, creativity, experimentation, cognitive structure, and transaction within the teaching-learning environment.

Third, the language used to describe and define hitches is embedded in practical, common, consistent, and constant references to the actions of teachers and students as observed and reported in a teaching-learning environment. These terms give the data about hitches significance for teachers and their development. This language gives meaning for future use to the definition of hitches.

The analytic process for arriving at the theoretically significant product of this study is a modification of the constant comparative method of analysis described by Glaser (1965). The analysis is intended to suggest plausible properties about a common phenomenon "hitch" rather than to test a specific hypothesis provisionally. This method is well suited since it allows the researcher, with discipline, to remain flexible and creative as the definition is generated. This method allows the researcher to generate carefully and thoroughly a theory or definition that is integrated, consistent, close to the data, and clear enough to allow subsequent quantitative applications of the definition (pp. 437-438). Since no proof is involved, the analysis did not require consideration of all available data nor
were the data restricted to one particular case of hitches in teaching (Glaser, p. 438).

The constant comparative method of analysis involves (1) comparing events (described perceptions) in as many applicable categories of the data as possible; (2) integrating categories and their properties by comparing events with properties of the categories until related theoretical sense occurs for each comparison; (3) delimiting the definition into fewer, more common and abstract generalizations (which at times involves recoding); and (4) using the coded data and common generalizations to describe the characteristics of hitches and their meaning to teaching, and to write a holistic, generalizable, common, practical definition of hitches.

In this study, I could not begin with step (1) since the categories were not established prior to the data collection. A study of related literature had led to interesting categories for data analysis related to selective fit between image projected onto environment and information received from the environment, level of awareness (conscious and preconscious), and characteristics of teaching as a natural transactional process in the school. What was necessary and what I subsequently did was to approach the data from the perspective of these initial categories. I then used the constant comparative method of analysis to generalize common categories for data analysis that appeared to yield the best understanding of the phenomenon hitch as it was observed from the behaviors and self-reported perceptions by Mary Eve.
In Chapter II that follows, the questions of methodology, technical aspects of the study, and the conditions under which the study was conducted are explained. Chapter III is a review of literature in which I define hitches in socio-psychological terms and discuss cerebral correlates of consciousness and preconsciousness. In Chapter IV, examples of hitches are presented that were both observed by me as a researcher and identified by the teacher experiencing them. Chapters V and VI describe the characteristics of hitches and their significance to teaching according to generalizable categories developed by qualitative analysis of the data. Chapter VII includes a comprehensive definition of hitch that provides an understanding of the meaning of hitches. Chapter VII also includes conclusions and implications resulting from this study.
II
METHODOLOGY

The aim of the study was to find hitches in teaching and then define what was found in a way that is useful to understand teaching and its improvement. To meet this aim involved providing evidence that hitches existed in teaching, describing hitches in terms of teaching activities, examining the conditions under which they occurred, and ascertaining their meaning to a teacher who experienced them. Furthermore, the research procedures needed to yield information that was meaningful and trustworthy. In order to satisfy these conditions, the data that resulted from these procedures needed to be authentic descriptions of a teacher's perceptions at the time a hitch occurred. The resulting definition of a hitch needed to account for all of the cases that are studied. These desirable characteristics of this study were incorporated into the design consideration.

Design

The goals, data desired, the ideal and practical research methods available, and the extent that it was possible to approximate the results desired were fundamental considerations related to the design of this study of hitches (Douglas, 1976; pp. 1-9). As I applied these fundamental considerations to this study, ten
decision rules based on Duncan and Bargar (Note 3) guided the research activities used.

**Decision Rules**

These rules were considered at the outset and during the study to assure collecting trustworthy and meaningful data for defining hitches. The first two decision rules were satisfied by the research questions framed in Chapter I.

1. The research questions can be trusted to lead us to new information and knowledge.
2. The research questions are suitable for guiding the study.

The next three decision rules were discussed in Chapter I when the language used in the description and definition of hitches in this empirical study was described.

3. The relationship between the defining terms and hitches provides adequate generalizations and allows us to discuss the definition accurately.
4. The frame of reference for considering hitches leads to trusted and important descriptions of hitches in teaching.
5. The language used to define hitches is embedded in the activities of teachers with students.

Three additional decision rules guided the methodology that was used in this study.

6. The research methods permit me to select events from teaching that extend our knowledge of hitches in meaningful and trustworthy ways.
7. The research methods allow me to pass over those events that I cannot trust to extend our knowledge of hitches and their meaning to us.

8. The research methods allow me, as the observer, to be part of the transactional process of instruction while studying hitches.

Two decision rules were used to sample Mary Eve's time with a video tape recorder.

9. Teaching episodes to be video taped are selected according to logical, theoretical, and reasonable choices of time.

10. If teaching episodes cannot be chosen according to rule 9, or if a question of bias arises, then selection of an episode is made randomly.

I used procedures throughout this study to assure that the data about hitches are trustworthy and meaningful (Schwab, 1960; p. 18). The data are as free from vagueness and ambiguity as possible. They refer to events that are distinctly characteristic of teaching. The data are the result of deliberate research procedures that were implemented with concern for the questions the data were to answer. These characteristics all help assure the trustworthiness, accuracy, and reliability of the data. The data are also as rich, full, complex, and descriptive of hitches as possible. I have consciously avoided oversimplifications and conclusions reached outside the context of teaching-learning activities in the setting of this study.
Goal

The goal of this study was to provide evidence that hitches exist in teaching and to provide information about them that can be trusted and that has meaning to others who study teaching and learning. To meet this goal and to satisfy the conditions for trustworthy and meaningful research, field study procedures using video and audio tape recording and stimulated recall processes were selected.

Data Desired

Since the goal of the research was to document that hitches exist in a teaching-learning environment and to understand how they are processed in a teacher's mind, the data collected for this study needed to be authentic descriptions of a teacher's perceptions when a hitch occurred. The data had to verify empirically for me, the observer, and for others--the readers--that hitches do occur in teaching. I wanted data to describe a teacher's awareness of hitches and of events related to hitches. The reasons that a teacher continued to deal with a hitch or how a teacher dispensed with a hitch were important. The temporal aspects of hitches--when they came into a teacher's awareness in relation to the events on which the hitches were centered--were also desired characteristics of the data. The connection among the hitch, other events and objects in the teaching-learning environment, and the compelling or interesting reasons a teacher processed hitches was another important part of the data.
Ideal Research Setting

I wanted a research setting where the goal of verifying hitches with the authentic, empirical data that I have described could be met. I also wanted a setting where the meaning of teaching and learning was consistent with the variables I had defined for teaching. These included being facilitative for students, viewing learning as a natural process, valuing student-initiated learning, modeling learning for students, and being in harmony with learner interests and teacher resources. Mary Eve's class in cluster B provided that type of setting with the opportunities to collect data as part of natural transactions with the reality of teaching and learning.

I wanted a setting in which research procedures could be used where I could find out as accurately as possible what the teacher's thoughts were when the manifest, external behaviors that indicated a hitch occurred. In all cases, I wanted to collect data as closely as possible to the teacher's direct experience of a hitch. I wanted data based on natural, authentic, common life transactions between teacher and students, with myself as researcher observing the teacher in the school environment as the research subject.

Ideal Research Procedures

Research procedures for this study were based on an "ideal" guided by three principles. First, methods were selected that permitted me to record and select information from the teaching-learning setting that I believed would extend our knowledge and understanding of hitches in trustworthy and meaningful ways.
Second, methods were selected that allowed me to discard or to avoid considering information from the teaching-learning setting that did not have the potential for adding useful or important information about hitches. Third, methods were selected that allowed me, as an observer, to transact with an authentic, natural teaching-learning environment as I was collecting information on hitches.

I considered a variety of methods that would satisfy the three research design criteria listed above. The basic type of data I wanted to use were recorded observational data that would allow me to explore in depth a teacher's mental reaction to events in the class area. I wanted the obvious advantage of field study methods that would provide closeness to teaching-learning events and authentic responses by a teacher. I recognized, however, that field data alone do not necessarily result in seminal and descriptive richness. The extraction of useful concepts from the data would be facilitated by sampling and analyzing adequately within a theoretical frame of reference. I wanted data generating methods that allowed me to filter the bulk of the data for important events, to apply a theoretical perspective to them, and eventually to describe them in terms that could be generalized from my personal experiences as an observer in a natural teaching-learning setting (Mead, 1976; McCall and Simmons, 1969, p. 142; Stake, 1978).

**Adapted Research Methods**

The research methods for this study were adapted from video tape procedures used in self-confrontation therapy (Kagan, 1972; Ronchi, undated). Ronchi's study of attribution theory showed
that people have a remarkable ability to hear subtle messages although they acknowledge and label only a small part of what they perceive and actually react to (Ronchi, p. 24).

The methods of observational, low inference systems (Simon and Boyer, 1968; Duncan and Hough, 1970) were not suitable and unnecessary (Schwab, 1979, p. 68). The method I used went below the surface of specific class events. It allowed me to get into the head of a teacher, so to speak, during those events, to understand hitches from the perspective of the teacher who was experiencing them at the time, and to consider hitches in terms of the effects of other events. Based on the experience of Kagan, Ronchi, and others (Mackett-Frank, 1974; Mead, 1976) who have advocated and used film in therapeutic counseling and ethnographic studies, a video tape recording procedure was developed that allowed probing and stimulated recall of a teacher's formerly unexpressed thoughts in relation to events occurring in a teaching-learning setting. Cicourel (1974) also reports examples of field studies where video taping was used to record data that were later used to stimulate participant recall.

Practical Research Methods

The goals and data desired for this study were achieved in several ways. The data originated from natural, real-life teaching and learning experiences. A summary of the process for collecting the data follows:

1. I video taped a one-hour period of class activities in Mary Eve's class at an agreed-upon time for five consecutive days.
2. I identified several one- to three-minute episodes from each video tape that met criteria for external manifestations of a hitch. (These external manifestations will be discussed later.)

3. Mary Eve reviewed one of the video recorded episodes each day and explained it to me during an interview designed to stimulate recall of accompanying perceptions.

4. Mary Eve and I discussed a definition and characteristics of hitches.

5. Mary Eve and I explained the definition and characteristics of hitches to Gary, a cooperating teacher, and to the other teachers in cluster B.

6. Mary Eve and Gary recorded and explained hitches that occurred for them in teaching.

7. I interviewed both teachers about the meaning of hitches to them in their teaching.

The Interpersonal Process Recall (Kagan, 1972) was modified to provide a probe into the mental processes that accompanied a hitch. The characteristics of hitches were corroborated by Mary Eve after she was informed of hitches as the topic of study and also by Gary as hitches were defined to him and as he discussed examples of hitches with Mary Eve and me.

The original incidents on which the characteristics of hitches were based came from incidents I was able to select as an observer who was a natural part of the teaching-learning environment. Being close to the instructional setting and familiar with the behavior patterns in the class, I was able to use my own theoretical perspective
to search for the manifestations of a hitch in Mary Eve's teaching. The observations were a continuation of other activities performed during the year in the class and part of the instructional norm for the class (Note 4).

Mary Eve's status as an uninformed participant throughout the first period during which I identified hitches and probed her thoughts about them provided the kind of "nearness" to mental process that I wanted. Using the video tape I was able to stimulate recall of subtle messages, connected events, emotions, and thoughts that were not otherwise available to me as an observer.

The nature, characteristics, and meaning of hitches to Mary Eve were further corroborated after she became informed about hitches as the target for study and became a creative partner in refining the definition of hitches with Gary. Gary helped corroborate the definition for several days when he and Mary Eve both recorded events they thought were hitches and the meaning of those events to them. Appendix A is an outline of the research design.

Setting

School

The setting for this study was in a relatively new, suburban, open-space, elementary school in central Ohio. The school is highly acclaimed by educators, parents, and students. It has been the site of several projects--federally and locally funded, as well as unfunded research and development activities--related to individualizing learning and growth for both students and adults. I had been a member of a research and development team in the school
for almost three years when this study was conducted. The various projects and development activities were characteristic of an experimenting way of schooling (Sanders and Schwab, 1978, pp. 104-107; Schwab, 1979, pp. 152-153). The adaptive teaching and organizational styles in the school were the result of a highly talented and motivated staff, a veteran and remarkably skilled principal, committed and unselfish university professors, and the innovative circumstances under which the school had begun six years previously.

**Teaching area.** Cluster B in this school, an open space designed for six teachers, had two second grade teachers and three third grade teachers the year the study was conducted. The day began similarly for all five classes with a quiet time for setting the daily or weekly agenda, taking care of school announcements, sharing, and making lunch arrangements. Most morning activities were related to mathematics, reading, or other language arts activities. The language arts and mathematics materials used in the second and third grade were commercially produced workbooks, but learning activities in both subject areas were supplemented heavily with games, learning center activities, supplemental worksheets, and many trade books. Afternoon activities were often more active and included science, social studies, and special projects. Science units were shared among all five classes in the cluster. Each teacher was responsible for preparing three two- to three-week science units for each grading period and students would sign up for these during successive weeks.
The teaching styles in the cluster were diverse but compatible. Teachers in the cluster planned together more to organize cluster learning activities but planned together less as a total group for individual lesson plans or class activities. A great deal of sharing among individual teachers occurred as they carried out their duties from day to day and shared achievements, frustrations, and classroom humor with each other.

Subject

Mary Eve, the teacher observed in this study, had 24 second graders who had been assigned to the class in a way that assured a heterogeneous span of achievements and abilities. According to the principal, two or three students also were assigned to the class because their particular learning difficulties or other needs were closely matched with Mary Eve's teaching experience and style.

Mary Eve used a variety of activities to make each day a special learning experience for each second grader. These included lunch with students on special occasions and always on the child's birthday, special teacher-made gifts "just for you" at Christmas or other times, sharing someone or something (pet, parent, sibling) from home or school to illustrate a favorite book, photographs of each student prominently displayed throughout the class area, and many pre-arranged or spontaneous adult-child activities such as chess, kite making, reading, story telling, churning butter, and producing favorite commercials on video tape.

Mary Eve had begun teaching at the school five years before the study was conducted. She left after two years to be married. One
year later she had returned to the school to work part-time with teachers and other staff who were coding curriculum materials according to learning descriptors developed as part of a state grant at the school. She taught fourth grade during her first tenure, but she had been substitute teacher at several grade levels before that.

During her college training, Mary Eve had been part of a program to replace formal methods courses with preservice experiences. She had also worked extensively with professors and students at a science materials and instruction center at the university. Consequently, her classes were often visited by professors and students who were interested in observing elementary science learning activities. Mary Eve was known in the school for her willingness to share her extensive personal collection of well-catalogued resource materials. Her assistance on the curriculum classification project the year before made her an indispensable authority to both grant and school staff on how to access many materials coded, stored, and used in the school.

**Researcher**

My role in this study was a familiar one in the school. Throughout the three years that I had worked in the school, one of my duties was to be evaluator for the state grant activities. My previous experience as evaluation consultant for projects throughout the state in grades K-12 led me to be involved in many interesting activities in the school and I often shared ideas with others. Because of my role, and the instructional and program development
activities that were part of the grant, my work as researcher with teachers and students was accepted and assisted by teachers in the school whenever practicable.

My role as an observer in Mary Eve's class area was also a natural one. Throughout the year, Mary Eve had chosen to use me as a special adult for activities with specific students in her class. Frequently I was invited to be a special guest at celebrations or to serve as surrogate parent when someone's dad couldn't be there. Because of the many visitors to the school each week and the emphasis on using volunteer aides to help students and to do other special activities such as cooking, sewing, batik, and cardboard carpentry, the presence of adults in the class area was welcome and usual rather than extraordinary.

I shared some common perceptions with Mary Eve about the value of individual growth and development of students. I appreciated her style of using individual, student-centered class activities. My interest in her teaching activities led to frequent, often daily, discussions of her class activities. We often talked about the progress of individual students in her class. Her selection for this study by me and her interest in participating were natural and consistent with the objectives I had for this study. Her participation was also natural and consistent with our common interest in her teaching and students in her class. As we began the first part of the study, she agreed to be video taped and subsequently interviewed each day, although she didn't know the objectives of the study or the specific phenomenon I was looking for. She suggested that the process
would help her understand her teaching and her students better.

**Procedures**

**Sampling Design**

The purpose of the sampling design used in this study was to look adequately throughout the school day for hitches in Mary Eve's teaching. The universe of data available for this study was considered to be Mary Eve's perceptions experienced during a variety of teaching-learning experiences typical of a school day. This implies an assumption similar to that made by others such as Piaget during his studies of child development. It is based on the assumption that hitches are a universal phenomenon in teaching experience. Thus, a sample of events explored with one teacher was to be preferred (Wadsworth, 1973, p. 7). Video and audio taping one person introduced less variance in the way terms are used, required less in-depth review of previous teaching experiences and how they affected reactions to events in the class area, and helped me, as the researcher, to be more familiar with the teacher and students involved in the video taped part of the study.

The sampling design was set by looking at Mary Eve's schedule for the week that classroom data were collected and working out with her times that I would video tape the class. We chose times that were each approximately one hour long, that overlapped natural time punctuations during the day (recess, starting activities, change to special teachers), that covered a different day of the week each time, that included cooperative efforts with other
teachers, and that represented adequately the range of teaching-
learning activities usually found in the class. A general schedule
of the school day and the times video taping was done is included
in Appendix B.

Uninformed Participant

One person in the school had worked with me briefly to develop
the interview protocol to be used to probe Mary Eve's recollections
of mental processes that accompanied a hitch. However, no one in
the school had discussed hitches in teaching with me. Mary Eve did
not know what I was studying in her class area, and her response
at the end of the week of video taping confirmed this. The descrip-
tion of the setting for this study explains how Mary Eve was a
natural choice. Her teaching style was consistent with the premises
of this study related to teaching and learning. My presence in the
class area was familiar and expected by students (Note 5). Our
common perceptions about her students also made my search for
hitches in her interactions with them a natural choice.

The cooperating teacher for this study, Gary, who later helped
us corroborate data on hitches, volunteered to help because of his
interest in the topic of hitches after Mary Eve received a definition
and explained them to him. Gary joined the study when the term
hitch was defined to the remaining four teachers who taught in the
same cluster (B) as Mary Eve. He had already spent an additional
session with Mary Eve and me to help define hitches more carefully.
He also agreed to identify some hitches in his teaching at the end of
the study.
**Video Taping**

A diagram of cluster B and Mary Eve's teaching area is included in Appendix C. The video taping was done with a tripod-mounted, swivel-based black and white video camera and a video tape recorder. The video camera and tape recorder, TV monitor, and other recording equipment were arranged on an audio visual cart that could be rolled out of the way against the outside wall in the class area when not in use. A piece of cardboard with a masking tape hinge at the top covered the TV monitor so that students in the class would not be distracted by the TV picture when filming was in progress. The lightweight camera and the portable audio visual storage cart were relatively unobtrusive in the class area. The location allowed me to pan over the entire class area except into the tiled, wet area in the hallway where students went to get water for science activities or clean up, or to get a drink. The entire cluster shared a rack of trade books that served as a mini cluster library. I was not able to video tape activities at the book rack. However, the wireless microphone system I used did record any conversations Mary Eve had with students at the book rack.

A field test with another teacher in cluster B had shown that one of the most distracting parts of being video tape recorded was managing the microphone cord. To correct this I used a wireless microphone with a battery pack approximately the size of a bar of soap and an audio receiver that was connected into the video tape recorder. This gave Mary Eve full range of the class area and the cluster but still allowed me to record her actions in the immediate
teaching area and all of her conversations in the cluster. I would come to her class a few minutes before the scheduled time and place the microphone and battery pack on the table where she kept her class materials. She would pick it up at the next convenient time and clip the microphone to her lapel, slip the battery pack into her skirt pocket or clip it to her waist band, and at the scheduled time I would begin video taping with full audio input.

**Stimulated Recall Interview**

The interview procedure used at the end of each day with Mary Eve was designed to help her recall in-depth feelings, related thoughts, unspoken comments, perceptions, and other mental processes that were either partially obvious on video tape or not obvious at all. Guidelines adapted from Ronchi (undated) for using stimulated recall were that playback needed to be direct and not vicarious, cueing or focusing needed to occur to get to helpful questions and/or comments, and replay of specific instances was better than replaying an entire period of activity.

Kagan's (1972) guidelines for functioning as a facilitator were used to guide interview procedures. As Mary Eve and I reviewed the video tapes each afternoon, I tried to use explanatory responses, a combination of affective and cognitive reactions to video taped activities, active and deliberate communication procedures, honest labeling of events, and assertive non-judgmental leads. I approached each interview with basic curiosity and validated Mary Eve's feelings, thoughts, and authority as the person who experienced the hitches.
The original interview was designed mainly to discover feelings or events that continued to press upon consciousness during the event that had the manifest characteristics of a hitch. Based on the responses during the field test interview, some questions were changed and others were added. Some of the questions were changed to allow more projection by the subject. ("If your feelings could talk, what would they be saying?"") Some questions about level of awareness and abruptness of recognizing events were made more direct. Questions about antecedent and consequent events related to the events on the video tape were added. After the first interview with Mary Eve, other changes were necessary. Questions were added about contemplative and reflective thoughts and the effect on her teaching of the persisting thoughts associated with a trigger event. A copy of the final interview procedures and questions is included in Appendix D.

The procedure for reviewing the video tape and for using the interview questions was also changed after the field test. A time was set for the interview to be finished so that concern for meeting other school or personal schedules could be put aside while the interview was being conducted. An explanation of the process for reviewing the video tape and the purpose for viewing and interviewing was added. After the first interview with Mary Eve, the order of the questions was rearranged. The order was never rigidly followed after the first question since when a comment for one question led naturally to another question on the interview form, that one was asked next. The procedure for viewing the film that
worked best was to run through the entire one- to three-minute episode first without stopping. Then we would go through it again and I would stop the film at each place Mary Eve wanted to make a comment. We would then go through the film the third time and I would ask the interview questions.

Selecting Episodes

The episode I selected from among several each day to review with Mary Eve was chosen for several reasons. First, it was associated with characteristic behaviors that I considered external manifestations of hitches in teaching: evidence of lingering, persisting, recurring, contemplative, or reflective mental activities that were punctuated by abruptness, that followed an "Oh! Now I see!" reaction, that followed an expressed change in awareness, or that involved more than customary teacher preoccupation with something in the class. Second, I tried to get a variety of social settings for hitches involving one student, the total group, students from other classes, and another teacher. Third, I observed or inferred differences between Mary Eve's values and student behavior, or between Mary Eve's actions and what I expected students to do in response to her actions. Fourth, prior expectations shared by students and Mary Eve were in effect during the episode or references to earlier teacher-student interactions occurred during the episode. Fifth, on the fourth or fifth day of video taping and stimulated recall interviewing, I asked Mary Eve to help choose the episode from among several based on her interests and concerns for what was occurring in the class area while I was video taping.
The week following the video taping and interviews, Mary Eve and I discussed the definition of hitch informally. Then a written description of hitches was given to her and she critiqued it. We subsequently used a one-page summary of those characteristics to discuss hitches with Gary, the cooperating teacher, and the other teachers in the cluster. We eventually arrived at a one-line definition that was attached to the tape recorder which was placed in the teachers' common cluster planning area. Mary Eve and Gary recorded examples of hitches that occurred during the school day on the machine. The summary and one-line definition are included in Appendix E.

**Primary and Secondary Data**

The primary data of this study are explanations by Mary Eve of mental events that accompanied class events recorded on video tape. The secondary data are the comments about hitches by Mary Eve and Gary after a written definition was discussed with them and then later after they had identified hitches in their teaching. A log of events during the data collection is included as Appendix F.

The primary data were analyzed using a variation of the constant comparative method described by Glaser (1965, pp. 436-445). This analysis resulted in accumulating evidence that hitches exist, defining categories that were distilled from the large number of events, and forming a preliminary definition of hitches. Events were coded and analyzed first by comparing event with event, then by comparing event with emerging category. Eventually as each category became saturated and complete in terms of concepts defining it, categories
were compared against other categories and a general heading was defined. As an example, individual events that related student behavior to their lesson folders, the class agenda, or goals stated by parents or Mary Eve were compared.

Her instructional style was characterized as having 24 individual lesson plans going simultaneously. This characterization eventually became part of a category called guiding and extending learning. This category was related more abstractly to deriving meaning from hitches that is useful for improving the teaching-learning environment. This in turn was related to the use of conscious and non-conscious perceptions of class events as the teacher performed the natural, transactional, common acts of teaching.

Secondary data were used to refine the definition of hitch further and to determine the meaning of hitches to teaching. These data helped to verify the language used so that the relation of terms used to objects and events distinctive to teaching was explained accurately. The secondary data were introduced into the constant comparative analysis after categories had been established. As less commonality between categories occurred and more commonality within categories was evident, the secondary level data were useful to verify and strengthen specific characteristics within each category. Using the secondary data to refine the categories also helped me arrive at a higher level of abstraction for each category. The final form of both the primary and secondary levels of analysis was category descriptions supported by coded events. The content of these category descriptions is the basis for the analysis of hitches.
and the comprehensive definition of hitches presented in later chapters.

**Strengths and Limitations**

This study is of a universal in human behavior—a hitch. It has applications beyond teaching and can serve as a heuristic basis for other studies of perception and awareness. The methodology was designed to give a very careful and clear view of hitches. The procedure used allowed choosing from among many external manifestations of a teacher's mental activities likely to contain hitches. The Interpersonal Process Recall interview methods used were then helpful for taking a very close look at hitches as the teacher recounted her perceptions of what happened during a hitch within a few hours after it occurred using video and audio playback.

Because the research was conducted within the bounds of natural and authentic classroom relationships between students, teacher, and researcher, many of the problems one would expect from interaction effects of the procedures are absent. Another strength is the field study methodology used which allowed me to get very close—naturally—to hitches in an authentic teaching-learning environment, to record information about them, and then to back off and apply a theoretical framework to the data.

There are also some limitations the reader should be aware of. This study is the first empirical documentation of hitches in teaching and learning. It represents an experimenting approach to the definition. It is fluid enquiry that leads to a plausible definition (Glaser, 1965; Schwab, 1960). This study is limited by the lack of
previous information on the existence and nature of hitches. Human limitations in the research setting meant that the sample of a teacher's time that was considered was limited also. Hitches were documented and characterized in this study based on logical, theoretical, and reasonable choices of Mary Eve's teaching time. I have presumed that hitches are a universal phenomenon and thus the characterizations of hitches in teaching, based on this study, are of a universal phenomenon as I was able to observe it in a natural teaching-learning environment. However, the extent to which hitches are a universal phenomenon was not shown and generalizations of hitches from these data are limited by that condition.

Two other limitations in the design should also be noted by those who are considering using the study methods. There was very limited analysis of primary data before the secondary data were collected. Additional analysis between the two stages could have led to developing more interesting questions during the definition dialogue and culminating interviews. Likewise, the procedures used for getting definitional statements from both the participating and cooperating teachers were limited by their teaching load and the time they could spend creating information for the study. Requesting written and extensively considered descriptions might have been desirable, but was not reasonable in view of the teaching and personal time limitations of the teachers.
The research methods of this study were chosen so that I could sample the teaching-learning environment broadly and then analyze specific instances in depth. The methods allowed me to filter the bulk of the data according to my theoretical frame of reference and then probe the participant teacher's perceptions according to characteristics of hitches hypothesized from the scientific language of related fields of knowledge. The decision rules for the language of this study required that my frame of reference as the investigator enable me to write meaningfully and accurately about hitches (Note 4). The terms of the scientific language used to define and describe hitches were chosen on the basis of their relationships to each other so that I could generalize from the data adequately and define hitches accurately.

The language I use describes perceiving the teaching-learning environment, testing the reality of the environment, becoming aware of what has been sensed, and altering states of consciousness as other perceptions are considered. My perspective for this study is that a teacher's recurring, persisting, unshakeable, outwardly noticeable mental activity indicates an altered state of consciousness. Altered states of consciousness indicate shifts to and from contemplative and participative perception. A teacher tests perceptions of
the teaching–learning environment according to perceived sense of fit between what was anticipated and what actually exists, and acts adaptively in ways that fit better with these data. The following sections summarize important background information and define a hitch from that perspective.

Perception

Perception is the process that we use to experience our environment. Among several different theories of perception, Kilpatrick holds the view that perception is "a kind of transaction between the organism and its surroundings. Perception is prognostic of the action which will be successful. Action is for the furtherance of individual purpose" (Ebel, 1969, p. 933).

Mooney (1963) relates perception to evolving life.

Perception is the process of reading the significance of the environment from the point of view of, and in reference to the need of, the organism. Increasing capacity in perception allows for (1) increasing reach into the environment for a wider reading, (2) increasing internal organization for significances, (3) increasing sequential transactions guided by significances, and (4) increasing complexity in the fittings which are created by the organism's actions (p. 54).

A person's perceptual field is more or less a fluid organization of personal meanings that exist at any one given instant. Furthermore, evolving perception leads to learning and greater cumulative values of the consequences of perceptual transactions for guiding future action (Hamachek, 1971, based on Combs and Snygg).

The environment, from a transactional point of view, is organized by us in such a way that it has personal meaning. This organization is affected by more than just our nervous system responses to the
environment. It is organized according to what we sense in our environment, what we want to sense, what we need to sense, what we have time and opportunity to sense, what relates to our goals and values, what our self-concept says is self-adequate, and how we sense the environment reacting to us. Our perceptual organization may be viewed as a belief system that is an integral, operating part of the environment (Brown, 1968; Cantril, Ames, Hastorf, and Ittleson, 1961; Hamachek, 1971).

In effect, we are motivated and behave in the world as we perceive it. Past experiences are instrumental in the development of new perceptions and resulting mental activities (memory, feelings, cognitive structure). Thus, mental activities are an estimate of past experiences, present status, and future dealings in, by, and of the environment. Our perceptions are necessarily ambiguous with respect to objects or events we perceive depending on our perceptual acuity. However, as part of the environment, our actions are motivated by a continuous search to resolve ambiguity and a human quest for order (Kilpatrick, 1969).

Perceptions can be classed into two types: participative and contemplative. In participative perception, "we respond organismically in an unmediated, reflex-like way to the dynamic, affective, physiognomic properties of the environment." In contemplative perception "action is suspended in favor of inspection, judgment, and analysis" (Church, as quoted by Davis, 1974, p. 39).

Participative perception is the context or field from which data are drawn for judgment and decisions, while reflective, contemplative
perception demands consideration of personal participative perception. The two forms of perception have a close, developmental, spiral relationship. Better participative perception provides a better basis for contemplative perception, which requires more participative perceptual acuity and better reflexive actions, which in turn provides improved levels of contemplative perception, and so on.

Participative perception is characteristic of unconscious and preconscious behaviors. Contemplative perception is characteristic of conscious behaviors. Fromm (1965) differentiates conscious, preconscious, and unconscious states as being associated with differing amounts of awareness. Conscious functioning is associated with high levels of awareness, preconscious processes can be made to come into awareness by turning attention to them, and unconscious processes are beyond awareness as long as they remain totally unconscious. Conscious and preconscious behaviors are alterable by experience, unconscious behaviors are not.

Passing from preconsciousness to consciousness involves more than illuminating previously unsensed operations or cognitive structure. Becoming conscious means reconstructing schema in cognitive structure and conceptualizing both retrospectively--extracting from prior experiences (reflection), and constructively--organizing new experiences in the environment (action). Higher levels of cognitive structure (consciousness) involve reflectively abstracting concepts and forming new combinations of cognitive operations that are used in future actions ("Jean Piaget reports new research findings on

**Perception and Reality-Testing**

From a transactional view, human beings have rational, autono­
mous freedom to act on the basis of their participative and contem­
plative perceptions. In order to make rational, meaningful, and
fitting choices, individuals function adaptively and engage in beha­
viors that continuously test the reality of their environment. The
qualitative expansion of human perception as part of reality-testing
leads to improving rationality and decisions, and then to further
appreciating environmental realities and their meaning to the indi­
vidual's life. Davis (1974) describes this adaptive style as being
characteristic of an experimenting person.

The experimenting person is one who endeavors to interact
with the world in such a way that he can learn from the
experience of the interaction. In order to accomplish that
end, he must make sure that unconscious, automatic response
patterns do not dominate his behavior. That end, in turn,
calls for the qualitative expansion of his awareness and con­
trol over his preconscious and conscious processes.... The
experimenting person consciously attempts to expand his
appreciative system. Thus, a precondition for individual
experimentation is the awareness of the nature of the
viability of reality-testing behavior in terms of producing
outcomes meaningful in one's life (pp. 42, 50).

The reality-testing system that Davis proposed is grounded in
the provocative work of Ross Mooney (1963) on perception and
evolving life. Sanders (1973) has extended Mooney's work to char­
acterize the conditions of dynamic self-development.

The self-development process involves four elements:
sensing, focusing, engaging or transacting and fitting
or reflecting. The living organism projects onto its
environment certain images or concepts or hypotheses,
and receives back from that environment a response
which the organism senses or detects, feeds into its
center and compares with the projection. If there is incongruity between the image and feedback, and if other conditions are favorable, the organism focuses its attention on the incongruity. If the incongruity is sufficiently compelling so that the organism seeks to deal with it, the organism generates an image (or hypothesis) and projects this back into the environment and engages with it in a single or multiple series of transactions. The responses from the environment (feedback) are brought into the consciousness of the organism and, at the termination of the transactional loop, the organism seeks to fit newly realized responses into its images or cognitive structure (pp. 4-5).

Piaget's theory of learning helps to explain reality-testing and dynamic self-development further. Human beings are active, not passive learners. Humans are creators of knowledge and are continuously reorganizing their perceptions of the world into cognitive schema. Human learning is motivated by a quest for equilibrium—order and sense of the environment. Human beings are aversive to contradictions and search for explanations of harmony in the environment. Contradictions (disequilibrium) lead to creating new theory (accommodation) that fits with how humans experience the world and learn (reconstruction) and establish new cognitive structures (Penrose, 1979; Perkinson, 1978).

Myers and Torrance (1966) describe creativity as a dynamic process where the individual wonders about disharmonies, searches for solutions, makes guesses and formulates hypotheses, tests, revises and elaborates guesses and hypotheses, and communicates the results. The discovery of new elements causes the individual and others who know about it or are affected by it to wonder about other mysteries and so the process continues, unending (pp. v-vi). Wonder sets the creative process in motion, sustains it, and causes the process to continue, unending, in an experimental lifestyle.
The mainspring for creative behavior is an individual's desire to achieve full potential by transacting within a supportive environment. This desire is manifested by opening to experience, operating with an internal locus of evaluation, and experimenting with elements and concepts in the environment (Taylor and Getzels, 1975, pp. 1-36). Creative acts arise from encountering conflicts, resolving conflicts, or tolerating conflicts in the environment (Maddi, 1965). Creative behavior is based on continuously synthesizing more complex and universal fittings in cognitive structure that result from self-consciously and selectively rejecting, accepting, or tolerating responses from the environment.

Incongruities that individuals experience when transactions with the environment do not fit with their cognitive structure are not necessarily negative or undesirable. Anomalies between what exists in the environment and what is expected as a person transacts within the environment are simply different. Since human experience occurs as the result of active, natural curiosity and a quest for order, incongruities experienced in the environment may represent better fit than expected or an all-consuming fascination with a recently reconstructed or newly constructed cognitive scheme. The selective fitting that is part of the continuous human experience of deriving significance or meaning from transactions within the environment leads to assimilating, tolerating, or rejecting perceptions of the environment, and reconstructing and constructing cognitive schema. Thus, to live is to learn, learning is a natural process, and we learn from experience—not only from mistakes.
The dynamic, living-learning, self-developing process of opening oneself to experience in the environment, centering the perceptions of that experience within, and continuously deriving significance from those transactions that leads to fresh and increasingly complex cognitive structure is evident in other literature. Kohl's (1978) book to parents describes the structure of learning. Learning begins with a desire that comes from within and follows this sequence: fascination, approach (strategy), trying out, frustration or success, practice, succeeding, stretching out, integration or boredom, and fascination.

Polya (1957) describes heuristic signs of progress that involve becoming interested in unknown parts of our environment, relating the element of interest to what we already know, separating the unknown into component parts, and following primitive and vague expressions that lead on, often in the right direction. He advises, "always follow your inspiration--with a grain of doubt" (p. 184). His advice is to test solutions of problems against the perceived balance and harmony that is part of the problem solver's mental structure.

Producing increasingly complex fittings is often called insight (Hilgard, 1956; Hilgard and Bower, 1974). Gerard (in Ghiselin, 1952) describes insight as "conceptually reslicing the universe into fresh classes" (p. 230). It leads to sense of order, sense of whole, and sense of esthetic quality. This esthetic evaluation process is embedded in perception and other related processes such as reflecting and sensing harmonies of relationships. It connects preconscious,
participative perceptions to conscious, contemplative perceptions when such interconnections are useful (Bargar, Trzebiatowski, and Ronis, 1975, pp. 4-11; Koestler, 1964, pp. 111, 112, 201; Mooney, 1979 (a), pp. 5-6; 1979 (b), pp. 1-5; Polya, 1957, pp. 184, 198).

The continuous, transactional, self-developmental, experimenting process of opening to experiences in the environment, centering responses within oneself, and esthetically evaluating perceptual fit is mostly a preconscious process that is drawn to consciousness as needed to improve perceptual acuity qualitatively (Davis, 1974). Esthetic evaluation is the characteristic reality-testing behavior that links participative and contemplative perceptions (preconscious and conscious behaviors, respectively). Esthetic evaluation enables a person to be sensitive to harmony between self and environment. It enables a person to reach further into either self or the environment and acknowledge and use preconscious behaviors to refine conscious behaviors. Perceiving events as anomalies that demand self-conscious attention during the continuous, reality-testing process of esthetic evaluation occurs at the critical intersection of participative and contemplative perception.

**Perception and Consciousness**

Reality-testing and decision-making are part of a person's unique, autonomous freedom to act in a complex environment. An adaptive person recognizes that his or her act affects the environment and that the environment and its capacity to react are changed by the act. Rationality is consciousness of the effect of the act within the environment and the ability to use that awareness to guide
reality-testing and decision making. A flexible, adaptive, experimenting person recognizes that rationality is limited or expanded by the accuracy of his or her perceptions of what is. Furthermore, she or he recognizes that improved perceptions lead to improved rationality which leads to improved decisions. Thus, perceptions are integral to consciousness and rationality. The human advantage of consciousness is that elements of the environment can be brought selectively to awareness and, thus, rationality and decision-making can be improved.

Consciousness is being aware, feeling, and engaging in cognitive processes (Ebel, 1969, pp. 724-725). Thoughtful, reflective behaviors involve acting with an end in view (Dewey, 1910, pp. 56-67). As an active, contemplative process, consciousness involves communicating, caring, deciding, organizing, creating, valuing, and knowing (Berman quoted by Davis, 1974, pp. 43-45). Each of these important processes is constantly modified on the basis of contemplative perceptions. Each of them is not reflex-like but is the outcome of thoughtful, reflective, conscious processes. **Communicating** takes into account the rapidity of human perception and the interrelationship of time and space. **Caring** is the ability to explain why an individual sees another's good intentions as he or she does. **Deciding** improves as the number and quality of perceptions considered in making the decision improve, and as the influence of perceptions on decision-making is understood. **Organizing** involves simultaneous identification of an existing framework and the substance that fits into the framework, or constructing a new sensible framework.
Creating is synthesizing fresh, rich structures from a variety of perceived objects and instances in the environment. Valuing is perceiving worth and paying attention to perceptions that influence priorities. Knowing focuses on atypical instances of consciousness. An individual knows something about important objects and instances when they take on specific, useful meanings for transacting with life events. Each of these conscious processes is subject to experience modification and is, or should be, controlled by the person as he or she engages in it.

The critical reflections that are part of conscious, contemplative perceptions are the controls under which a person establishes articulate, explicit knowledge of the environment (Ornstein, 1973, p. 25). Consciousness connects personal experience of reality in the environment with personal cognitive structure. Thus, consciousness is the process of conceptualizing—reconstructing cognitive schemes to connect actions in the environment with understandings and extensions of that action. A person gains knowledge only when acting in reference to an object or event, and the object or event is only known as a result of transactions involving it. This circular relationship explains the human tendency to search for harmony or esthetic fit between cognitive structure and reality. It also explains the human use of consciousness to fit one transactional system (person) within another system (environment) harmoniously in order to achieve maximum improvement for each (Mooney, 1963, p. 55; Piaget, 1976, pp. 332-353).
The view of consciousness as an incomplete and shifting part of perception that focuses on the meaning of critical variables in the environment is not only evident from a socio-psychological view but also from neurological evidence as well. The analysis of physiological bases of consciousness and subjective experience was identified as the central problem of study of physiological psychology as far back as 1874 (John and Schwartz, 1978). However, behaviorist influences and resulting reductionist techniques since that time have "succeeded in exorcizing both the language of conscious experience and the study of consciousness and mental states" (p. 1). Research during the interim focused on measuring response rates and tracing neural circuits. In most cases this resulted in limited views of percept formation and cognitive functions. The result is much empirical information but very little basic information on cerebral correlates of consciousness.

John and Schwartz review studies that measure microchanges in currents from energy-related-potentials of brain surfaces and conclude that it is possible to determine how mental activity is altered by appropriate behavioral experience. They further conclude that endogenous mental processes reflect "the subjective evaluation of incoming information in the context of expectations derived from previous experience" (p. 25).

The brain is an integrated, subtle, gifted, aggressive, patterned, analogy-oriented, non-linear, and individual learning organ (Hart, 1978). Neurons pulse rather than act as electrical channels. Millions of neuronal firings carry energy throughout the nervous system.
There are at least five types of neurons in over 100 structural areas of the surface areas of the brain. Although certain areas are known to be responsible for specific functions, many areas function interdependently with other brain areas, and some are believed to depend on the outer surface of the brain functioning as a whole (Anthony, 1959). Studies by Mesulam and Geschwind (1978) imply that brain surfaces in the right hemisphere outside the primary areas associated with sensory and motor control may have a unique and essential role in integrating neural processes that are necessary for properly using selective attention. Velasco and Velasco (1979) have shown that the thalamic and subthalamic areas of the brain are also involved in the process of selective attention and motor control. Eccles (cited in Jones, 1974) postulates that consciousness is a function of the left brain hemisphere.

Neuronal firing rates (both systemic and subjective) may explain how conscious and subconscious information is processed. During conscious experience, sensory information being processed is reduced drastically from 10,000,000 to 20 bits per second and then recognized, classified, and reformulated into patterns of thought and speech (Jung, 1978). Studies of the duration of neuronal pulses have shown that delays in the pulses may be both systemic (different firing rates for different physiological areas of the nervous system) and subjective (Libet, 1978; Matthysse, 1977). The duration of the pulses is probably one of the controlling factors in the transition between unconscious and conscious experience. A requirement for substantially longer neuronal pulses acts as a filter to keep ongoing sensory inputs
from reaching conscious levels if most ongoing inputs are eliciting shorter pulses. A substantial delay in production of systemic conscious sensory experience, as distinguished from subjective timing, implies that behavioral responses often arise unconsciously.

The foregoing evidence on the neurological process of the brain indicates that it is a complex, interdependent field of neuronal pulses. Subjective consciousness represents only a small part of the cerebral activity (Jones, 1974), and consciousness is affected by systemic and subjective pulse rates, and by differentiated cerebral tissue. Many behaviors can occur preconsciously as a result of systemic differences in the firing rate of neurons. Furthermore, states of conscious perception persist if, and only if, spatial configuration is varied over time (Rougeul-Buser, Bouger, and Buser, 1978).

A plausible description of cerebral reality-testing is that rapid, preconscious, and continuous mental processing of perceptions from the environment occurs within the context of both previous experiences and anticipated future events. These perceptions are brought to consciousness, triggering a much more deliberate, reflective concentration upon the object or event selectively centered in perceptions. This contemplative consideration of the perceived event continues as the center of reflective attention until it no longer requires attention for systemic, environmental, subjective, or monotonic reasons. At least one known trigger that springs the selective focus upon an event is semantic anomaly in perceived data (Kutas and Hillyard, 1980).
Preconsciousness

Whereas consciousness consists of deliberate, subjective, cognitive, contemplative perceptions that are evidently selectively considered, preconsciousness provides a multivariate, multidimensional, integrated, reflexively-mediated field of perceptions from which a person consciously selects events or objects for consideration and action as attention is triggered. The function of esthetic evaluation is to interconnect consciousness and preconsciousness so that attention can be focused efficiently on experiences or events and objects in the environment that are valued subjectively.

Broadbent's (1977) experiments with alcohol-impaired patients have confirmed that a preconscious, passive, global, preattentive selection process precedes a more active, detailed, perceptually organized level of consciousness. Gerard (in Ghiselin, 1952) cites an example of preconscious perceptual organization during Coleridge's writing of The Ancient Mariner. "Facts which sank at intervals out of conscious recollection drew together beneath the surface through almost chemical affinities of common elements" (p. 228).

The existence of preconsciousness that affects conscious acts and that can be selectively attuned is evident in Fichte's and Freud's references to the evidence that the preconscious exists as "an intermediary range of consciousness somewhere between the 'limit case' of sharp, narrow, focal awareness and the vast unconscious regions of the mind" (Koestler, 1964, p. 159). Koestler also cites other references to preconsciousness from James' discussion of fringes of
consciousness, Polyani's description of subsidiary awareness, and Poincaire's writings on unconscious guidance. A person's esthetic sensibility sifts or filters preconsciously processed thought patterns and unexpressed knowledge, and allows interesting combinations to surface above the threshold of preconsciousness. This low level of consciousness helps to keep the search for solutions, clues, or harmony as a constant perceptual priority (pp. 161, 201) and intervenes into consciousness at different times (pp. 111, 112).

Preconscious processes are associated with an obscure, unexpressible guiding function (Polya, 1957, pp. 183-198; Jung in Ghiselin, 1952) that occurs automatically (Ghiselin, 1952, pp. 11-31), that functions as a unique, deep underlying, "coconscious" sensing process, and that emerges into awareness without logical order (Prince in Ghiselin, 1952). Meditation is a popular contemporary means of reaching into the dim, intimate sources of preconscious knowledge that are not logically and temporally limited (Carrington, 1978). Creative persons are able to listen from beyond consciousness, defer to non-conscious perceptions during thinking processes, and sense esthetic fit from non-conscious sources of insight (Bargar, et al., 1975).

Preconscious perceptions surface into consciousness as a result of esthetic sensing. Likewise, a person can reach subjectively from consciousness into preconsciousness—particularly during a search for solutions or harmony. A pathway exists between consciousness and preconsciousness that is physical (Anthony, 1959; Hart, 1978; Libet, 1978; Nadelman, 1974, 1976; Rennels, 1976; Sontag, 1978;
and Velasco and Velasco, 1979) and psychological (Hart, 1978; Hebb, 1949; Ornstein, 1973; Paivio, 1974; and Singer, 1976). The two-way traffic between conscious and unconscious processes (Koestler, 1964; p. 181), the major passages from one stage of consciousness to the next that are assisted by the unconscious (Hall, 1974), and the vital interplay between conscious and non-conscious processes (Bargar et al., 1975, p. 7) each confirm that shifts between inarticulate knowledge and known thoughts are common, useful, and necessary (Ehrenzweig, 1953, p. 29). Thus, although consciousness is only a small and shifting portion of experience, the scope and content of what is being focused upon has immediate, dynamic connections with preconscious experiences that are not obvious at the time (Dewey, 1916, p. 6).

An extraordinary fact of life is that, as a person adaptively transacts within the environment, she or he selects interesting or anomalous things, since all of the environment need not or cannot possibly be processed. A person's selective attention to the environment is affected by many factors as he or she continuously and preconsciously reaches out into the environment, tests it for "sense," and then centers what is perceived within. Some of these affecting factors are subjective experience, motives, cognitive structures, sense of autonomy and freedom, and perceptual acuity. Selective attention, in turn, affects the information and experiences available for future preconscious reaches into the environment, and subsequent sensing and centering (Holcomb, 1977, p. 54).
No matter how stimulating the environment, the meaning derived from a person’s experience of it affects how he or she selectively alters consciousness to act within that environment.

"This state [of altered consciousness] is engagement with thought involving selective attention to a limited set of variables (with unlimited potential for the selection of any particular limited set) and involves the synthesis of bits of thought and mental activity at mainly a preconscious level. The preconscious is an unrepressed warehouse as well as a processing agency which is out of immediate consciousness, but, since it is not repressed, is active and available to conscious mouthings" (Summerfield, 1957, p. 7).

As a person continues consciously to know, value, create, organize, decide, care, and communicate with unrepressed access and use of a field of preconscious, participative perceptions, some perceptions are pesky, engaging, meaningful or exceptionally interesting, and, because of their anomalous nature, compel personal, conscious action. By acting consciously, the person shifts from participative to contemplative perception for that phenomenon and rearranges his or her perceptual field in order to fit the event into experience. This compelling sense of need to act upon an event that recurs and continues as an object of contemplative perception is called a hitch.

**Hitches**

A hitch is something that is caught or fastened. A hitch occurs when we encounter and try to explain or change some part of the environment within which we carry out life transactions because it has changed (as it constantly does) from our assumptions, awareness, and knowledge of it (Cantril, Ames, Hastorf, and Ittleson, 1961, pp. 8, 9). Assumptions, awareness, and knowledge that we use to explain our environment and that make sense to us do not always
include what is necessary to predict accurately the emerging, continuous, undetermined significance of phenomena within the environment. Our inadequate understanding of the phenomenon encountered, our need for harmony within our environment, and our insatiable, natural, quest for knowledge lead to hitches during these encounters, and we promptly contemplate the phenomenon and reconstruct cognitive patterns to explain it (Mooney, 1979 (b), p. 7; Newcomb, 1968, p. 28; Parkinson, 1978, pp. 49-53). These new cognitive structures become part of our assumptions, awareness, and knowledge during the next encounter within the environment, and so our quest for knowledge continues and our perceptions are continuously expanded and qualitatively refined.

A hitch in teaching is a preoccupation with something sensed within the teaching-learning environment that compels a teacher to act (Sanders and Schwab, 1980). The compelling action may be to get more information, restructure his or her view of what is, restructure the teaching-learning environment, tolerate it in anticipation of fewer future anomalies, or continue acting in the teaching-learning environment because confirmation of assumptions projected onto it is still very important. A teacher, as an adaptive learner with responsibility for other learners, continuously creates equilibrium between the teaching-learning environment and the learners' power to use that environment (Rosenburg, 1968). This constant fitting process leads to a repertoire of behaviors that are often reflexively performed and are fitted in with other serious, conscious, adaptive teaching actions. A teacher's contemplative and participative
perceptions of the teaching-learning environment are the data base for hitches. Each hitch leads a teacher to rearrange his or her cognitive structure consciously and adaptively, and subsequently to affirm or rearrange the teaching-learning environment.

Contemplative and adaptive behaviors are typical manifestations one would expect to see when observing teachers as they experience hitches. Someone observing a teacher who has encountered a hitch would likely see an expressed, and often abrupt, change in awareness. Some likely contemplative manifestations are lingering glances, recurring references to a phenomenon, reflective behavior, or persisting actions. Some other likely manifestations are related to emotions—excited (indicating very good fit or more than was expected) and annoyed or disappointed (indicating discord between what was anticipated and what exists in the teaching-learning environment). Still other likely manifestations are related to highly adaptive teaching behavior. These include trial and error, non-traditional responses to learners, soliciting clarification uniquely with each learner, and actively exploring before acting.

In each case, the characteristic that indicates a hitch is occurring is that a teacher's perceptions of some phenomenon in the teaching-learning environment are abruptly brought to consciousness or that perceptions accumulate to a level where eventually the teacher is obviously conscious of them. The teacher repeatedly contemplates the phenomenon from the teaching-learning environment. The focus of the contemplations is on what the teacher can do to improve the fit between what was anticipated and what was experienced to a
point where natural teaching-learning again occurs; i.e., the teacher anticipates that the projected action would occur reflexively in future similar situations.

The complex, interconnected physiology and psychology of human mental processes means that many, many perceptions occur and are used at any one time. Thus, many hitches of different magnitude may occur at the same time. A teacher may experience a fairly simple, short hitch, such as recalling the mention yesterday of blue jays by a student when the student does not recognize them on a science filmstrip. A teacher may also experience a massive hitch made up of many, many smaller hitches involving different children at literally thousands of different instances over a three-week period. Such a hitch would include preparing for and conducting a class luau that involves spelling; assigning class seats to spell H-A-W-A-I-I; promoting physical development, self-concept, and social etiquette; contacting volunteer mothers as a school-community relations strategy; reading; cooking; singing; and painting.

A description of hitches observed in a school faculty (Schwab, 1979, pp. 171-172) is useful to explain how a teacher acts upon a hitch. A teacher feels uncomfortable (or extremely interested) with an event in the teaching-learning environment, focuses on the feeling, and clarifies the source of the feeling and related events. The teacher reflects on the information that is available to try to understand what is happening. Possible actions are explored and the consequences of those actions are assessed. A new behavior is selected and tried out adaptively in the instance under consideration.
and in other similar instances. This new behavior becomes part of
the teacher's repertoire of behaviors used in the teaching-learning
environment. It is monitored and ultimately evaluated in terms of
the original feeling as well as new data and knowledge. Lack of
success with the new behavior becomes the source of new uncom­
fortable feelings and the hitch becomes a source of clarifying focus
related to a new situation.

Judging a hitch to be significant leads to the process of drawing
preconscious and previously contemplated perceptions into conscious­
ness as part of testing the reality of the teaching-learning environ­
ment and sharpening perceptual acuity. Hitches bring crucial
variables into contemplative view so that new actions can be pro­
jected, taken, and assessed as knowledge of teaching (cognitive
structure) is improved. The lingering, recurring contemplation of
a significant anomaly in the teaching-learning environment is the
natural process of continuing to act upon a hitch as teaching prac­
tice is refined.

The data of this study are the documented evidence of hitches
in a teaching-learning environment. The data are perceptions that
were described by a participant teacher as instances of hitches were
explored in depth, the self-reported meaning of those perceptions,
and the descriptive statements of another cooperating teacher who
helped corroborate the information on hitches. The final chapter
of this study includes a comprehensive discussion of hitches as the
phenomenon was understood after analyzing the data. Appendix H
is an index of the pages in the text where important terms and
characteristics related to hitches are discussed.
IV
EVIDENCE OF HITCHES

The aim of this research was to identify hitches in a teaching-learning environment and then to present evidence of hitches in a way that is useful to understanding them as part of teaching and its improvement. The first step toward satisfying this purpose was to show that hitches occurred for Mary Eve, the participating teacher during the primary data collection period, and for both Mary Eve and Gary, who cooperated in our search for hitches during the secondary data collection period.

Selecting Teaching-Learning Activities to Investigate

As I began looking for hitches during the primary data collection period, I was interested in Mary Eve's contemplation of elements of the teaching-learning environment and her subsequent transactions within that environment based on her sense of fit of actions or proposed actions with responses from her students. I was collecting empirical evidence of her mental processes at two critical points in time related to her levels of consciousness. One was at the time in her consciousness when participative perceptions became contemplative ones. The other was when her state of consciousness was altered as a function of her sense of selective fit of the actions by herself and her pupils in the teaching-learning environment.
I judged that situations or activities were related to shifts in conscious states and therefore useful for more detailed investigation of hitches for Mary Eve when I observed such things as: contemplative or reflective behaviors, expressed changes in awareness like "Oh! I see," or more than usual concern or preoccupation with something or someone in the teaching-learning environment. I judged certain situations, where prior expectations by Mary Eve or a student for an activity existed for the situation, as likely to include a hitch.

Other situations that I considered to include the potential for hitches were those involving references to earlier pupil-teacher interactions or those where Mary Eve acted in obviously reflexive ways. I also selected certain episodes for additional in-depth reviews when I inferred incongruity between Mary Eve's values or behaviors and student's behaviors or other teaching-learning conditions; when Mary Eve was interested or concerned with a certain part of the video recorded activities; and when my holistic, developing (although incomplete), perceptions indicated that a hitch would more likely occur under those conditions or events than under any others.

Several conventions in nomenclature are used throughout this study to classify and organize the data. Episodes are five short one and one-half to two and one-half minute segments of video tape recorded teaching-learning activities in Mary Eve's class area. The episodes were selected from one-hour periods video taped on five consecutive days according to criteria that will be listed shortly. Events are transcribed comments of the audio tape recorded interviews with Mary Eve as she discussed the five episodes, and with
Mary Eve and cooperating teacher Gary as they recorded and discussed hitches in their teaching. Each event is identified by assigning to it conventional month-date numbers plus the three-digit number from the audio tape recorder index counter. The index counter is always increased by 500 for side two of each audio tape. Thus, event 514-696 occurred during an interview on May 14 and is transcribed from a comment made when the audio index counter was at 196 on side two of the tape.

All interviews were audio tape recorded and all data for this study are events identified according to the conventions explained. The transcribed comments beginning with 510-025 and ending with 611-565 constitute the raw data file for this study. (See Appendix G for a transcript of events referred to in this study.) The original video and audio tapes have been retained along with the raw data file to verify or cross reference the data in the future, if necessary.

The twelve criteria used for selecting video tape recorded class episodes to investigate in depth with Mary Eve as I searched for hitches are listed below.

A. Prior expectations by both Mary Eve and students were in effect during the episode.
B. I observed reflexive actions by Mary Eve.
C. I inferred incongruity or congruity between Mary Eve's values for learning and pupils' learning activities.
D. I inferred fitting or unfitting behaviors by students or adults.
E. I sensed a greater probability for hitches in the episode chosen than any other video tape recorded that particular day.
F. I observed incongruity or congruity between teaching-learning activities and Mary Eve's behavior.
G. References were made to earlier pupil-teacher interactions related to the learning activities that were video tape recorded.

H. I observed a sudden or abrupt change in Mary Eve's behavior.

I. Mary Eve selected this episode based on her interest, concern, curiosity, and possibly even her inferred awareness of what was interesting to me.

J. Mary Eve acted thoughtful and contemplative.

K. I observed recurring behaviors or expressions by Mary Eve.

L. I inferred lingering reconsideration by Mary Eve of responses by a student.

**Examples of Hitches**

The five episodes selected according to criteria A through L and the specific criteria I used to select each episode for in-depth review with Mary Eve are listed in Table 1. Mary Eve's comments about these five episodes, while she was uninformed of the definition of hitches (or even that I was looking for hitches), contain evidence of at least 15 hitches. These are summarized in Table 2. The sense of compelling or important action that was associated with each hitch is also listed. Both Mary Eve, the participating teacher, and Gary, the cooperating teacher, acknowledged and recognized hitches in their teaching. Examples given by Mary Eve after she was informed about hitches and helped modify the definition, and by Gary as a cooperating teacher in the study, provided at least 15 additional instances of hitches. These examples of hitches are listed in Table 3.

Approximately ten minutes (see Table 1) out of a total of five full teaching days were sampled according to a logical, theoretical, reasonable but limited selection of times from Mary Eve's teaching schedule. The episodes that were selected according to these
Table 1

Description of Episodes Used for In-Depth Recall and Criteria for Selection

<table>
<thead>
<tr>
<th>Episode description</th>
<th>Length</th>
<th>Selection criteria&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>510--Mary Eve was having a conference with one child while the remaining 23 worked on individual work plans. Mary Eve changed activities several times.</td>
<td>1 min. 30 sec.</td>
<td>A B C D E</td>
</tr>
<tr>
<td>511--Mary Eve was leading a large group discussion that was relatively open-ended related to a weekly news periodical. She was attempting to establish structure for subsequent learning activities during the following five to ten days.</td>
<td>2 min.</td>
<td>B C E F</td>
</tr>
<tr>
<td>512--Mary Eve was leading a highly focused large group science discussion related to birds. Both teacher and pupils were concentrating very hard.</td>
<td>2 min.</td>
<td>C D G</td>
</tr>
<tr>
<td>513--Mary Eve discussed a joint class activity with another teacher and then unexpectedly participated in the activity. Resistance by pupils was evident at times during the activity.</td>
<td>2 min. 3 sec.</td>
<td>A C F H I</td>
</tr>
<tr>
<td>514--This episode is made up of several different interactions between Mary Eve and Roger during a one-hour period. It begins with a timed arithmetic test and continues with her decision to capitalize on a &quot;teachable moment&quot; for Roger related to self-concept, art, and reading.</td>
<td>2 min. 24 sec.</td>
<td>C I J K L</td>
</tr>
</tbody>
</table>

<sup>a</sup>See the criteria cited in the text concerning situations or activities useful for detailed investigation of hitches.
<table>
<thead>
<tr>
<th>Event Number</th>
<th>Preoccupation</th>
<th>Compelling Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>510-557</td>
<td>Mary Eve felt responsible for each student's progress on tasks listed in his or her work folder.</td>
<td>Paid attention; reordered agendas</td>
</tr>
<tr>
<td>511-025</td>
<td>Students' comments during News Ranger discussion interrupted Mary Eve's agenda.</td>
<td>Contemplated what could be done to meet agenda</td>
</tr>
<tr>
<td>511-240</td>
<td>Mary Eve realised that the class would not finish the News Ranger discussion before recess.</td>
<td>Made a new schedule; allowed more time for projects</td>
</tr>
<tr>
<td>512-001</td>
<td>Mary Eve and the class could not identify a nest one of the students found.</td>
<td>Found an example during film strip</td>
</tr>
<tr>
<td>512-010</td>
<td>Kenny's aqua pelican was not a factual representation during science.</td>
<td>Waited for an opportune moment; pointed out pelican in film strip</td>
</tr>
<tr>
<td>512-034</td>
<td>Students related many common experiences to a film strip on birds.</td>
<td>Showed her enthusiasm to the students</td>
</tr>
<tr>
<td>512-048</td>
<td>Some students did not participate as they could have.</td>
<td>The class was going so well, she did not want to intervene</td>
</tr>
<tr>
<td>512-521</td>
<td>Mary Eve questioned one child's unlikely sighting of 11 rubythroated hummingbirds.</td>
<td>Checked with the mother and &quot;explained away&quot; the incident</td>
</tr>
<tr>
<td>513-033</td>
<td>Mary Eve sensed students did not want to do an activity planned with another class.</td>
<td>Verified the feeling; changed agenda to compensate for activity</td>
</tr>
<tr>
<td>513-049</td>
<td>Mary Eve participated in a joint class activity that was not appropriate for her students.</td>
<td>Confirmed differences in activities; confirmed students' feelings</td>
</tr>
<tr>
<td>513-068</td>
<td>Students were rude in a joint activity instead of showing the courtesy of participating.</td>
<td>Clarified the source of students' feelings; ad-libbed agenda</td>
</tr>
<tr>
<td>514-197</td>
<td>Mary Eve tried to help Roger by standing nearer but this caused student traffic that interfered.</td>
<td>Contemplated an alternate strategy</td>
</tr>
<tr>
<td>514-227</td>
<td>Mary Eve was very uncomfortable when Roger thought he could not do a test she knew he could.</td>
<td>Expressed her confidence in him; contemplated some success for him</td>
</tr>
<tr>
<td>514-315</td>
<td>If Mary Eve left to help Roger, soapy water likely would be spilled on the carpet.</td>
<td>Roger's success was more important than some carpet</td>
</tr>
<tr>
<td>514-470</td>
<td>Mary Eve wanted to interfere less with the students' control of their learning activities.</td>
<td>Allowed students to move their desks</td>
</tr>
<tr>
<td>Event Number</td>
<td>Preoccupation</td>
<td>Compelling Action</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>524-218</td>
<td>Mary Eve realized Kevin was not doing his subtraction facts on Monday morning.</td>
<td>Asked about his weekend; helped restructure his self-concept</td>
</tr>
<tr>
<td>526-198</td>
<td>Gary read frustration on a child's face as she began division facts.</td>
<td>Explained the process and his confidence in the child's ability</td>
</tr>
<tr>
<td>528-120</td>
<td>David finished a sentence Mary Eve had not completed during oral reading.</td>
<td>Contemplated pupil's reading performance over past year</td>
</tr>
<tr>
<td>601-011</td>
<td>David did not finish a sentence during an event identical to event 528-120.</td>
<td>Contemplated her potentially inhibiting behaviors</td>
</tr>
<tr>
<td>602-051</td>
<td>Mary Eve noticed an out-of-character supporting comment for Shawn by Eddie.</td>
<td>Noted that both boys were behaving more as she wished</td>
</tr>
<tr>
<td>603-100</td>
<td>One of Mary Eve's unathletic pupils won a field day event (although by default).</td>
<td>Predicted it would change his self-concept and improve his confidence</td>
</tr>
<tr>
<td>604-010</td>
<td>Mother sent Mary Eve a note about pupil's fourth lowest rank in the class &quot;spelling money.&quot;</td>
<td>Contemplated and carried out a series of activities to ascertain child's spelling</td>
</tr>
<tr>
<td>604-047</td>
<td>Mother came to discuss spelling after field day instead of waiting until appointment.</td>
<td>Remained highly conscious of child, mother, and previous incidents</td>
</tr>
<tr>
<td>604-086</td>
<td>Gary recognized a diversionary question by a student during sustained silent reading.</td>
<td>Reinforced Gary's information about pupil; became part of repertoire</td>
</tr>
<tr>
<td>604-103</td>
<td>Gary anticipated fisticuffs during a recess incident.</td>
<td>Reviewed rules, talked about problem-solving behaviors with fighters</td>
</tr>
<tr>
<td>604-119</td>
<td>Gary anticipated the word a pupil would have trouble pronouncing.</td>
<td>Reinforced student's confidence in Gary's guidance</td>
</tr>
<tr>
<td>604-125</td>
<td>Gary sensed that an alternative activity would be more appropriate for a pupil.</td>
<td>Restructured both Gary's view of pupil's learning interests and pupil's learning opportunities</td>
</tr>
<tr>
<td>604-181</td>
<td>Gary felt frustrated when he could not help a student who confided about emotional trauma.</td>
<td>Empathized with pupil and noted pupil's concern and depression</td>
</tr>
<tr>
<td>610-014</td>
<td>Gary perceived that a language activity suggested by a pupil was an excellent alternative.</td>
<td>A mindful of ideas, activities, and group dynamics surfaced in Gary's mind; Gary implemented them</td>
</tr>
<tr>
<td>611-225</td>
<td>Pupils implied to Mary Eve that her goal was to structure class for personal, individual learning.</td>
<td>Assessed, reconfirmed the extent to which that goal had been met for that class</td>
</tr>
</tbody>
</table>
methods contained behavioral cues upon which Mary Eve and I could focus more clearly during an in-depth review of the episodes. Considering the sampling methodology of this study, the nature of the hitches that were identified using the methodology, and the responses of both Mary Eve and Gary after they became informed about hitches, I believe that hitches exist abundantly in teaching-learning environments.

The limited number of hitches examined in this study is a function of the practical constraints of the study and not a measure of the frequency of hitches in teaching-learning environments. Hitches were common in each of the short episodes, and several episodes were available for review from each one-hour period that was videotaped. The hitches that are described in the narrative that follows confirm that hitches are a universal phenomenon found in many different forms in the teaching-learning environment.

Categories of events that characterize hitches and related perceptions are analyzed in the following three chapters by combining findings with interpretations. Events (comments by Mary Eve and Gary) have been paraphrased or summarized and combined with interpretative comments in order to develop a meaningful text. Occasionally quotes are used for emphasis. At the end of each chapter a summary of findings and a summary of interpretations are included as a help to the reader who wishes to consider them separately.

A hitch in teaching is a preoccupation with something sensed within the environment that compels a teacher to act. In this chapter I will discuss the basic evidence that hitches existed for Mary Eve and
Gary as they transacted with the important elements within the teaching-learning environment. The emphasis of the discussion will be upon the primary data (examples from Mary Eve's teaching as an uninformed participant). The secondary data (examples from Mary Eve's and Gary's teaching after Mary Eve was informed) will be used to clarify and explain hitches. Appendix E contains a definition for hitches used by Mary Eve and Gary during the secondary data collection.

Table 4 classifies hitches from primary data according to five types of compelling action for three different conditions of sensed fit. Eight different cases illustrated by one or more examples of hitches were identified from primary data. The primary data examined did not provide an example of seven other theoretical cases of compelling action and sensed fit for Mary Eve. Some of the potential combinations in Table 4 are unlikely; e.g., sensing a need for better fit and feeling compelled to continue acting according to previous assumptions. Examples of hitches that illustrated four additional cases of compelling actions related to appreciating fit or fitting without valuing were identified from secondary data but not from primary data. These combinations are identified by lower case letters in Table 4.

The empirical evidence for the eight general cases shown in Table 4 will be discussed in the narrative that follows. The four cases observed from secondary data only will also be discussed briefly. The purpose of the narrative is to be a qualitative analysis; it is not a quantitative measure of the frequency or general type of hitches. Typical evidence is presented for each case. Where several hitches
### Table 4

<table>
<thead>
<tr>
<th>Type of compelling action</th>
<th>Needing better fit</th>
<th>Fitting without valuing</th>
<th>Appreciating fit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Get more information</td>
<td>1) 512-001</td>
<td>5) 510-557</td>
<td>a</td>
</tr>
<tr>
<td></td>
<td>513-033</td>
<td>513-049</td>
<td></td>
</tr>
<tr>
<td></td>
<td>513-068</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restructure view of the teaching-learning environment</td>
<td>2) 511-025</td>
<td>b</td>
<td>c</td>
</tr>
<tr>
<td></td>
<td>512-521</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>514-315</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tolerate conditions in anticipation of fewer future anomalies</td>
<td>3) 512-010</td>
<td>6) 513-049</td>
<td></td>
</tr>
<tr>
<td></td>
<td>512-048</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>512-521</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restructure the teaching-learning environment</td>
<td>4) 511-240</td>
<td>7) 510-557</td>
<td>d</td>
</tr>
<tr>
<td></td>
<td>512-010</td>
<td>513-049</td>
<td></td>
</tr>
<tr>
<td></td>
<td>513-033</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>513-068</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>514-197</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>514-227</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Continue acting—confirmation of assumptive world is very important</td>
<td>8) 512-034</td>
<td></td>
<td>514-470</td>
</tr>
</tbody>
</table>

*Evidence of compelling or continued action for these cases was found in secondary data.*
are classified under the same general case in Table 4, only sufficient instances to be adequately illustrative have been discussed. Whenever secondary data are useful, they are included in order to describe more fully the general cases observed from the primary data and to document cases not obvious in the primary data.

**Needing Better Fit**

The majority of the hitches that were observed in the primary data were related to sensing a need for better fit of what was perceived to be with what happened in the teaching-learning environment. No cases were found where Mary Eve sensed the need for better fit and also continued acting based on the affirmation of assumptions projected onto the environment. Four different types of compelling action were identified where Mary Eve sensed a need for better fit.

**Restructure the teaching-learning environment.** An example of a hitch for Mary Eve was cited in Chapter I, Introduction, during a discussion of the research question. Roger kept self-consciously covering his paper during a timed arithmetic test and by doing so contributed to his poor performance (514-197). Mary Eve restructured the teaching-learning environment for Roger participatively at the time of the incident. She whispered encouragement to him (514-140), she stood farther away from him so that students turning in their papers to her would not interfere (514-197), and she gave him a number line to use as he worked the problems (514-001).

Mary Eve contemplated the incident and Roger's poor self-concept throughout the day and spontaneously rehearsed in her mind
potential activities that would help Roger (514-281). Her thoughts and actions were motivated by a constant search for improving the poor fit between what she knew about Roger, what actually happened for Roger in the teaching-learning environment, and what she projected could occur for Roger (514-219). Mary Eve contemplatively restructured Roger's teaching-learning environment later in the day when he asked about the artist Van Gogh while reading a Snoopy comic (514-696). She took him to the cluster library to find a book on Van Gogh and searched for Van Gogh prints in her collection of materials at school and home.

Restructure view of the teaching-learning environment. Mary Eve characterized her teaching style as working on 24 individual lesson plans (one for each student) simultaneously (510-163). Sensing poor fit was essentially a search for better fit as she constantly worked toward pupil learning behaviors that fit better with the learning plans represented by activity sheets and agendas placed in the students' work folders. Mary Eve's experience during a class discussion of News Ranger magazine illustrates a hitch where she wanted better fit of the behaviors of several pupils with her objectives for them.

She began the class activities asking the pupils to describe unusual, creative activities associated with apparently impossible situations described in the current events magazine (511-001). Mary Eve began the discussion with the sense that the second graders were improving their ability to discuss open-ended questions (511-017). However, a series of events during the discussion started her
search for pupil activities that fit better with what she felt they could do.

One pupil interrupted another (511-034); Patrick kept asking if he could do his reading (511-261); another kept spinning a world globe during the discussion (511-070); Billy kept saying, "I know! I know!" (511-092); Greg was restless (511-104); some students didn't have their magazines open (511-116); other students weren't participating at all (511-197); and generally class members weren't listening very well to each other (511-228). Each of these students needed to be moving toward reasonably more fitting learning activities for their particular developmental growth. Mary Eve suffered through a discussion that interfered with her image of what she would have liked to happen during that time (511-134). She referred to feeling compelled to try and make an incongruous experience more congruous (526-324). She contemplated what she was going to do to get her pupils to behave more like she thought they ought to. In the end, she decided that she had not given the students enough time to discuss the News Ranger events so that the class discussion would lead to student activities and projects (511-372).

Tolerate anomalies and restructure the teaching-learning environment. Another event that is helpful in understanding a hitch that is related to sensing a need for better fit of what Mary Eve projected with what she perceived to be in the teaching-learning environment occurred when she was showing a science film strip on birds. She explained the reflexive remark, "Kenny, do you see what a pelican
looks like?", in events 512-010 and 512-029. The day before Kenny had colored a pelican aqua because he thought it was pretty. However the objective for this science unit was to find out facts about birds and differentiate details about different birds (512-448). Kenny's aqua pelican was a hitch for Mary Eve and she contemplated the incident further. She made a note to look up some information on pelicans for Kenny and carried the note home in her pocket (512-539). She recalled building a caterpillar cage the day before and Kenny's interest in it as a signal to her that their relationship was improving, and how, in turn, that created a better learning climate for him (512-284). The aqua pelican hitch was not a compulsive overreaction to a minor detail. Instead, it was an incident that caught hold in Mary Eve's selective fitting process and was symptomatic to her of Kenny's lack of objectivity in science.

Mary Eve acted on this hitch by first tolerating the unfitting response when it happened and by taking an opportune moment the next day during the film strip to point out a realistic pelican (512-013). What happened between those two actions was a teaching response (probably participative) to restructure Kenny's learning environment. Although Mary Eve had chosen this film strip because it showed birds, she was not certain that she had previewed it and she did not know specifically which birds were pictured (512-127). However, as soon as the pelican frame showed on the screen, she was conscious of Kenny's need for facts about pelicans (512-134), and felt glad she remembered to point it out (512-173). Mary Eve recalled a specific period of time as the pelican frame was showing
on the screen when she was selectively concentrating on Kenny and was not aware of anyone else in the class (512-250).

**Restructure personal view and restructure the teaching-learning environment.** In a hitch from secondary data, a good example can be seen of how Mary Eve restructured her view of the pupil and parent first, and then restructured the teaching-learning environment. Mary Eve sensed poor fit of what a pupil's spelling performance was with what it could be, and of what the parent should accept with what she was willing to accept (604-010). Mary Eve usually had spelling tests as one of the pupil activities each Friday and the score was returned to children in the form of a bank statement balance computed from the total number of letters in the correctly spelled words. As part of the class economy, Mary Eve published every child's spelling bank "assets" one Monday and promptly received a note the next day from a child's mother about the child being fourth lowest in the class.

The incident became an important concern for Mary Eve and she restructured her view of the child. Mary Eve considered other parent concerns during the school year (604-085) and decided the pressure by the parents for the child to perform as well as a cousin was unreasonable. Mary Eve also reminded the pupil that on test situations he was expected to try his best--suspecting that perhaps the child reacted intentionally or unintentionally to the pressure from parents by not trying.

Mary Eve also contemplated how to restructure the teaching-learning environment in several ways. She thought about giving
the test to the pupil again in hopes of a better score (604-017). She gave the spelling words to the child orally (604-030). She told the child his new score and called the mother to assure her that the child knew the words. She also set an appointment for a conference with the mother. Mary Eve anticipated that she would be continually aware of the pupil's performance and the mother's concern during the remainder of the year (604-085), especially since the mother came to see Mary Eve after field day rather than waiting until the appointed conference (604-047).

Restructure personal view and tolerate anomalies in the teaching-learning environment. In one instance, the sense of poor fit related to a hitch was not sufficiently important to change the teaching-learning environment and it was simply tolerated--possibly to be dealt with later if an opportunity arose as with Kenny's aqua pelican. In this case the anomaly was explained with a new perception of the pupil. During the science class episode 512, Mary Eve questioned mentally a remark by a pupil who said she had seen 11 rubythroated hummingbirds at the bird feeder at her home (512-521). It seemed unlikely that 11 would be feeding at one time, but Mary Eve did not openly question the girl's claim in class.

However, Mary Eve did raise the question with the child's mother the next day when she saw her and confirmed that the mother also doubted that 11 rubythroated hummingbirds had been to their feeder. As Mary Eve recounted the incident, she restructured in her mind a tentative view of the child's learning needs and suggested that the incident was an exaggeration for the purpose of
getting attention (512-533). The tentative hypothesis then became part of Mary Eve's view as she considered that child's individual learning agenda throughout the following school days (510-172, 512-260).

**Get more information.** In one hitch, a sense of needing better fit was accompanied by feeling compelled to get more information in order to improve the sense of fit. On the Monday of the week that primary data were collected, Billy brought in a bird's nest he had found on the ground (512-001). Neither Mary Eve nor any of the students could identify the type of bird that made that nest (512-002). Wednesday, quite suddenly during a science film strip on birds, Mary Eve realized that a photo of a nest was very similar to the one the class could not identify. Mary Eve briefly pointed out the newly found information and continued the discussion of other frames of the film strip.

The hitches cited so far have been characteristic of all those identified that were related to sensing the need for better fit of actions or proposed actions with responses from others (usually students) in the teaching-learning environment. Mary Eve's responses in each case were contemplative or reflexive actions, and a sense of compelling action.

**Fitting Without Value**

Other hitches were observed where Mary Eve and Gary recognized unfitting events and experienced hitches, but did not associate a negative sense of fit with the circumstances. Their sensing of fit in these cases was accompanied by a nonjudgmental quality. During
one of these hitches, Mary Eve felt compelled to get more or clarifying information, tolerate some conditions in the teaching-learning environment, and restructure other parts of the teaching-learning environment. During the other hitch, Mary Eve felt compelled to get more information continually and to restructure the teaching-learning environment.

Mary Eve's comments about episode 513 reflected her concern for the appropriateness of a joint language arts activity that she and another teacher in the cluster were doing. Mary Eve sensed her pupils did not want to do the activity and this created a hitch based on a sense of poor fit (513-033). Later, during the joint activity, the rude behavior of her pupils created another hitch related to the need for better fit (513-068). Both of these hitches are similar to the cases already discussed.

Although Mary Eve had agreed for the other teacher to take both classes and free Mary Eve (who had just finished recess duty) for a short break, she changed her mind abruptly, almost in mid-sentence, and decided to sit in during the large group activity (513-009, 513-049). This change represented a hitch related to a neutral value position. Mary Eve recognized differences between what her students wanted to do and what was scheduled next (513-197). She also recognized differences in teaching style between herself and the other teacher (513-053, 513-232). Mary Eve recognized the differences quite objectively and contemplated their effect on her students (513-063, 513-098).
Get more information. Mary Eve's sense of difference between teaching style and the potential effect on her students (513-049) led her to seek clarification. She did not know exactly what activity the other teacher had planned (513-157) and her first reaction was to continue questioning the other teacher about the activity (513-117, 513-150). Since she was still unsure, Mary Eve's next clarifying act was to decide abruptly to attend the activity herself rather than take a break. Other related actions will be discussed later.

Restructive view of the teaching-learning environment. Two related hitches where Mary Eve's sense of fit was nonjudgmental were reported by her after she knew about hitches (528-120, 601-011). In both cases, her compelling action was to restructure her cognitive view of conditions in the teaching-learning environment. Both hitches concerned Mary Eve's practice of reading to a student while she had recess duty. As she was reading she would look up occasionally, stop reading, and check students—often in midsentence. David's reaction to the missing word on two different occasions started the contemplative process characteristic of a hitch for Mary Eve. The first time, when he filled in the word, she suddenly realized his reading was improving (528-130). The second time, when David did not fill in the missing word, a different set of contemplations began. This time she reviewed her behaviors as a teacher that may have inhibited him from completing the sentence (528-015). These two hitches are represented by footnote b of Table 4.
Restructure the teaching-learning environment. Mary Eve's teaching style of responding to 24 individual "lesson plans" (510-557) gave her a basis for intervening or restructuring the teaching-learning environment for her students (510-565). She did not intervene because something was wrong or did not fit (510-104), but because she was continually paying attention to what was happening (510-096) and comparing it to what was supposed to be happening (510-163).

Gary also identified two instances of concerns he sensed from student's facial expressions that led him to react reflexively, which "is just one of those things natural to teaching" (526-198, 604-119). In both cases Gary was able to reorient the students' view of the task they faced—either by giving them additional information or practice or by affirming their self-confidence in their ability to perform the learning task (526-205, 604-123).

Tolerate anomalies in the teaching-learning environment. Mary Eve also tolerated the hitch where she decided abruptly to attend the joint class activities being led by another cluster teacher (513-049). She responded to one student who remarked that the other teacher read stories differently, "But that's what she does" (513-236). The group activity did not appeal to Mary Eve either. Mary Eve heard the reading and performed the motions even though she was not thinking about what was going on during the activity (513-344). However, she tried to be a good example (513-328) even though she tuned out what was being read while she thought of other things (513-497).
Appreciating Fit

Mary Eve's preoccupation during some hitches also centered on an appreciation of her sense of fit of actions or proposed actions with responses from the teaching-learning environment. The compelling action for Mary Eve as part of these hitches was to continue acting in the teaching-learning environment just as she was, because assumptions she projected onto the environment had been affirmed.

During the science class episode 512, the students were very interested in their experiences that related to a film strip being shown (512-034). Mary Eve was engrossed with the class enthusiasm (512-227) and valued the learning activity very highly (512-399). She felt excited (512-092), good (512-159), pleased (512-119), and showed her enthusiasm to students (512-142). Mary Eve felt very close to the students (512-215). She was glad that somehow she had shown a film strip that related to specific questions or interests of individual children.

Continue acting. During the science class episode, the students' responses confirmed for Mary Eve that the film strip was affecting students in a way that she sensed was desirable. Their responses told her that she was accomplishing what she wanted at that time. She lost track of time during the class and she wanted to continue the activity as long as she could (512-332).

Three other hitches for Mary Eve also involved the compelling action to continue what was happening because it was fitting. She intentionally began one school day giving students more control of their learning activities (514-470). In retrospect, she felt she had
been able to work more closely with individuals and help them accomplish the learning tasks in their activity folders (514-524). Her assessment was that her preoccupation with getting "one-on-one" had led her to do what was "fitting" and she was pleased (514-553).

In an instance from the secondary data, students' comments to Mary Eve about the value she placed on individual learning created a hitch that she appreciated (611-225). This hitch confirmed for Mary Eve that she was meeting her goal of promoting independent growth in her pupils. The continuing action she was compelled to take was to describe the independent learning styles of her students for the third grade teachers they would have the next school year (611-233). She continued her goal for those students by affirming their independent learning behavior for their future teachers.

In a different hitch, Eddie's uncharacteristic supportive comments for Shawn during a class presentation (602-051) confirmed movement toward one of Mary Eve's goals for Eddie and Shawn. Her view and/or understanding of the students was reinforced by the behavior that required her attention for a time (602-058).

In addition to the eight cases from primary data in Table 4 that have been illustrated with examples of hitches, secondary data from hitches identified by Mary Eve and Gary provided examples of hitches resulting from appreciating fit that illustrate three cases that are not evident from the primary data--get more information, restructure personal view, and restructure the teaching-learning environment.
Get more information. Gary sensed that Mike's suggestion to do TV scripts was an excellent alternative way to conduct the language study unit the class was doing (610-014). Gary's sense of compelling action was to find out all the possible learning experiences that could come from planning and producing the TV scripts--speech writing, acting, cooperation, group dynamics, self-discipline (610-037).

Restructure teaching-learning environment. Gary not only solicited and received much more information from students and others about the possibilities of TV script activities, but he also restructured the teaching-learning environment for those students as the result of that hitch when the TV scripts became the primary structure into which other class activities were integrated (610-028).

Restructure view of the teaching-learning environment. Mary Eve identified another hitch where she became excited about a student's unexpected success on field day, a day when each cluster celebrated physical fitness by performing a variety of physical activities--both competitive and noncompetitive (603-100). Her contemplation about that student's unusually good performance was on how that instance would provide a different, better mental framework for the child's school performance. Mary Eve took no action, but she viewed that success as a steppingstone to future success in performing other school tasks and as a way of improving the student's self-confidence (603-110).

Using Sense of Fit to Guide Learning

Mary Eve characterized an underlying feeling of responsibility to pay attention to the 24 individual learning plans going on
simultaneously in her class (510-557). She continually compared what she predicted they would do with what they did (510-163, 510-172).

Mary Eve continually shifted her attention from the total pattern of class activities to an individual child's needs (510-425). She frequently reordered what was most important to do at a particular time (510-565). While she conducted a conference with Jeff, Bunky needed his spelling checked and she could do that as Jeff read or talked (510-083). Patrick needed a question answered, but he had to wait until a break in the conference (510-083). Mary Eve did not want to interrupt Jeff, but eventually had to in order to settle an argument (510-343). She also had to leave Jeff for a few moments to get Kevin a pencil or he would not have begun his work (510-462).

When Shawn came up with a question, she sensed his presence and turned to him the first chance she had, but turned back and attended to Jeff since Shawn was not paying attention (510-110).

Mary Eve reacted frequently to her sense of fit about the activities occurring in her teaching-learning area (510-104). She explained hitches and how they can be used this way:

You know a lot of things about your students and then something happens that either fits with what you are thinking or it doesn't fit. All those things you've been thinking and all those things you know about the child come back to you--to think about and to contemplate, to help you change your style with that child or to do something else with that child (528-007). It comes down to doing things you aren't even conscious of, without even thinking or being conscious of them; just knowing what you're going to do based on previous experience (526-023).
Summary of Findings

Thirty hitches were identified for Mary Eve and Gary from events in both primary and secondary data (see Table 2 and Table 3). In each case, their comments indicated that they were preoccupied with something sensed within the teaching-learning environment and felt compelled to take some related action. Constant comparative analysis of these thirty hitches led to identifying three types of sensed preoccupations: needing better fit, fitting without valuing, and appreciating fit. Five types of compelling action were associated with the hitches: get more information, restructure view of the teaching-learning environment, tolerate conditions in anticipation of fewer future anomalies, restructure the teaching-learning environment, and continue acting because confirmation of the teacher's assumptive world is very important.

Nineteen of the hitches were explained in greater detail to illustrate sense of fit and type of related compelling action. These 19 are summarized in the text that follows according to the type of compelling action associated with sensed fit. For each hitch the sense of fit is listed first, followed by the compelling action. Some hitches had more than one related type of compelling action (see Table 4).

**Needing Better Fit**

Many of the hitches in the primary data occurred when Mary Eve sensed a need for better fit of what occurred in the teaching-learning environment with what she predicted would occur or hoped would occur.
Get more information. Mary Eve and the class could not identify a nest Billy found (512-001); Mary Eve pointed out a similar one in a film strip (512-002).

Restructure view of the teaching-learning environment. Students' comments during a News Ranger discussion interrupted Mary Eve's agenda (511-025); Mary Eve thought about it and concluded that students did not have enough time (511-017, 511-372).

Mary Eve questioned one child's unlikely sighting of 11 ruby-throated hummingbirds (512-521); Mary Eve thought the child exaggerated to get attention (512-533).

A mother came to discuss a concern about spelling after field day instead of waiting until her appointment (604-047); Mary Eve remained highly conscious of the child, his mother, and previous incidents (604-017, 604-085).

Tolerate conditions in hope of fewer future anomalies. Kenny's aqua pelican was not a factual representation (512-010); Mary Eve waited for an opportune moment (512-013).

Mary Eve questioned one child's unlikely sighting of 11 ruby-throated hummingbirds (512-521); Mary Eve checked with the mother when she came in later (512-521).

Restructure teaching-learning environment. Mary Eve tried to help Roger by standing nearer, but this caused student traffic that interfered (514-197); Mary Eve contemplated and acted to change learning conditions in several ways (514-140, 514-197, 514-001).

Kenny's aqua pelican was not a factual representation (512-010); Mary Eve pointed out a pelican on a filmstrip (512-007).
A mother sent a note of concern to Mary Eve because the child was fourth lowest in spelling (604-010); Mary Eve contemplated and implemented activities to determine the child's spelling ability (604-017, 604-030).

Fitting Without Valuing

Two hitches from the primary data, corroborated by hitches for both Mary Eve and Gary in the secondary data, indicated that at times sense of fit was accompanied by a nonjudgmental quality. These are listed according to three types of associated compelling action.

Get more information. Mary Eve participated in a combined class activity that was not appropriate for her students (513-049); Mary Eve confirmed the differences in class activities (513-117, 513-150, 513-157).

David finished a sentence Mary Eve had not completed during oral reading (528-120); Mary Eve began to review in her mind David's reading performance over the past year (528-130).

David did not finish a sentence during an instance identical to the one above (601-011); Mary Eve began to wonder about her potentially inhibiting behaviors (601-016).

Tolerate conditions in hope of fewer future anomalies. Mary Eve participated in a combined class activity that was not appropriate for her students (513-049); Mary Eve confirmed the students' feelings about the class activities (513-236) and tried to participate in the activities (513-328, 513-344).
Restructure the teaching-learning environment. Mary Eve felt responsible for each student's progress on tasks listed in her or his work folder (510-557); Mary Eve paid attention to what happened (510-096) and reordered priorities for activities (510-565).

Gary read frustration in a child's face as she began division facts (526-198); Gary called her to his desk and explained the process and encouraged her (526-205).

Gary anticipated the word a pupil would have difficulty pronouncing (604-119); Gary noticed that the child was amazed and esteemed his guidance given naturally as a teacher (604-123).

Appreciating Fit

Some hitches centered on how well particular activities fit within the teaching-learning environment. Those hitches from primary data were associated with the compelling action to continue the activity. Hitches from secondary data were associated with other types of compelling action.

Get more information. Gary sensed that a language activity suggested by a pupil was an excellent alternative (610-014); a mindful of ideas, activities, and group dynamics surfaced in Gary's mind (610-037).

Restructure view of the teaching-learning environment. A non-athletic student in Mary Eve's class won a field day event by default (603-100); Mary Eve hoped the unexpected success would lead to a better self-concept for the child (603-110).

Restructure the teaching-learning environment. Gary sensed that a language activity suggested by a pupil was an excellent
alternative (610-014); Gary used the activity as the structure for other class activities (610-028).

Continue acting--confirmation of assumptive world is very important. Students related many common experiences to a film strip on birds (512-034); Mary Eve showed her enthusiasm to the class (512-142, 512-332).

Mary Eve wanted to interfere less with the students' control of their learning activities (514-470); Mary Eve allowed students to move their desks (514-524, 514-553).

Pupils implied that Mary Eve's goal was to structure the class for personal, individual learning (611-225, 611-248); Mary Eve assessed this mentally and reconfirmed for herself the extent to which that goal had been met for students (611-215, 611-233).

Mary Eve noticed an out-of-character supporting comment for Shawn by Eddie (602-051); Mary Eve noted that both boys were behaving more as she wished they would (602-058).

Summary of Interpretations

Mary Eve and Gary sensed preoccupations with which were associated actions they felt compelled to take. These preoccupations motivated their transactions within the teaching-learning environment. These preoccupations were the focus of attention and awareness as new transactions were made. Both the sense of fit of what Mary Eve and Gary anticipated with what they perceived, and the associated compelling action were part of these preoccupations.
Sense of Fit

Mary Eve sensed when a transaction needed to fit better with her image of what she projected into the teaching-learning environment. As an example, she wanted students to develop a factual repertoire of information about birds, but they could not identify the nest Billy brought in, Kenny colored a pelican aqua, and another pupil claimed to have seen 11 rubythroated hummingbirds at one feeder. These and many other transactions within the teaching-learning environment that needed to fit better directed Mary Eve's attention and motivated other transactions she was compelled to make.

Mary Eve and Gary also became preoccupied with fit because it was important to them, but not because it was judged as needing to be better. When Mary Eve changed her plans abruptly to participate in a combined class activity, she tolerated the anomaly her students were experiencing and confirmed differences between teaching styles. She also confirmed that her students' attitudes about the activities were different than she had previously inferred. Sense of fit in this and similar cases was not accompanied by a judgmental quality. This type of fitting was closely related to paying attention continually to information about the teaching-learning environment, receiving more information, and restructuring the teaching-learning environment. This type of fitting was an objective process.

Appreciating sense of fit was also a form of preoccupation that motivated new transactions for both Mary Eve and Gary. In these cases good fit of anticipated results with perceptions caught their attention. Sensing an appreciation of fit affirmed the assumptions
projected into the teaching-learning environment by Mary Eve and Gary. It meant that future, similar transactions could be more inclusive, extensive, complex, and useful.

**Compelling Action**

A compelling action followed naturally from the fit of the projection of a transaction within the environment with the transaction. The compelling actions—the transactions following sense of fit—for Mary Eve and Gary included three that were oriented internally for the teacher. These actions were to get more information, to restructure view of the teaching-learning environment, and to tolerate present anomalies in anticipation of fewer future anomalies. Getting more information was related to clarifying the nature or quality of sensed fit. Restructuring view of the teaching-learning environment was an internal, cognitive action that changed perceptions upon which future transactions could be based. Tolerating anomalies was the action of suspending transactions in favor of consideration and other action taken later at a more opportune time.

Two other compelling actions were oriented externally toward the teaching-learning environment and toward continual actions based on confirmation of the assumptions made about transactions with the teaching-learning environment. Restructuring the teaching-learning environment was a compelling action associated with transactions judged to be deficient in some cases. However, in other cases, restructuring the teaching-learning environment was the process of continually adjusting teaching-learning activities to assist the individual learning agendas of students without judging the fit of the
activities as good or bad. Mary Eve felt compelled to continue and improve other teaching-learning activities based on her appreciation of the fit of students' projected responses with actual responses.

A hitch in teaching is a preoccupation with something sensed within the teaching-learning environment that compels a teacher to act. Sense of fit caused Mary Eve and Gary to focus their attentions on past transactions and then to propose and consider new transactions. These potential transactions became compelling actions—the next natural transaction within the teaching-learning environment based on previously sensed fit. The actions were conscious choices. However, they were not always observable, since at times Mary Eve and Gary waited to see what happened next (either by tolerating preoccupying conditions or by waiting to get more information). At times the action was to restructure an undesirable set of conditions into more desirable ones. At other times, the action was to affirm and improve an already desirable set of conditions. However, in the case of each hitch, reordering of cognitive structure occurred. Thoughts and perceptions were being reordered that formed the basis for conscious and preconscious behaviors congruous with what Mary Eve and Gary valued in the teaching-learning environment.

**Using Sense of Fit to Guide Learning**

The extent to which Mary Eve and Gary understood the developmental path that each child was following and kept attending to significant data about each child's learning was a very important part of the hitches identified in this study. This feeling of responsibility created hitches as student activities and transactions within the
teaching-learning environment were continually compared with what had been predicted they could do by placing worksheets and assignments in each student's work folder or by planning specific class activities. Mary Eve and Gary reacted frequently, contemplatively, and participatively as they readjusted and adapted the teaching-learning environment for their students according to the fit they sensed of learning activities.
In the previous chapter evidence was presented that hitches exist for teachers and the claim was made that they are common in teaching.

Categories of events that emerged from the analysis of Mary Eve's and Gary's recall of critical experiences related to hitches were types of judged sense of fit about teaching-learning activities and compelling sense of action that was associated with resolving each hitch. As events from the data file were examined and compared, other categories of hitch characteristics emerged. These were related to teaching-learning variables, teacher perceptions, and intrinsic characteristics of hitches.

The characteristics of hitches related to teaching-learning variables will be discussed in the next chapter. Both intrinsic and perceptual characteristics of hitches will be discussed in this chapter. The events related to teacher perceptions were categorized into holistic and cumulative perceptions, subconscious or preconscious perceptions, selective perceptions, emerging perceptions, and contemplative perceptions. The categories of events that defined the intrinsic characteristics of hitches were feelings associated with hitches, persisting thoughts, serially related or connected hitches, and the effects of hitches on Mary Eve and Gary and their
hitch-sensing.

**Intrinsic Characteristics of Hitches**

**Associated Feelings**

The feelings associated with hitches described by Mary Eve and Gary were interference, uncertainty, affirmation, and searching. Both teachers were greatly concerned with directing the learning activities of children—through plans for individual children or through a constant search for more meaningful learning experiences based on discriminating knowledge of each student.

**Interference.** Interference with the process of directing or assisting learning felt like static (513-197) and created stress when a learning agenda was not being followed (511-134). A learning activity that was not acceptable to students (513-049) interfered with Mary Eve's sense of what needed to be done that day (513-420). Mary Eve described her preoccupation with that interference as "being bothered" (513-187). She was concerned with Roger's self-deprecating attitude toward arithmetic which interfered with his success (514-209). Hitches often began with acts that were incongruous with predicted outcomes as Mary Eve and Gary tried to create more congruous conditions for learning (524-386, 524-410, 526-360).

**Uncertainty.** Some of the hitches Mary Eve experienced were the result of ambiguity (513-170). She was not sure what had been planned during a combined class activity, and adding to her uncertainty were the mixed messages she was getting from the other teacher (513-157). She thought her students enjoyed such activities
and yet on that particular day many were reluctant to go. The activity would have been more acceptable to many of her students if they could have taken some of their own reading materials with them. However, those requests conflicted with a rule that Mary Eve inferred was in force in the other teacher's class, since she had never seen those students bring additional materials to such class activities. This uncertainty created further ambiguity that only increased the intensity of Mary Eve's preoccupation with the students' desires, the nature of the joint class activities, and the students' rudeness during the activity.

Affirmation. Hitches were also described as being accompanied by information from the teaching-learning environment that affirmed the teacher's predictions and was congruous. Mary Eve reported feelings that were exciting, good, confirming of her predictions, and characterized by a desire to continue activities in progress. The enthusiasm of students led Gary to conduct other learning activities that fit much better with the learning interests and abilities of his students. The confirming responses from the teaching-learning environment led to Mary Eve's hope for greater future success for a student.

Searching. Hitches were accompanied by searching for and feeling pressure to provide useful learning experiences based on personal knowledge of students. During one hitch Mary Eve described feeling pressure to complete individual learning activities with students in her class. During another hitch she felt
pressure to reach closure during a class discussion or for the dis-
cussion to be less open-ended (511-466). Pressure was felt by Mary
Eve when preoccupation with something in the teaching-learning en-
vironment kept going through her mind (524-079). She constantly
searched for causes (524-530) of such things as the problems sensed
from the looks on students' faces (526-045).

Persisting Thoughts

Each day during the primary data collection, Mary Eve was asked
to explain any thoughts that were persisting, recurring, or linger-
ing. Each of these persisting thoughts was associated in some way
with the quality of fit of projected action in the teaching-learning
environment with events that occurred. These persisting thoughts
were either related to her overall instructional goal of assisting
individual learning and capitalizing on instructional opportunities,
or correcting and adjusting the teaching-learning environment to be
more fitting.

Capitalize on teaching-learning opportunities. On two occasions
Mary Eve's persisting thoughts were related to her instructional
style of working with 24 individual lesson plans in mind—one for each
of her students. The persistent pressure for enough time that she
felt during episode 510 was related to her sense that students ought
to get immediate answers so they could continue working, and that
she needed more time to be able to help everyone as she wished (510-
297). Her persistent thought during episode 514 was to work one-on-
one with students throughout the day (514-518).
On a third occasion, during a science class discussion (512-034), Mary Eve's persisting thoughts were to prolong the class discussion and interaction, and capitalize on each student's comments about birds. A persistent thought for her during that time was how exciting it was that the film strip and related discussion were a useful learning experience for the class (512-159).

Correct or adjust teaching-learning activities. During the discussion of News Ranger, as students were inattentive and discussed events pointlessly without proposing creative solutions to open-ended problems (511-028), Mary Eve's persisting thought was that her facial expressions were communicating that the discussion and class behavior were not acceptable (511-156). When Mary Eve's class participated reluctantly in a joint language arts activity with another class (513-033), two different types of thoughts recurred for her. One was how she was going to adjust the agenda for the rest of the afternoon. She knew what she had planned to do, but it did not seem to fit with the events that had occurred up to that time (513-366). The other persisting thought was why her students, who were acting very rudely during the activity (513-068), did not join in the choral motions and other activities like the other students (513-079, 513-525).

Serially Connected Experiences

Life experiences are connected events that take on different meanings as the selective fit of each experience is tested during transactions within our personal environment. Similarly, hitches were not disjointed, unconnected, random preoccupations for Mary Eve and
Gary.

Far-reaching effects. Hitches had far-reaching effects that sometimes took on relationships with other events and became complexly related (524-365). For Gary, teaching was sensing hitches from the perspective of paying attention to a wide range of conditions or activities in the teaching-learning environment that required his attention, and acting as he felt compelled, based on sensed fit of those conditions or activities in relation to many other conditions or activities (610-365).

Multiple-hitch episode. The list of hitches identified from brief, one- to three-minute episodes while Mary Eve was uninformed of the definition of hitches (Table 2) shows that in each of the episodes except 510 more than one hitch was identified. The hitches related to combining two classes (episode 513) showed that a hitch about one condition led to hitches about related conditions—students' lack of interest (513-033) led to Mary Eve's participation contrary to plans (513-049), which led to her observation of rude class behavior (513-068), which was related to students' lack of interest in the first place.

Connected with one student. An example of a series of connected hitches revolved around Roger, who seemed to preoccupy much of Mary Eve's time. Mary Eve had remarked about Roger being off task and interrupting a conference at the beginning of the week (510-058, 510-343). He also made sarcastic comments during class activities Thursday (513-068). Roger thought he could not do the Friday arithmetic quiz under timed conditions (514-227), but Mary
Eve thought he could. In order to help, Mary Eve stood closer, but this brought students closer to him and he self-consciously covered his paper each time, which interfered with what Mary Eve wanted him to be able to do (514-197). Later that same day, Mary Eve's continued concern for Roger's success and his potential interest in classical art led her to leave a likely water mess in the class area and look for an art print (514-315, 514-340, 514-696).

Interconnected. Each of the three specific hitches related to Roger were connected to a more general hitch that day for Mary Eve. During the week Mary Eve had felt that both the activities she had planned and a school-wide assembly to see a student variety show interfered in some ways with the students' desires to work (513-033, 513-272). Mary Eve's general preoccupation during the entire day when episode 514 was taped was to work one-on-one with students and allow them more control of their learning activities (514-470, 514-518, 514-524). This general hitch was connected to an even broader hitch for Mary Eve—-to be responsible for each student's progress on an individual continuum represented by tasks, work sheets, and other materials in their work folders. This broad hitch was a preoccupation that Mary Eve had for capitalizing on teaching-learning activities for students within available time (510-557, 510-297).

Effects of Hitches

As a preoccupation with something in the teaching-learning environment that compelled Mary Eve and Gary to act, hitches always involved consciousness—-either brief, momentary consciousness, or protracted, more involved, periods of contemplative consciousness.
The effect of hitches and their associated levels of consciousness was that Mary Eve and Gary continuously built a base of experience and increased their understanding of important variables in the teaching-learning environment. This base of experience was the background for hitches. From it, they, as teachers, projected important actions and then interacted within the teaching-learning environment.

**Increase understanding.** Human action is motivated by active natural curiosity and a quest for order (Penrose, 1979; Perkinson, 1978). The process of being actively involved in and experiencing the teaching-learning environment as a sensitive observer or participant, and then providing the student and those interested in his or her development with helpful information is the process of diagnosis and evaluation practiced in open education classrooms (Walberg and Thomas, 1971; p. 12). This kind of natural diagnosis and evaluation was also an effect of hitches. For Mary Eve it involved looking for reasons and associating them with hitches (524-530, 524-105).

Hitches had the effect of leading Mary Eve to experience events reflexively in order to increase her understanding. When Mary Eve was preoccupied with some students in a science class, she continued the class activities without interruption. Although she directed specific questions to the uninterested students, she prolonged the overall class members' interaction during that time in order to take a future, more contemplative look at what was so interesting to her (512-034, 512-048). Mary Eve participated in an activity without giving it any previous thought just to understand the situation better and to have a better experience base on which to act in the
future (513-049, 513-150).

Hitches increased Mary Eve's understanding by leading her to solicit more information from the teaching-learning environment. Understanding the teaching-learning environment focused on causes and predictability determined from observing students in mini-environments and soliciting clarification without judging pupils (Note 6). It involved collecting and experiencing many interpersonal samples of students' school life. It enabled Mary Eve and Gary to help students, based on understanding their growth and development more deeply rather than classifying students in terms of success or failure. Mary Eve observed students while they were doing other activities (such as attending a school assembly) as a way of understanding them better (514-785). Mary Eve preceded her decision to attend a combined class activity being conducted by another teacher by asking a series of clarifying questions when she was unsure about the appropriateness of the activity for her class (513-117). She clarified her doubts about a child's claim to have seen 11 ruby-throated hummingbirds with the child's mother the following day (512-521). Gary solicited specific clarification about library activities a student wanted to do instead of some assigned reading (604-130).

Hitches also increased Mary Eve's understanding by leading her to contemplate critical teaching-learning conditions affecting her students—thus making them more part of her own conscious experience. This contemplation was a continual process and helped her understand her students better (528-214). Contemplation and reflection associated with hitches affected both Mary Eve's and Gary's relationship
with students—usually in ways that created a positive or improved teaching-learning environment (512-539, 610-113). After the students had difficulty participating in an open-ended social studies discussion, Mary Eve contemplated how she could have avoided those problems and concluded that giving the students reasons for that type of discussion would have been good (511-030). Mary Eve recalled previously contemplating Roger's self-consciousness and self-defeating behaviors in other testing situations such as spelling as she was adjusting her position in the class area in relation to him in order to help him get his arithmetic quiz done (514-252).

**Act for instructional reasons.** The effects of a hitch for Mary Eve went beyond increased understanding, which resulted from reflexively experiencing critical circumstances, soliciting clarification, or deliberately contemplating those circumstances. Mary Eve often took action as a result of a hitch. Actions within the teaching-learning environment in response to a certain preoccupation were at times reflexive or apparently "second nature," while at other times they were deliberate and well-considered. They were based on an ever-widening and deeper understanding of each child's individual learning progress (510-557).

Mary Eve's comments to the class during a science film strip that a nest Billy had found on the weekend might have been made by a brown thrasher were reflexive comments based on very brief attempts to identify the nest when it was originally brought in (512-001). Based on David's interest during the film strip discussion, Mary Eve made a mental note to work with him on nests some more (512-516).
Throughout the science class there was a series of reflexive events that affirmed Mary Eve's objective for helping students differentiate characteristics of birds (512-119, 512-448).

The effects of a hitch about Roger's feeling that he could not do his arithmetic quiz resulted in several participative actions by Mary Eve. She gave him a number line to use (514-146), told him he could do the problems (514-216), moved farther away so that other students coming to her would not bother him (514-197), and went with him later in the day to look for a book that showed a Van Gogh print (514-696). Gary reacted quickly and reflexively when a boy knocked another boy down during recess and tempers flared as Gary had anticipated (604-103).

Mary Eve also liked to change some things deliberately and consciously as the result of other hitches (524-008). After contemplating alternate activities to resolve a hitch that occurred because of a mother's concern about the results of her child's spelling, Mary Eve took very decisive but deliberate action (604-010). The effects of this hitch for Mary Eve were not only immediate during the times when she and the mother tried to resolve the concern, but Mary Eve continued to contemplate the child's progress in school and to recall previous events that she retrospectively fit with the concerns the mother expressed (604-085).

When Mary Eve realized there would not be enough time to complete a social studies discussion of creative solutions to open-ended problems, she used a book on Hawaii to help her students focus on a specific topic (511-443). This was a significant, deliberate act
related to a two-week unit on Hawaii complete with a luau, hula
dancers, and appropriate Polynesian food and costumes. Mary Eve
deliberately gave a quiz between class activities in such a way that
it did not interfere with the flow of class activities and allowed her
to continue working with individual children (514-490). When Gary
recognized all of the potential learning activities embodied in a stu-
dent's suggestion to do TV scripts instead of the language arts
activities originally planned, he deliberately implemented an entire
series of activities involving writing, casting, directing, producing,
acting, and critically reviewing (610-014).

Sense associated compelling action. Hitches were accompanied by
a compelling action related to Mary Eve's and Gary's preoccupation
with something in the teaching-learning environment. The compelling
action associated with each hitch affected their subsequent teaching
acts. Sanders and Schwab (1980, p. 9) describe how a teacher's pre-
occupation is translated into action by both a compelling desire to act
on the element of the teaching-learning environment that has preoc-
cupied her or him and by the importance the teacher feels for cre-
ating harmony in the teaching-learning environment by resolving the
hitch.

For Mary Eve and Gary, effects of a hitch began with the sense of
compelling action associated with the hitch and went beyond to action
intended to increase understanding or to act instructionally. The
five types of compelling action were discussed in a previous chapter
titled Evidence of Hitches. The five were identified from the in-
depth recall of Mary Eve's thoughts and feelings when hitches were
in process and from the subsequent study of hitches that Mary Eve and Gary identified in their teaching.

Three of the five types of compelling action sensed by Mary Eve were generally associated more with increasing understanding by experiencing critical events reflexively, soliciting clarification, or contemplating critical elements of the teaching-learning environment. The three were: get more information, restructure view of the teaching-learning environment, and tolerate conditions in view of fewer future anomalies. The other two types of compelling action—restructure the teaching-learning environment and continue acting because confirmation of assumptions about the teaching-learning environment is very important—were more closely related to acting reflexively and deliberately for instructional reasons. Table 5 shows events that illustrate the relationship between the five compelling actions associated with hitches and the effects of hitches on both increasing understanding and instructional actions.

Perceptions Related to Hitches

Analysis of critical experiences identified as hitches for Mary Eve and Gary helped explain subsconscious or preconscious participative perceptions and selective and contemplative perceptions associated with hitches. These perceptions had a cumulative and holistic quality. Although a premise of the study was that selective, contemplative perceptions would be accompanied by abrupt awareness, Mary Eve and Gary also became aware of critical perceptions of the teaching-learning environment gradually.
Table 5
Example Events that Illustrate the Relationship of Compelling Action Associated with Hitches to Effects of Hitches

<table>
<thead>
<tr>
<th>Type of compelling action</th>
<th>Increase understanding</th>
<th>Act for instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>reflexively experience</td>
<td>solicit clarification</td>
</tr>
<tr>
<td>Get more information</td>
<td>I had to make sure in my mind that they wanted to do that (513-156).</td>
<td>I like to watch children during special speakers and movies (514-785).</td>
</tr>
<tr>
<td>Restructure view of the teaching-learning environment</td>
<td>Integrating responses helps me understand. You accumulate a knowledge of how someone is going to respond (524-106).</td>
<td>I asked (the mother). It might have been an exaggeration (512-521).</td>
</tr>
<tr>
<td>Tolerate anomalies in anticipation of fewer future anomalies</td>
<td>Some third graders did not volunteer.... I would direct questions to them (512-040, 512-034).</td>
<td>I kept asking her, trying to clarify (513-117). I decided I'd go instead of leaving (513-049).</td>
</tr>
<tr>
<td>Restructure the teaching-learning environment</td>
<td>I made a mental note to be sure and work with David more on nests (512-516).</td>
<td>I gave Frankie the words orally, I called his mother, and I told Frankie he had to do his best (604-010).</td>
</tr>
<tr>
<td>Continue acting--confirmation of assumptive world is very important</td>
<td>I was just so pleased. I wanted to show this specific film strip but I did not know it had those frames (512-119).</td>
<td>Today I really felt I was working with individuals. I consciously put the test right in the middle (514-490).</td>
</tr>
</tbody>
</table>
Holistic and Cumulative Perceptions

The process of continuously, subconsciously, and preconsciously perceiving the teaching-learning environment built a holistic and cumulative base of cognitive structure available to Mary Eve and Gary—for either participative or contemplative actions.

Growing awareness. Holistic and cumulative perceptions built a base onto which various individual but interrelated teaching actions were anchored. Mary Eve frequently sensed these holistic and cumulative perceptions as she located herself in the class area where she could be in contact with everyone and constantly key her perceptions to what was going on (510-096). She characterized the constant build-up of important perceptions upon which she based her actions in the teaching-learning environment as building "a growing awareness" (510-536).

Expanding repertoire. Many perceptions that were not directly related to specific, recognizable aspects of the learning task a child was performing at a given point in time became valuable data to Mary Eve when she was contemplating the child's learning from a more holistic view (524-190, 526-074, 528-012). She integrated her experiences with pupils into her growing perceptual base in order to understand them and predict how they would react under a different set of teaching-learning conditions (524-105, 526-023). Her responses and projected responses to pupils became part of her growing and developing repertoire of teaching behaviors (524-455).

Mary Eve and Gary frequently drew from a holistic and cumulative base of cognitive structure as critical incidents preoccupied them.
Mary Eve predicted that David's self-concept would be improved through his unexpected first place finish in a field day event at school (603-100). Her cumulative experience with David was that he usually did not achieve first or second place in anything. This new event changed the cumulative conditions for success in David's school experience.

Gary was surprised that Jeff even asked to go to the school media center instead of doing his reading assignment (604-125). However, Gary also sensed that it was not a particularly good day for reading for Jeff. The request was historically unusual for Jeff, and Gary sensed that it was very important for Jeff to be able to go. The result of Jeff's trip was an independent study on a very interesting topic. This information continued the thread of Gary's personal information about that child that went together into a developing pattern (610-191).

Reference points. These holistic and cumulative perceptions were benchmarks for understanding the efficacy of teaching-learning activities. In a retrospective look at one school day, Mary Eve felt she and the class had not accomplished much that day (510-197). The activities of the day, considered as a whole and in light of what had occurred, had not been the way she envisioned (510-500). On another day, she knew her students were in a mood to work (individually) on projects (513-398). She felt a "whole desire" to work (513-420), based on a cumulative series of visual cues such as the people who were conscientiously busy earlier in the day, the materials that were out on student desks, and other cues she read from
the teaching-learning environment (513-558).

**Interconnections.** Holistic and cumulative perceptions were connected to larger social groups such as the cluster or the school. The ever-growing set of perceptions that Mary Eve and Gary relied upon to guide actions in the teaching-learning environment was associated with perceptions shared with the principal and other staff members (526-380). These perceptions contributed to a climate for teaching and learning based on relationships and basic human needs of teachers and students (Note 7). Gary associated a series of perceptions over the entire school year with his assessment of the emotional, developmental needs of his students and other young boys at school (604-242).

The accumulated base of perceptions of both individuals and of the whole class, cluster, and school continued to grow and connect with other important perceptions of students and the teaching-learning environment. As certain aspects of the teaching-learning environment became critical, Mary Eve was able to focus selectively on the perceptions that made sense for that particular critical element; recall related, important information; and contemplate (selectively) fitted cognitive structures about the element in order to transact predictably and effectively in the teaching-learning environment.

**Subconscious or Preconscious Perceptions**

By their very nature, preconscious perceptions occur at remote levels of awareness, but at times they can be made to come into consciousness by turning attention to them. Many different conditions
in the teaching-learning environment affected Mary Eve's perceptions of the progress of her students. But she was able to focus retrospectively on participative, preconscious perceptions about the learning behaviors of her students in assigned work groups as she considered her need to work one-on-one with children and interfere less with their individual learning progress on assigned or scheduled group activities.

I think it [the need to get one-on-one] was subconscious. I didn't plan to do it that way, but I saw that they had moved their desks. They had been playing according to my rules, now I'd like to see what they were doing (514-524). I wasn't consciously aware of the fact that they had taken control of their day. Yet they had moved their desks. When Greg said that, it struck me, "We aren't at tables today!" (514-553).

Continuous. The study groups that had been formed earlier in the week were not as stable as she had anticipated, and as the week went on this perception became more fully documented and important as other fitting and unfitting conditions unfolded within the teaching-learning environment (514-719). Continuously building awareness of this need to be one-on-one over time eventually led to better understanding in the form of information about the children at the time critical activities for various individual children occurred (528-214).

Accessible. Preconscious processings were accessed and used consciously as Mary Eve capitalized on teachable moments in the teaching-learning environment. During a science class film strip, Mary Eve was pleased that she was able to point out a photo of an actual pelican to Kenny (512-125, 512-173) and took full advantage of the teaching opportunity. She did not consciously choose the film strip for the purpose of showing Kenny a pelican (512-010) or of having
several photos of bird nests for Billy to examine (512-001). However, she knew she wanted to show that specific film strip that particular day (512-127). She trusted herself to have access to preconscious processes and to use them participatively as second nature or a natural act of teaching (524-140, 526-023).

**Integrated.** Mary Eve integrated responses by children into a repertoire of teaching experiences that helped her understand students and act participatively without contemplating an answer or action (524-105). Gary recognized a diversionary question (604-119) naturally based on a rich field of perceptions about the children's experiences, personalities, and present learning tasks.

**Selective Perceptions**

Sensing increasingly complex fittings within the teaching-learning environment is the process of esthetic evaluation. Examples of selective perception in the data were identified from disparities between concurrent physical and mental activities; attention switching; supreme concentration on something in the teaching-learning environment; and inferred relationships among preconscious perceptions, holistic and cumulative perceptions, and contemplation.

**Concurrent disparities.** When Mary Eve thought about something that was unrelated to what she was doing, it was an example of selectively perceiving something in the teaching-learning environment related to the preoccupation associated with a hitch. During the rude behavior of her students at a combined class activity led by another teacher, Mary Eve was hearing the teacher and going through the motions, but she was not really thinking about them (513-332,
She was thinking about Kevin, Michael, Roger, and Patrick, who were distracting her and other students (513-344). She was really concentrating on what she should do to involve the students productively during the rest of the afternoon (513-351).

Attention switching. Mary Eve selectively switched her attention to particular students as their individual learning became the most critical incident in the teaching-learning environment for her. She described the sensation as having things coming into focus, and it explained for her why certain students did particular things (524-117). She became conscious of those things that affected Kevin, of suddenly "clicking in" to him, and then to another child, and so on (524-242). As she became selectively conscious of a student, she became totally aware (highly conscious) of all the situations she had previously known related to that student (524-550). A child's behaviors assumed special meaning to her as a teacher each time (524-538). All of this happened in two or three seconds. This selective attention switching helped her know what was uniquely appropriate to say or do as she interacted with individual students (524-140).

Supreme concentration. The intensity of Mary Eve's sole preoccupation with selectively perceived elements in the teaching-learning environment was illustrated during the science class on birds. Although she selectively switched from student to student, and from individual student to total group during the discussion, there was a specific time when she was just talking to Kenny and no one else (512-250). She concentrated so singly on the comments about birds by various individuals that she was abruptly interrupted at the end
of the time period when Roger came into the class area and she realized he was not a member of her science group (512-332). Likewise, she was so intent on the discussion that she did not notice Tony and Adam were not participating in the discussion until one of the other students reminded her (512-038).

Mary Eve described her intense concentration on getting the students' attention during a different class discussion as being "very hard" (511-045). Getting their attention was her main concern, and she continued to focus on having their attention more than anything else at that time. All her sentiments and emotions were cathected into that one selectively necessary perception (Note 8).

Esthetic evaluation. The aqua pelican hitch illustrated how selective perceptions, as the manifestation of esthetic evaluation, connected preconscious perceptions and conscious perceptions. Subconscious or preconscious perceptions of the information on the film strip (512-127), and a holistic and cumulative knowledge of Kenny (512-539, 524-105) were connected by an esthetic fitting process to Mary Eve's contemplation about Kenny's objective knowledge of pelicans (512-010) and the conscious opportunity to help him when the photo flashed on the screen (512-134). The esthetic fitting process was manifested when Mary Eve sensed the aqua pelican did not fit into objective data about birds (512-010), when she realized the photo in the film strip was available to show Kenny (526-348), and when she appreciated that Kenny was bubbling over with enthusiasm (512-173). Mary Eve's contemplative perceptions were cathected exclusively on Kenny (512-250). Esthetic evaluation, manifested as judging selective fit of a
critical variable in the teaching-learning environment, was the significant process occurring throughout this transaction.

**Emerging Perceptions**

Awareness of perceptions being brought to consciousness for Mary Eve and Gary occurred gradually when preoccupying elements in the teaching-learning environment took on cumulative significance, and occurred quite abruptly when they became important immediately. Both emerging and abrupt perceptions were based on experience. Preoccupations that pressed upon Mary Eve and Gary were equally as important to deal with in both cases. For emerging perceptions there was a build-up of important information that began to take on meaning. For abrupt perceptions, the significance of the preoccupation was stark and immediate.

**Abrupt.** Mary Eve sensed on Monday that Kevin was not able to concentrate on his work and that she should help him "unload" his weekend (524-238). She described this perception as a sudden "clicking in" with him (524-258) and then with other students as other concerns became more important. Clicking was like suddenly focusing (526-108). As this click occurred, she became conscious of those things that affected Kevin (524-242), and many experiences in her mind took on meaning and order (524-538). She became totally aware (highly conscious) of situations related to Kevin during that period of time when her awareness turned to Kevin so abruptly (524-550).

Mary Eve described abrupt awareness of perceptions as the most important, recognizable characteristic of hitches (524-475). She and
Gary gave several examples of abrupt perceptions related to hitches. Mary Eve's sense that she had given her students too many things to do during a discussion of *News Ranger* came very suddenly (511-010, 511-245). Gary knew immediately that there would be a fight when a boy knocked down another boy with a short-fused temper (604-103). Gary recognized that Mike's suggestion to do TV scripts was a good idea for the whole class as soon as he saw the expressions on their faces (610-014). Mary Eve changed her plans abruptly when she was unsure if her students wanted to go to another teacher's area. Her abrupt change in behavior was accompanied by a sudden preoccupation with the effect that differences between her teaching style and another teacher's would have upon her students (513-009, 513-049).

**Gradual.** Mary Eve became conscious gradually of conditions or activities in the teaching-learning environment that were preoccupying her. Once during her continuous concern for helping with the 24 different learning plans for each pupil, she became aware during the first hour of the morning activities that the students were not working at their tables as they normally did. They had chosen others with whom they could work that week and had moved their desks together (510-432). However, she came to realize, based on the cumulative experiences of the week, that the work groups chosen by the children were not as stable as she thought they might be and they preferred their social groups instead (514-719). She began wondering about it and thought back about what had happened during the week.
In another example of gradually emerging perceptions, Mary Eve sensed during a science film strip that things were well organized and that much valuable learning was occurring (512-410). This gradually emerging perception was related to the physical conditions of the cluster (dark) when the children arrived, was reinforced by other teachers who were doing similar activities that day (512-436), and was confirmed by the way activities flowed smoothly (512-399).

A gradually emerging perception for Gary that had been growing during an entire school year of recess duties and teaching experiences concerned the emotional needs of primary age boys (604-273). He sensed a deep need for attention and affection from him as a man. Although this perception, which had grown over a long period of time, was not related directly to any specific hitch, the time probably came when Gary associated this gradually emerging awareness of the emotional needs of young boys with a specific child or event. What Gary identified was the formative process of a gradually emerging perception in advance of its association with a hitch.

**Contemplation**

Contemplative perceptions are characteristic of conscious behaviors and are associated with high levels of awareness and attention. Being conscious means reordering cognitive structure and conceptualizing both retrospectively (reflection) and constructively (action). Mary Eve and Gary both considered hitches as the contemplative aspect of teaching (526-012, 610-365). Contemplation was the result of sensing compelling actions associated with being preoccupied with something in the teaching-learning environment
Mary Eve was able to use contemplation of past events retrospectively to conceptualize better selective fit of elements in the teaching-learning environment. Contemplation was an evident part of her teaching style. She liked for her teaching to be characterized by deliberate, conscious teaching acts (524-008). The object of Mary Eve's contemplation was broader than the specific activity that triggered the contemplation. Many times, contemplative perceptions went beyond the curriculum to students' feelings and attitudes. The value of contemplation was that important student behaviors did not remain unnoticed. Contemplation enabled Mary Eve to use perceptions effectively and purposefully in the teaching-learning environment at later, important times.

**Retrospective.** During contemplation, past preconscious and conscious events were recalled in order to guide actions and conceptualizations. The significance of paying attention to perceptions and differentiating the associated meaning of events in the teaching-learning environment was that they were cumulatively significant during contemplation. All those things Mary Eve had been thinking about and knew about a child came back to her to contemplate and to help her change her style with that child (528-012).

When Mary Eve considered what seemed to her an overreaction by Frankie's mother to his spelling performance, she retrospectively related other critical incidents to her preoccupation with the effect of the mother's concern on Frankie (604-075). Mary Eve anticipated that these past occurrences would become more significant to her as
she remained highly aware of how to work with Frankie as a result of his mother's concern (604-085).

During a day when Mary Eve was quite preoccupied with Roger's concept of being successful at school, she fit her previous contemplations of Roger's self-defeating attitudes with other selectively fitted concepts about his progress in relation to his attitude. She used this set of cumulative fittings to guide her teaching activities (514-240).

Prospective. Contemplation was part of Mary Eve's deliberate, conscious teaching style. Mary Eve often contemplated important activities and conditions affecting her pupils even when they were not with her. This continual contemplation made her more aware of pupils. It enabled her to follow up on important activities (511-526). Contemplation about a child affected her relationship with that child—usually positively (512-539).

The events related to Roger's performance on an arithmetic quiz and his overall school performance illustrate how Mary Eve used contemplation to make her teaching effective. Mary Eve contemplated the mixed effects on Roger caused by standing near him during the quiz (514-197, 514-205). She puzzled (contemplated) over his self-concept (514-209). She had contemplated his self-defeating attitudes previously (514-240) and used her assessment of the selective fit of Roger's confidence in himself with her selective fit of his performance during the quiz to guide her actions reflexively at the time and throughout the rest of the day (514-281).
During lunch Mary Eve continued to contemplate how she could help Roger (514-755). She wanted to find a copy of a Van Gogh print to help Roger understand a Snoopy comic he had asked her about. She also had contemplated other activities to help Roger be more successful in school. She had arranged to make a kite with him during a recess period earlier in the week (511-523), and she contemplated how to help him think about his school behavior during an upcoming reading conference (514-640).

The object of contemplation. The object of contemplation was to assess the quality of fit of elements in the teaching-learning environment with Mary Eve's projections for those elements. For Mary Eve hitches were related more often to contemplating elements of the teaching-learning environment that did not fit than those that fit well (524-170). As instructional choices became eminent, Mary Eve would weigh the situation contemplatively—not for long periods of time, or in a way that interfered with learning—to grasp perspective, to consider what would happen next with a pupil, or to decide which activities would receive higher priority during the many complexly related, split-second choices she made in the teaching-learning environment (528-018).

The object of contemplation also was to determine what transaction was most appropriate within the teaching-learning environment. When pupils were not acting as Mary Eve thought they should (during the News Ranger discussion), her contemplation was of what she would do next to get them to react more nearly as she wanted them to (526-324). For Mary Eve, contemplation linked preoccupation
with something in the teaching-learning environment to causes and to a better understanding with which to act within the teaching-learning environment (524-530). At home Mary Eve would often contemplate something that had occurred during the past day, discuss it with her husband, and become conscious of reasons for actions and of new ideas to try with her students (511-505).

Many things that seemed unrelated to specific classroom activities, but that affected pupils more broadly, were often the object of Mary Eve's contemplation (524-190). When David filled in the missing word (528-120), Mary Eve contemplated her teaching behaviors, her characteristic stop in mid-sentence to check what pupils were doing, David's reading performance in the past, and his changing reading performance (528-130). Her contemplation of David's reading performance, her previous contemplations of David, and her teaching behaviors continued when she again stopped in mid-sentence and he did not fill in the missing word (601-011).

Contemplation was the process for developing perspective and connecting important conditions in the teaching-learning environment that contributed to a fuller, more useful concept of the student's learning performance. Contemplation played an important formative role that led Mary Eve and Gary to modify contemplative and participative perceptions and to refine reflexive, adaptive, readjustive teaching behaviors that ultimately affected the outcome of hitches. Contemplation and its cathetic focus on the preoccupying conditions of the teaching-learning environment were the heart of a hitch that led to a continuously changing perspective of the
teaching-learning environment and consequent teaching actions.

Summary of Findings

In this chapter intrinsic characteristics of hitches and perceptual characteristics of hitches have been described, based on statements by Mary Eve and Gary (events). These findings are not necessarily hitches as was the case in the previous chapter. Rather, these findings are the characteristics of hitches evident from categories derived from the constant comparative analysis of events associated with hitches. The events analyzed occurred during Mary Eve's and Gary's recall of mental activities associated with hitches. Intrinsic characteristics are those related to hitches in and of themselves. Perceptual characteristics are those associated with the way in which Mary Eve and Gary experienced the teaching-learning environment and acted within it.

Intrinsic Characteristics of Hitches

Table 6 summarizes the findings related to intrinsic characteristics of hitches discussed earlier in this chapter. The twelve subheadings included under four categories describe intrinsic characteristics of hitches. These categories were derived from 79 events that are listed in Table 6 along with key phrases from the events. The text of each event cited is included in Appendix G. The earlier discussion of the categories combined paraphrased comments from the events with interpretations of those comments. Table 6 lists the events as findings without interpretive comment except for the categories and subheadings with which they were associated during
<table>
<thead>
<tr>
<th>Table 6</th>
<th>Findings Indicating Intrinsic Characteristics of Hitches</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Associated feelings</td>
</tr>
<tr>
<td>Interference</td>
<td>static (513-196), stress (511-134), interfering (513-049, 513-420, 514-209), bothered (513-187), incongruity (524-386, 526-410, 526-350)</td>
</tr>
<tr>
<td></td>
<td>uncertainty (513-170), mixed messages (513-157, 513-507, 513-049), unasked question (513-575)</td>
</tr>
<tr>
<td>Affirmation</td>
<td>exciting (512-092), good (512-159), confirming (514-470), desire to continue (512-399), better suited activities (610-014), hope for success (603-110)</td>
</tr>
<tr>
<td></td>
<td>searching (610-117), pressure for closure (510-197, 511-666), continued press (524-079), searching for causes (524-530), reading pupils' faces (526-045)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the earlier discussion.

**Perceptual Characteristics of Hitches**

Five categories that organize 16 subheadings resulted from the constant comparative analysis of 60 events related to perceptual characteristics of hitches. Key phrases from the events and the reference number for each event are listed by category in Table 7. The text of each event cited is included in Appendix G. The events categorized in Table 7 were discussed earlier in this chapter along with the interpreted meaning of the events.

**Summary of Interpretations**

**Intrinsic Characteristics of Hitches**

The associated feelings, persisting thoughts, and connectedness of perceptions for Mary Eve and Gary as they experienced hitches compelled them to act within the teaching-learning environment. This action was a sensed priority for creating harmony or fit within the teaching-learning environment, based on increased understanding followed by transactions. Examples from the data were listed in Table 5 to illustrate how sensed preoccupations were translated into searching for understanding and transacting within the teaching-learning environment.

Table 8 is a set of definitional phrases for the intrinsic characteristics of hitches that were listed in Table 6. Each definitional phrase is interpreted from the findings listed in Table 6 and represents a summary of interpretations made during the discussion of intrinsic characteristics of hitches.
<table>
<thead>
<tr>
<th>Findings Indicating Perceptual Characteristics of Hitches</th>
<th>Holistic-cumulative</th>
<th>Subconscious-preconscious</th>
<th>Selective</th>
<th>Emerging</th>
<th>Contemplative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing awareness</td>
<td>Continuous</td>
<td>Concurrent disparities</td>
<td>Abrupt</td>
<td>Retrospective</td>
<td></td>
</tr>
<tr>
<td>constant contact (510-096), appropriate actions based on growing awareness (510-530)</td>
<td>noticing what happened (514-719), continuous awareness affects teaching (528-214)</td>
<td>bearing but not processing (513-386), acting while thinking ahead (513-351)</td>
<td>noticing (524-238), clicking (524-528), sudden perception (526-108, 524-475, 511-010, 511-245), becoming conscious (524-242), total awareness (524-550), knowing immediately (604-103), recognizing (610-014), changing (513-009)</td>
<td>past thoughts come back (528-012), remembering critical concerns (604-075), adding to cumulative contemplations (514-240)</td>
<td></td>
</tr>
<tr>
<td>Expanding repertoire</td>
<td>Accessible</td>
<td>Attention switching</td>
<td>Gradual</td>
<td>Prospective</td>
<td></td>
</tr>
<tr>
<td>unrelated perceptions (524-190), more complete perceptions (528-074), incidental perceptions (528-012), past perceptions (524-105), previous experience (526-023), repertoire of behaviors (524-455), self-concept improved (603-100), assignment changed (604-125), thought patterns (610-191)</td>
<td>pointing out opportune film strip frame (512-125), great timing (512-173), showing film strip without specific information (512-127)</td>
<td>focusing on reasons (524-117), clicking in (524-242), changing to total awareness (524-550), accumulating meaning as perception clicks (524-538)</td>
<td>becoming aware (510-432), happening to notice (514-719), feeling sense of action (512-410), becoming intrigued (604-273)</td>
<td>following up (511-526, 511-523), changing relationships (512-539), analyzing actions (514-197, 514-205, 514-209, 514-240), guiding actions (514-201), reaching closure (516-640)</td>
<td></td>
</tr>
<tr>
<td>Reference points</td>
<td>Integrated</td>
<td>Supreme concentration</td>
<td>Object</td>
<td></td>
<td></td>
</tr>
<tr>
<td>retrospective view (510-197), envisioning expectations (510-500), sensing mood (513-190), pervasive desire (513-420), visual cues (513-558)</td>
<td>integrated responses come into focus (524-105), natural teaching actions (604-119)</td>
<td>talking to Kenny only (512-250), unaware of others (512-038, 512-332), concentrating hard (511-045), focusing (511-045)</td>
<td>unfitting conditions (524-170, 526-324), instructional choices (528-018), causes and relationships (524-530, 511-558), broad perspective (524-190), effects of teaching actions (528-120, 528-130, 601-011)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Associated feelings</td>
<td>Persisting thoughts</td>
<td>Serial connections</td>
<td>Effects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>---------------------</td>
<td>--------------------</td>
<td>---------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interference</strong></td>
<td>Capitalize on opportuities</td>
<td>Far-reaching effects</td>
<td>Increase understanding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feeling bothered; sensing static, stress, or incongruity; and having concern that a child's learning priorities are not being met</td>
<td>Rehearsing mentally how learning activities can more adequately expand pupils' learning experiences</td>
<td>Being able to connect teaching-learning events one to another based on deep and complex analysis</td>
<td>Experiencing reflexively, soliciting clarification, and contemplating activities and conditions in the teaching-learning environment as a basis for action</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Uncertainty</strong></td>
<td>Correct or adjust teaching-learning activities</td>
<td>Multiple-hitch episodes</td>
<td>Act for instructional reasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceiving mixed messages, sensing ambiguity, and acting with incomplete knowledge that increases the intensity of preoccupation with something in the teaching-learning environment</td>
<td>Rehearsing mentally how information about unfitting activities can be used to guide corrections and adjustments in the teaching-learning environment</td>
<td>Experiencing one hitch more fully based on the significance of other hitches</td>
<td>Reflexively and deliberately engaging the teaching-learning environment in order to capitalize on learning opportunities</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Affirmation</strong></td>
<td></td>
<td>Connected with one student</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiving information that confirms previous predictions and is congruous with future projections</td>
<td></td>
<td>Guiding a student's activities based on cumulative preoccupation for satisfying the learning agenda</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Searching</strong></td>
<td></td>
<td>Interconnected</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sensing pressure to get more information, find causes, and reach closure</td>
<td></td>
<td>Acting with specific concerns in mind according to more generalized meanings derived from previous hitches</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Perceptual Characteristics of Hitches

Definitional phrases for each of the perceptual characteristics identified for hitches are listed in Table 9. These phrases summarize the interpretive comments included with the earlier discussion of perceptual characteristics of hitches in this chapter.

Understanding the organization of Table 9 is important in order to understand the interpreted connection between participative and contemplative perceptions. Mary Eve's and Gary's perspectives of the teaching-learning environment were based on both participative (preconscious) perceptions and contemplative (conscious) perceptions. Their perceptions were characterized by holistic and cumulative properties. The interpretive phrases of the first column in Table 9 further characterize the holistic and cumulative nature of their perceptions.

The next four columns of Table 9 define the progression as subconscious, preconscious perceptions were selectively linked to emerging contemplative perceptions. The key to this selective connection between preconscious, subconscious participative perceptions and conscious contemplations was esthetic evaluation. Esthetic evaluation was the selective fitting process that drew preconscious perceptions into contemplation in order to focus attention on important perceptions of the teaching-learning environment. Esthetic evaluation was the guiding phenomenon for continuously altering consciousness.
Table 9
Interpreted Definitions of Perceptual Characteristics of Hitches

<table>
<thead>
<tr>
<th>Holistic-cumulative</th>
<th>Subconscious-preconscious</th>
<th>Selective</th>
<th>Emerging</th>
<th>Contemplative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growing awareness</td>
<td>Continuous</td>
<td>Concurrent disparities</td>
<td>Abrupt</td>
<td>Retrospective view</td>
</tr>
<tr>
<td></td>
<td>Continuously documenting perceptions and building awareness of learning needs</td>
<td>Focusing on perceptions unrelated to actions</td>
<td>Taking on immediate significance as important perceptions suddenly demand attention</td>
<td>Recalling past preconscious and conscious transactions to guide actions and conceptualizations</td>
</tr>
<tr>
<td>Expanding repertoire</td>
<td>Accessible</td>
<td>Attention switching</td>
<td>Gradual</td>
<td>Prospective view</td>
</tr>
<tr>
<td></td>
<td>Being able to draw on a background of experience to act opportunely</td>
<td>Selectively changing attention to consider the most important perception of the teaching-learning environment</td>
<td>Taking on cumulative significance as important perceptions continue to build awareness</td>
<td>Deliberately considering important projected transactions to expand awareness and to modify the teaching-learning environment</td>
</tr>
<tr>
<td>Reference points</td>
<td>Integrated</td>
<td>Supreme concentration</td>
<td></td>
<td>Object or focus</td>
</tr>
<tr>
<td></td>
<td>Fitting diverse instances into a rich repertoire of perceptions to be used as needed</td>
<td>Becoming solely preoccupied and assigning total attention to specifically chosen perception(s) similar to cathexis (Note 8)</td>
<td></td>
<td>Assessing from an ever-widening view how well elements in the teaching-learning environment fit with retrospective and prospective views</td>
</tr>
<tr>
<td>Interconnections</td>
<td></td>
<td>Esthetic evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drawing preconscious perceptions into contemplation in order to focus attention on important perceptions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: This table outlines various perceptual characteristics and their definitions under different categories.
Altered Consciousness During Hitches

The base of experiences that Mary Eve and Gary were constantly accumulating in order to understand and to project and take instructional actions was formed through both participative and contemplative perceptions of the teaching-learning environment. A field of reflexively-mediated, integrated, multi-dimensional, multivariate, participative perceptions was added continuously to contemplative perceptions, and together they formed the holistic and cumulative base of perceptions useful to them as teachers.

Evidence collected from Mary Eve's and Gary's teaching activities documented the characteristics of hitches and the nature of perceptions associated with hitches. Subconscious or preconscious perceptions were continuously forming, accessible to conscious contemplations, and integrated into a holistic and cumulative repertoire of cognitive structure useful to Mary Eve and Gary as they transacted within the teaching-learning environment.

Mary Eve and Gary sensed a whole set of conditions affecting students and contributing to the conditions perceived in the teaching-learning environment that went beyond the individual, specific instances. Each of these contributed to their perception of the whole. These perceptions accumulated over time and were continuously refit into a cumulative, holistic sense of the teaching-learning environment. These perceptions were complexly interconnected, served as benchmarks for understanding the efficacy of teaching-learning activities, and were part of a continuously growing awareness of what was important for Mary Eve and Gary to know about students.
Mary Eve and Gary selectively, consciously, and contemplatively perceived and considered important elements from both the experiential fields of perceptions and their teaching-learning environments as they taught. Selective perception was characterized by attention switching, supreme concentration, and preoccupation with an element in the teaching-learning environment during other concurrent activities. Selective perception was the evident manifestation of sensing increasingly complex fittings within the teaching-learning environment and acting upon that sense of esthetic evaluation by contemplating the anomalies of sensed fit. Selective perception was concerned with a sense of order, sense of the whole, and harmonies of relationships. It interconnected contemplative and participative perceptions so that attention could be focused selectively and efficiently on critical elements of the teaching-learning environment that were valued subjectively by Mary Eve or Gary.

When Mary Eve's or Gary's perceptual functioning was altered from the preconscious behaviors that characterize participative perceptions or from other contemplative perceptions to focus on a preoccupying aspect of the teaching-learning environment, a hitch occurred. During this altered state of consciousness, a sense of compelling action was part of Mary Eve's and Gary's cathected, contemplative perceptions. They focused upon, integrated into cognitive structure, and differentiated among a limited, selectively perceived set of variables until a satisfactory fit of those variables within the teaching-learning environment was perceived, or until a different set of variables became more important and
attention-demanding.

At times the perceptions that demanded Mary Eve's and Gary's attention during a hitch emerged gradually. At other times they were important immediately and abruptly. Interference, uncertainty, affirmation, and searching were different types of feelings associated with hitches for Mary Eve and Gary.

Contemplation was a deliberate part of both teachers' style. During contemplation critical occurrences were retrospectively fit into their holistic and cumulative field of perceptions. The object of contemplation was to assess the quality of esthetic fit, to consider the most appropriate transaction within the teaching-learning environment, and to gain a better perspective of all the interconnected perceptions affecting the element of the teaching-learning environment that was preoccupying them.

Persisting thoughts that accompanied a hitch for both Mary Eve and Gary were how to capitalize on teaching-learning opportunities and how to correct or adjust teaching-learning activities. The effects of hitches and the resulting selective perceptions, which were an efficient connection between contemplative and participative perceptions, were to increase Mary Eve's and Gary's understanding and to give them reasons for their teaching-learning acts.
VI
CHARACTERISTICS OF HITCHES RELATED TO TEACHING-LEARNING VARIABLES

In previous chapters, I have presented evidence that hitches exist for teachers by listing examples and descriptions of hitches identified by Mary Eve and Gary. I have also examined the characteristics of hitches related to teachers' feelings, persisting thoughts, and the effect of hitches on teachers. The way in which hitches were serially connected has also been described. I have examined holistic and cumulative perceptions related to hitches, subconscious and preconscious perceptions, selective perceptions, emerging perceptions, and contemplative perceptions.

In the previous chapter where perceptual characteristics of hitches were discussed, the viewpoint was more from within Mary Eve and Gary and how hitches were related to their perceptual functions during preoccupations with various occurrences in the teaching-learning environment called hitches. The focus of this chapter is more on their interaction within the teaching-learning environment and how the interaction was related to teaching-learning variables. The previous focus was more on how hitches occurred for Mary Eve and Gary. The focus in this chapter is more on what their hitches were centered upon.
The characteristics of hitches related to teaching-learning variables will be discussed in this chapter. One of the characteristics of hitches related to following a general agenda for students was categorized as guiding and extending learning. Guiding and extending learning was further organized into a teacher's "mental notes," participative actions, and adaptive-reactive responses to events in the teaching-learning environment. Other characteristics of hitches discussed in this chapter are empathizing with the learner, clarifying, judging instructional worth for an activity, judging that an activity interferes with the teaching-learning agenda, and improving teaching-learning transactions.

**Guiding and Extending Learning**

Some of the common actions related to hitches for both Mary Eve and Gary were characterized by responsibility for appropriate activities and fitting in the teaching-learning environment. Several of these characteristics are similar to three of the dominant themes of open education teachers identified by Walberg and Thomas (1971).

Provisioning [for learning] refers to the teacher's responsibility for what is in the classroom and how it affects the children's learning. Under this theme come not only materials, equipment, and furniture which the teacher chooses, but also the procedures and expectations she establishes (p. 11).

Walberg and Thomas identified another theme, seeking activities to promote continual personal growth.

Seeking is obviously an integral part of the teacher's interaction with the children as well as her life outside the classroom. Seeking stresses the necessity of the teacher's deep and active personal involvement in classroom change and growth (p. 14).
Both provisioning for learning and seeking seem to be embodied in a broader theme, guiding and extending learning. Guiding and extending learning is embedded in the principle of providing significant choice for learners, "characterized by spontaneity, responsiveness, and adaptability" (p. 11).

The teaching theme for Mary Eve was individual student growth and development motivated from within the learner and stimulated by guiding and extending both the learning environment and the child as part of that environment (510-557, 611-215). Hitches occurred for her within a matrix of 24 individual lesson plans that she kept in mind as she interacted with her students individually and in large or small groups (510-172). She was continually helping each student in her class to continue with her or his schedule. The hitch that occurred as she appreciated student responses during the science film strip on birds (512-034) was related to her desire to have many experiences for her students so that they could relate to birds (512-448). She wanted her students to complete the science unit by appreciating the ecology of birds.

Gary corroborated that the desire to guide and extend student learning led to hitches for him.

It starts with a desire to expose children to new stimuli which help them grow and develop in new and complete ways. These experiences and thoughts come to me spontaneously out of my own desires and frustrations as a teacher (610-075).

The assumption motivating Gary's teaching that affected how hitches occurred during the process of guiding and extending learning was that every child had unknown talents that could be developed through a happy and rewarding school experience that progressed
along a scale of developmental learning (610-224).

A similar assumption led to a compelling sense of action for Mary Eve to follow-up Roger's difficult experience during a math quiz by trying to find a Van Gogh print to show him. She thought he might not even care about Van Gogh, but she wanted to broaden his experience (514-696). She liked art and she wanted to extend his learning environment in that direction.

Mary Eve's and Gary's hitches related to guiding and extending learning were based on a changing awareness of the needs of learners. For Gary it was a constant state of mind--conscious, semi-conscious, or unconscious--in which he continually searched for more meaningful learning experiences for his students (610-117). The basis for identifying those experiences came from very intimate and personal one-on-one knowledge of all of his students so that he could guide and extend the student's experiences in a way that involved all of them in a meaningful activity. He structured class activities so that each student could pick out something with which he or she was successful, had an enjoyable time, or grew (610-133).

Mary Eve sensed an overload of choices students were expected to make during a discussion of some News Ranger articles (511-010). She immediately began adjusting the learning environment by giving the students more free time so that they could actually choose and carry out some of the learning tasks in useful and growth-producing extensions of their learning (511-372).
Mental Notes

In the continual process of guiding and extending learning, the beginning of the cumulative build-up of significant information about a person or event sometimes seemed to be similar to making a mental note—noticing. It was like a fleeting moment when consciousness of something began. Eventually this mental note contributed to the significance of an event as a hitch.

Promise of future action. Based on David's comments about nests during a class period, Mary Eve made a mental note to be sure and work with him more on bird nests (512-516). Mental notes sometimes became literal notes when the significance of the fleeting thought seemed more urgent (524-079). Mary Eve recalled that often at home she would suddenly be thinking of a student and feel compelled to write herself a note to do something (512-539). After recalling what students said at school, she would think of the different meanings the statements could have and think that she wanted to remember to talk to a particular student about it (511-510).

Connecting events. Mental notes connected events so that Mary Eve could verify, guide, or extend learning activities. When some of the students were reluctant to go to an all-school assembly and became restless while there, she made a mental note to involve them as reporters to the class or in related activities (514-780). She made a mental note of a child's unlikely claim to have seen 11 rubythroated hummingbirds and then checked with the child's mother when she happened to see her at school the next day (512-521).
Data for potential consideration. The process of being alert and attentive to critical variables related to learners' experiences at school seemed to lead to many such mental notes that were not intensively considered, but were tucked away as data for potential consideration in the future. As a fleeting moment of consciousness of something, mental notes were brought back to consciousness and contemplated in light of other related mental notes. Pertinent information began to accumulate and eventually lead toward a hitch with its compelling sense of action.

The mental notes, which sometimes became literal written notes, contributed to the data that formed a base for guiding and extending learning. Mental notes, preconscious experiences, and the consuming consciousness of hitches were the data base that allowed Mary Eve to be spontaneous, adaptive, and responsive as a teacher (524-117, 528-012). Thus, while she appeared to be listening only to the assembly speaker, she was actually continually rehearsing the fit of that particular experience for each of her students. While she casually ate lunch and chatted with colleagues, she was actually doing much more. She was actually making mental notes predicting how her students would react to the speaker scheduled at assembly (514-760).

Adaptive-Readjusting Actions

Consciousness--either fleeting or intensive and prolonged--led Mary Eve and Gary to adapt and readjust activities as events unfolded in the teaching-learning environment. At times Mary Eve reordered or changed the agenda in the class rather abruptly
Often the change involved adding or suggesting something for someone to do in response to Mary Eve's constant monitoring of the individual learning plans of each student (510-565). 

**Alternatives.** Gary described his mind as being full of alternate learning experiences to suggest to students when one of them proposed doing TV scripts instead of the language arts activities on which students were working (610-037). When the open discussion about creative solutions to problems suggested in *News Ranger* did not go well, Mary Eve began making a new schedule in order to allow students more free time (511-417). She then proceeded to do an activity related to a study unit on Hawaii instead of showing a film strip she had planned. Her change was based on a repertoire of experiences and information about the students that led her to believe that using the film strip would not have resulted in a positive effort over the time available (511-443).

"Switching gears." The events related to the hitch Mary Eve experienced one day right after lunch recess when many of her students did not want to do an activity jointly with another teacher's class illustrated adaptive-readjustive actions made in response to the hitch. During the combined group activity, which did not go well and was one of several related hitches for Mary Eve, she started to rehearse in her mind what she was going to do afterward (513-351, 513-383). She began to switch gears and created an ad-libbed activity she called "Let's pretend." She hoped this activity would fit the students' moods better and would prepare them for a mother volunteer, Mrs. Zest, who was scheduled to come later and do some
creative dramatics activities with the class (513-368, 513-440).

As the afternoon progressed, the ad-libbed activity went very well and Mary Eve scratched completely the activities she had originally planned (513-420). Mary Eve's assessment of the afternoon activities by the end of the day was that class activities progressed better than she had expected when they began. She felt the success was due, in part, to the adaptive readjustments she had made during the afternoon (513-453).

**Improving fit.** Adaptive-readjusting teaching behaviors were also an important result of hitches and continual contemplation during a hitch. Mary Eve and Gary kept learning conditions in mind as each day unfolded. They considered potential growth and not problems as they planned class activities. However, they were also confident that they were able to change spontaneously, instinctively, reflexively, and effectively when poorly fitting learning activities occurred (513-609, 604-030, 610-087). Mary Eve described the adaptive-readjusting process as changing her style with an individual child to do things that fit with what she knew about that child and the teaching-learning environment (528-007, 528-015).

**Participative Teaching Response**

Guiding and extending learning (Walberg and Thomas, 1971, pp. 10-11) is embedded in the principle of adaptive, responsive, and spontaneous reactions in the teaching-learning environment. Responses by Mary Eve and Gary to a hitch were at times participative, reflexive reactions grounded in an experience base of both contemplative and participative perceptions that formed an extensive
repertoire of teaching behaviors.

Response to a hitch. Several examples of participative responses as a result of a hitch were observed. Mary Eve changed her mind and completely reversed her plans when she abruptly decided to attend an activity led by another teacher for their combined classes (513-009). Mary Eve's participative response was related to a sensed need to be there and to monitor the learning agendas of her students (513-272, 513-553).

Another example was Mary Eve's serendipitous comment to Kenny about the color of pelicans (512-173). Kenny had colored his science project pelican aqua. Her statement was not premeditated in any way (512-029). Many of the statements Mary Eve made to students as she continually kept 24 individual lesson plans in her mind while interacting with her students were entirely extemporaneous (510-210). Mary Eve was not concerned whether the comments were appropriate because she had confidence in her knowledge of her students.

Gary responded naturally and participatively to one of his students as she was coming up to ask a question. Based on his knowledge of the student and his experiences with the material she was reading, he answered her question before she asked it (604-119). The basis for all of his responses to students was personal, one-on-one knowledge of each student (610-117).

Reflexive actions. Participative responses were made instinctively and reflexively without any apparent contemplative action in response to many different actions by others in the teaching-learning environment. Although the participative responses appeared to be
singular, unrelated reactions, they were actually based on integrated, continuous, accessible, subconscious, and preconscious processing that complemented a set of contemplative perceptions. For Mary Eve, participative responses were based on an ever-growing repertoire of teaching experiences and past effective behaviors (524-105, 524-128).

When Jeff asked Mary Eve for a book on Hawaii that she had seen earlier, she just pointed to it and continued talking to Roger (514-370). She could frequently answer or point and never even stop to contemplate an answer. When a student made a comment, Mary Eve often automatically remembered the situation referred to and based her responses accordingly (524-099, 524-128). Jeff did not attend the combined class activity referred to earlier with Mary Eve's permission because he was writing a story and he usually wrote long ones that required extra time (513-242). Mary Eve modeled certain social behaviors that she expected from her students without ever saying anything or thinking about what she was doing. She carried out this goal for improving social behavior participatively (611-144).

Experiences for future use. Gary felt that he knew his students well enough that he could accurately predict the meaning they would take with them from his participative comments and actions. Although he often made spontaneous comments and acted reflexively, he was convinced that his actions were well anchored on previous contemplations and a caring concern for his students (610-098, 610-108).

Guiding and extending learning became increasingly refined for Mary Eve as she experienced hitches and the accompanying contemplative preoccupations with something in the teaching-learning
environment. These contemplative perceptions connected with participative perceptions and fleeting mental notes of consciousness to form a complex field onto which proposed teaching actions were continuously projected, then tested against experience, and eventually carried out. This field was the context in which both adaptive-readjusting actions and participative actions occurred. It provided a set of perceptions useful for spontaneous and reflexive teaching actions (524-023).

**Empathizing**

Empathy is feeling the emotions of others or being able to sense another person's thoughts about something. Empathy was part of the preoccupying consciousness of hitches and related compelling actions for both Mary Eve and Gary. For them it involved being so knowledgeable of their students that they were often able to sense how the students' interactions within the teaching-learning environment affected the students' feelings and thoughts.

When Roger thought he could not do his mathematics quiz, Mary Eve started feeling uncomfortable because she sensed Roger's inferiority feelings and self-consciousness (514-227). She could tell that he did not want other students to see his paper, and she changed her monitoring activities in order to keep others from coming by him (514-205). She also did whatever she could to help him understand that she was sympathetic with his problem (514-216).

Gary became preoccupied with one of his student's emotional trauma as she began to tell him that her parents were separating (604-181). Gary sensed that the young girl wanted someone to help
her overcome the emotional pain she was feeling. He became more aware of her behavior in class during the separation. He sensed concern, compassion, searching for affection, depression, and eventually readjustment in her emotions. Gary also felt frustrated that he was not able to change the conditions that caused the emotional trauma for the student (604-230).

Relating

Empathizing with students meant that teachers related to the frustrations and the serendipities of students. In the case of the hitch Mary Eve experienced when students' comments during a discussion of a News Ranger magazine interfered with Mary Eve's agenda, she began to feel the frustrations that students were experiencing because they had five or six activities to do and no time in which to do them (511-010). She realized that their behavior was related to their need to have time to do the activities.

During another hitch when students were making many serendipitous comments during a science film strip on birds, Mary Eve described relating as thinking about the same things as a total class group--teachers and students. "All the mind lengths were on the same frequency. We all felt very close" (512-197).

Empathy and Teaching

The process of empathizing with students and becoming highly sensitive to their feelings and thoughts was integral to the teaching process for Gary. Sensing hitches was the process of teaching. Sensing hitches came from looking for meaningful learning experiences
based on a personal, one-on-one relationship with each student (610-365, 610-117). The contribution of empathy to Mary Eve's teaching as she acted on a hitch such as the serendipitous remarks during science class was that, as she and the students related more closely to each other, they were able to accomplish much more (512-215).

**Clarifying**

Clarifying the meaning of actions or conditions was evidently an integral part of Mary Eve's and Gary's continuous participative perceptions of the teaching-learning environment. The act of clarifying something was obvious as both a participative and a deliberate teaching action related to several hitches. Mary Eve and Gary were able to read cues from the teaching-learning environment that led them to question and clarify certain events that preoccupied them and for which they felt compelled to take some action.

Soliciting clarification is a behavior coded in the Observation System for Instructional Analysis (OSIA) (Duncan and Hough, 1970). It is an observable, nonappraising behavior initiated by someone who intends to evoke a clarifying response from someone else about a behavior or product. The purpose of seeking clarification is to get a fuller meaning of someone's actions or to become more aware of that person. The purpose is also to help that person get a fuller meaning and become aware of her or his actions or to help a third person do the same. Duncan (Note 6) found that teachers in the school where Mary Eve and Gary were teaching used seeking clarification as a technique to get students to reveal more about themselves. This was particularly true as teachers were less able to distinguish the
developmental progress of students on various study topics.

During the hitch related to her students' reluctance to attend a combined class activity with another teacher, Mary Eve just kept on asking what was planned in order to clarify the plan in her own mind (513-117). She reflexively changed her plans and attended the combined activities so that she could clarify that her students really wanted to do the combined activities as she had assumed (513-150). During that activity she clarified the differences between her students' learning agendas and the class activities (513-049). Mary Eve also clarified and confirmed for herself the students' desires to work on their own learning activities and began to clarify in her mind the kind of activities that would be appropriate (513-420, 513-366). Throughout the series of hitches about the combined class activity, she was seeking to clarify her ambiguity and then her concern about the fit between the learning experiences of that particular afternoon and the learning agendas of her students (513-197).

Mary Eve also clarified the thoughts that were preoccupying Kevin during a hitch related to his lethargic and off-task behavior one Monday morning (524-218). This time her clarifying behavior was intended primarily to help Kevin "unload" his weekend experiences that included some emotional trauma and to help him begin his arithmetic work. His responses also gave Mary Eve some basic information about Kevin to be used as part of a participative base of cognitive structure useful for future participative or deliberate, contemplated teaching actions (524-242).
Students' school work was used by Gary as a means of clarifying their developmental progress in language arts when he involved the entire class in producing TV programs (610-028). Gary's reasons for following a student's suggestion that they do TV scripts and then produce their own program were to see how the students would reproduce their ideas on videotape and how they would relate their thoughts and actions to other "products" such as speaking, writing, acting, working with others, and establishing self-discipline (610-044).

At another time a student approached Gary with a request to go to the learning center instead of doing his assigned reading (604-125). Gary's first reaction was to ask the student if he was tired of reading. Gary clarified the reason for the request based on cues he read from the request and the fact that such a request was unusual for that student (604-135).

Judging Instructional Worth

Hitches were associated by Mary Eve and Gary with a sense of needing better fit, fitting without valuing, and appreciating fit of what was perceived to be with what happened. Regardless of the sense of fit associated with hitches, many of the activities related to hitches were judged by them as worthwhile for guiding and extending the individual learning agendas for their students (510-245, 610-224).

During a discussion of News Ranger by the class as a whole, two hitches for Mary Eve related to needing better fit (511-025, 511-240). However, individual student comments during that time were judged
instructionally worthwhile when they showed progress even though
class activities for the group as a whole were not (511-197). Mary
Eve appreciated Cindy's comment about the Freedom Train the class
had visited earlier in the school year (511-190). Mary Eve thought
Joseph's comment about technological information during the period
of history under discussion was a very good one (511-195). Joseph
was a new student who was shy and who had cried often at his
other school. His answer was a signal that he was starting to feel
at home and to take responsibility for his learning activities (511-
336). Mary Eve thought Mike's comment about import and export
policies was a good one, too (511-206).

Instructional worth was used as a guide for future teaching-
learning activities. Gary used his judgment of instructional worth
as a guide for action when a student asked a diversionary question
during structured free time (604-125). Gary asked the boy if his
question were really worth asking as he was about to approach Gary.
Gary then involved the student in a choice to use his structured free
time to better advantage.

Activities that improved students' powers to discriminate among
variables in the subject matter were judged worthwhile. During a
hitch when Mary Eve appreciated her students' active discussion of
birds being shown on a science film strip, she identified several
student comments and behaviors that supported her judgment that
the activity was well suited to her students that day. Mary Eve was
very pleased that the students were so interested, excited, and in-
volved with the film strip (512-092, 512-119). She felt "good" and
"excited" when she saw that the students liked the film strip (512-159). The class was running so smoothly that she would not have changed a thing (512-399). Each comment flowed into the next (512-197). The entire activity was worthwhile because Mary Eve wanted her students to study birds, watch them, and discriminate among the characteristics of various birds (512-448, 512-470).

Comments that showed progress toward a goal for improving the relationship between two students or improving a child's self-concept were also judged worthwhile. These comments were associated with hitches where Mary Eve's sense of compelling action resulted from appreciating fit. When Eddie requested respect and attention for Shawn who was making a presentation to the entire class, Mary Eve thought it was tremendous since Eddie and Shawn had not been getting along very well previously (602-058). When a student experienced uncharacteristic success on field day, Mary Eve was sure the experience was instructionally worthwhile (603-110). She felt the success would improve the child's self-concept and this would result in more achievement in other areas of school work.

Interfering with Teaching-Learning Agenda

As Mary Eve experienced hitches and the compelling action associated with them, she judged that some of the activities related to hitches interfered with teaching-learning agendas regardless of the sense of fit associated with the hitches. However, more of the activities judged to interfere with teaching-learning agendas were associated with sensing a need for better fit than they were with appreciating fit or fitting without valuing.
A characteristic of Mary Eve's teaching was her perception of working with individual learning agendas for each student. An agenda was both a general plan and a set of specific activities. It included goals for group processes and acceptable social behaviors as well as goals for academic growth and personal development. An agenda in Mary Eve's mind reflected her concern for how students were engaging with the teaching-learning environment as well as the specific next activity for a student. Judging that an activity interfered with the teaching-learning agenda was in essence also judging that the activity interfered with the conditions that promoted an individual student's learning.

Student Behaviors

During some of the hitches Mary Eve experienced, students' behaviors interfered directly with individual conferences and other teaching-learning activities. During a conference with Jeff, Roger and Kevin began arguing over a pencil. This interfered with Mary Eve's goal to keep 24 learning agendas in mind and to continue monitoring each one while she worked directly with Jeff (510-343). During the conference Roger and some of the other students who were not working as they should continued to distract Mary Eve and interfered with her specific goal of working with Jeff (510-058).

During a combined class activity, Mary Eve was preoccupied with the rude behavior of some of her students (513-068). Kevin and Mike were sitting on a table while the rest sat in chairs or on the floor, Roger was making funny faces, and Patrick was sitting in Mary Eve's lap as she tried to keep him from in front of the room
where he had been clowning for the classes while the other teacher led the group in a choral reading (513-343, 513-525). These students were interfering with the remaining students' concentration during the activities.

Sometimes it was the lack of participation instead of undesired behavior that interfered with the teaching-learning agenda. This was particularly true in view of the definition of agenda that included the status of learning at any given time. Third graders in a science class on birds did not participate and share their experiences about birds as Mary Eve wished they would (512-048). Although she would not have changed anything at that point (512-399), she directed questions to those students to try and get them involved in the class discussion.

**Schedule and Time**

Both scheduled school activities and the time available (or not available) for class activities interfered with Mary Eve's instructional agenda during a hitch related to her students' discussion of *News Ranger*. An assembly scheduled shortly after recess kept some of her students from concentrating on the discussion. It seemed to Mary Eve that they thought they could waste the time rather than get on task (511-028). This attitude interfered with the afternoon agenda. The lack of time became a preoccupying, worrisome hitch for Mary Eve (511-240). She felt pressure to get the discussion finished, but time was not available and students were not sufficiently on task to arrive at a satisfactory stopping place for the discussion (511-466).
Inconsistent Goals, Assumptions, Actions

The interference with learning during the News Ranger discussion was more complex than simply some students being off task. It also represented an important difference between the goals that the students had for the use of their time and those that Mary Eve had for that time. Throughout the discussion Mary Eve kept thinking that the behavior control incidents during the class were interfering with what she wanted to do and, actually, with what she wanted the students to do (511-025). She felt self-imposed pressure to get the discussion finished, but the students were not doing the things she thought should be done (511-156).

Ironically, sometimes her own behavior interfered with the very behavior she wanted to teach. One of Mary Eve's overall, year-long goals was to model good manners and to help her students use acceptable social behavior in school (611-144). However, when Eddie interrupted someone else, she interrupted him to remind him not to interrupt. She did not like to do that and recognized that her behavior was actually teaching Eddie and others what she did not want them to learn (511-034).

Sometimes Mary Eve's assumptions led her to do things that interfered with the teaching-learning agenda. Mary Eve's assumption that her students liked to do the activities planned in a combined class and that the activities would fit with the students' own desires to work was incorrect (513-187). The mistaken assumption led to combining the classes that day, and Mary Eve then confirmed for herself during the class that the result was interference with the
students' learning agendas (513-197, 513-205, 513-211, 513-368). She subsequently revised the class agenda for the remainder of the afternoon (513-351).

Mary Eve's actions during a mathematics quiz when Roger was very self-conscious (514-227) were an example of interference of Mary Eve's actions with the learning agenda for Roger. Mary Eve wanted to encourage Roger and help him be successful. However, in her urgency to help him she came closer, which drew more students to him and subsequently made him more self-conscious and interfered with his concentration during the quiz (514-197). To make matters worse, although Joseph was improving his time on mathematics quizzes, he announced it to Mary Eve loudly enough so that Roger heard. Roger promptly scowled and turned his paper over, directly interfering with the purpose for Mary Eve's nearness in the first place (514-584).

Other Factors

The example of Roger also illustrates that other, more complex factors, such as a student's personal adjustment, also interfered with Mary Eve's instruction. Roger kept thinking he needed to be as good as everyone else rather than as good as he could be, and this interfered with his learning in both mathematics and spelling (514-227). Roger did not want to be a loser by doing poorly on a mathematics quiz, but he was not willing to risk his best efforts in order to do better (514-252). Perhaps he was afraid his best effort would not be as good as someone else's. The competition of peers seemed to paralyze Roger and to interfere with Mary Eve's agenda
Pressure placed by a parent on both her son, Frankie, and Mary Eve interfered with his learning agenda during a hitch related to his mother's note of concern about the amount of spelling play money he earned one week. First, it caused Mary Eve to divert some of her efforts from other learning activities in order to repeat some learning activities for Frankie (604-030). Second, she diverted time from other learning activities to spend with Frankie and his mother related to each one's different view of the same problem (604-040, 604-047). Third, the pressure was affecting Frankie's motivation to do well in school and his performance in school was suffering (604-075).

Both Roger and Frankie had attitudes that limited their daily learning activities. Their attitudes interfered with their learning activities. In both cases the variables affecting Roger's and Frankie's learning activities were less controllable by Mary Eve than many other variables in the teaching-learning environment.

**Improving Teaching-Learning Transactions**

There was also evidence in Mary Eve's and Gary's comments of perceptual and developmental changes that affected their transactions within the teaching-learning environment. The changes have been categorized into being attentive, expanding awareness, developing more adequate perceptions, changing cognitive structure, and changing teaching-learning actions.
Being Attentive

Paying attention to hitches and to the variables in the teaching-learning environment to which they were related was part of the natural process of using hitches in teaching. Hitches fit into Gary's teaching style as "constant" analysis of his teaching behaviors (610-335). Continual analysis--both conscious and preconscious--was in search for more meaningful and worthwhile teaching behaviors (610-117). Mary Eve was "constantly keying in" on everything that was going on (510-096).

Expanding Awareness

Hitches made Mary Eve privy to information about her students and increased her awareness of them (611-688). As Mary Eve was acting without contemplating an action--participatively--her actions were suddenly brought to consciousness and she stopped to consider the reasons for her actions (611-175). Experiences that were related to her own personal development helped her learn more about herself. A hitch about her life themes as a teacher led her to organize perceptions, draw on experiences during her days as a college student, and connect those experiences to her experiences as a teacher at the time of this study (611-310).

Developing More Adequate Perceptions

Mary Eve's level of understanding grew through just learning to stop and think why something had happened (611-624). She sometimes continued hitches that had begun earlier when at the end of the school day she would contemplate why something happened.
Suddenly she would understand and then use her improved perceptions of a student or of learning conditions as part of her repertoire of teaching knowledge and experiences for future transactions (611-605).

Gary used hitches to identify learning experiences that were meaningful to his students so that they could find something in that experience they could grow with, succeed while doing, or enjoy (610-117, 610-133). He grew in his knowledge of students so that he could predict the meaning a learning experience would have for them (610-113). He felt comfortable using activities to fit students' learning needs that originated from other sources such as students or colleagues (610-134).

**Changing Cognitive Structure**

The process of paying attention to teaching-learning conditions as they were brought into consciousness and then to expanding awareness of those conditions led to changing cognitive structure for Mary Eve and Gary. Mary Eve accumulated information in her mind of how someone would respond. It explained for her why students did what they did. It gave meaning to their actions for her (524-105).

Gary's knowledge of students' tolerance to various learning activities and to other conditions in the teaching-learning environment enabled him to use foresight and planning in his teaching (604-153). Mary Eve considered her teaching to be very personal. She took note of many experiences so that she would have an expanded base for responding to students in future teaching-learning situations.
Gary's basis for finding effective learning experiences with students was "very intimate workings with all of them through a basic foundation of personal one-to-one relationships with each child....so that something is meaningful for everybody" (610-117).

Changing Teaching-Learning Actions

Mary Eve would change her style with a child or readjust teaching-learning activities based on her expanding knowledge of the child and related teaching-learning variables (528-015). Mary Eve liked to be in charge of her actions and enjoyed deliberately changing some things (524-008). Gary would change activities on the spur of the moment, assisted by foresight and planning based on contemplations associated with hitches (604-165).

Mary Eve and Gary used spontaneous comments and actions in their interactions with students. The comments and actions had different effects with different students (510-210). Spontaneous comments and actions originated from the desire to expose students to new stimuli that would help students grow in new and different ways. For Gary these comments and actions arose from cumulative desires and frustrations as he searched for ways his teaching could become more worthwhile and easier (610-075).

Comments made by her students helped Mary Eve realize that her students knew she modeled nonjudgmental, accepting, individualized concern for others and that they were learning that attitude from her (611-225). As students realized that she also expected the behavior from them that she modeled, they acknowledged her goal for them (611-248). By doing that, they confirmed that her actions
Summary of Findings

The events of this chapter have been classified into categories that describe instruction, relationships in the teaching-learning environment, clarifications, judgments of worth or interference about teaching-learning transactions, and changes of and by Mary Eve and Gary.

Guiding and Extending Learning

The 42 events that described instruction had many characteristics similar to the definition of instruction by Walberg and Thomas (1971) of guiding and extending learning. The categories of events that resulted from constant comparisons between events and categories were subdivided into three headings: making mental notes, taking adaptive-readjusting actions, and responding participatively. Table 10 lists nine subheadings that have been grouped under guiding and extending learning according to the three headings. A full text of the events referenced in Table 10 is given in Appendix G.

Making mental notes involved three types of behaviors related to experiencing hitches within the teaching-learning environment: promise future action, connect events (cognitively), and accumulate data for potential consideration. Adaptive-readjustive actions was a category of three other types of events: being aware of alternatives, switching gears, and improving fit. Responding to a hitch, acting reflexively, and experiencing the teaching-learning environment in view of future use were characterized as part of responding
Table 10
Findings Indicating Characteristics of Hitches Related to Guiding and Extending Learning

<table>
<thead>
<tr>
<th>Mental notes</th>
<th>Adaptive-readjustive actions</th>
<th>Participative responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promise future action—a mental note to be sure to work with him more (512-516), a note to look up pelicans (512-539), something else I was going to look up (512-539)</td>
<td>Alternatives—mind was full of all the possible learning experiences (610-037), making a new schedule (511-417), because of them acting out, I felt I needed to use the book (511-443)</td>
<td>Response to a hitch—changed my mind (513-009), glad I remembered to say it (512-173), an immediate thought, just said it (512-029), comments off the top of my head (510-210), gave pronunciation before she asked (604-119), one-to-one relationship as basis for finding experiences for students (610-117)</td>
</tr>
<tr>
<td>Connect events—thinking of using reluctant students as reporters (514-780), asked mother about previous incident when she came into school later (512-521)</td>
<td>Switching gears—started thinking of what I was going to do afterwards (513-351), mind kept going through what was going to happen (513-383), started to switch gears (513-368), the &quot;let's pretend&quot; thing was ad-lib (513-440)</td>
<td>Reflexive action—just step in and do something (524-128), don't even stop and talk, just point (514-370), let Jeff stay (513-242), not an explicit objective, realizing this is the way I act (611-144)</td>
</tr>
<tr>
<td>Data for potential consideration—thinking during lunch hour about how some children would react to the special speaker (514-760)</td>
<td>Improving fit—keep those things in mind as the situations occur, know it's going to happen (513-609), gave him the words again (604-030), look for ways to make teaching worthwhile and easier (610-087), things either fit or don't fit (528-007)....those things help you change your style (528-015)</td>
<td>Experiences for future use—insight was valuable (610-098), develops through concern (610-108), reflex-like, participative teacher behavior happens frequently (524-023)</td>
</tr>
</tbody>
</table>
Empathizing

Empathy was evident in the teaching-learning transactions identified as hitches for Mary Eve and Gary. Empathizing was integral to teaching, and teaching was sensing hitches. Mary Eve related to both frustrations and serendipities for students.

Table 11

Findings Indicating Empathy as a Teaching-Learning Characteristic Related to Hitches

<table>
<thead>
<tr>
<th>Empathy</th>
</tr>
</thead>
<tbody>
<tr>
<td>feeling uncomfortable because Roger was (514-227),</td>
</tr>
<tr>
<td>wishing to keep people away [from Roger] (514-205),</td>
</tr>
<tr>
<td>wishing Roger knew she was sympathetic (514-216),</td>
</tr>
<tr>
<td>frustrated by child's emotional trauma (604-230)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Relating Realizing five or six actions assigned (511-010), similar &quot;mind lengths&quot; (512-197)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Integral with Teaching intimate workings with all students (610-117), hitching is teaching (610-265)</td>
</tr>
</tbody>
</table>

Clarifying, Judging Instructional Worth, and Judging Interference with Agenda

Characteristics of hitches related to judgments made by Mary Eve and Gary during the process of guiding and extending learning were classified under these major headings: clarifying, judging instructional worth, and interfering with the teaching-learning "agenda."

Interfering with agenda was composed of four subheadings of events: student behaviors, schedule and time, inconsistent goals or actions or assumptions, and other factors such as the personal adjustment
of students and parent. The 44 events that were analyzed for these 3 categories are listed in Table 12.

**Improving Teaching-Learning Transactions**

Some of the comments related to hitches Mary Eve and Gary experienced were categorized as being related to changing perceptions and eventually to changing teaching practice. This category included events related to being attentive, expanding awareness, developing more adequate perceptions, changing cognitive structure, and changing teaching-learning actions. The 20 events that were constantly compared and eventually grouped in this category are listed in Table 13.

**Summary of Interpretations**

The characteristics of hitches related to teaching-learning variables describe how hitches affected Mary Eve's and Gary's transactions within the teaching-learning environment as they followed an agenda for each learner. The hitches they experienced were a significant part of the process by which they paid attention to important variables and incorporated those teaching-learning variables into their continuously changing perceptions of what was adequate for their students.

**Experiencing Hitches in the Teaching-Learning Environment**

The characteristics of hitches related to variables in the teaching-learning environment help to describe how meaning derived from hitches was useful for improving the teaching-learning environment.
Table 12
Findings Indicating Characteristics of Hitches Related to Clarifying, Judging Instructional Worth, and Judging Interference with Agenda

<table>
<thead>
<tr>
<th>Clarifying</th>
<th>Judging Instructional Worth</th>
<th>Judging Interference with &quot;Agenda&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>just kept asking her, trying to clarify (513-117), to make sure in my mind (513-150), decided to go after hearing them (513-049), everyone was turned on (513-420), kept thinking of what was going on (513-366), maybe that is not true (513-197), ask Kevin about weekend (524-218), wanted to see if they could reproduce the idea in written form (610-028), asked if he was tired of reading (604-125)</td>
<td>many things are worth my time (510-245), final results will be there (610-224), appreciated the way things came out (511-197), appreciated comments by Cindy (511-190) Joseph (511-195) Mike (511-206), library visit promoted more reading (604-125), a terrific opening (512-092), pleased they were excited (512-119), it was exciting (512-159), wouldn't have changed a thing (512-399), comments flowed into others (512-197), it seemed tremendous (602-158), self-concept will be improved (603-110)</td>
<td>Student behaviors—negative feeling about leaving to settle argument (510-343), thinking about others not doing their tasks (510-058), get them back from the front (513-525), some didn't volunteer as much (512-048)</td>
</tr>
<tr>
<td>Schedule and time—time they thought we had to do something (511-028), weren't going to be finished (511-240), felt pressure for closure (511-466)</td>
<td>Inconsistent goals, assumptions, actions—behavior interfered (511-025, 511-028), not discussing what we are supposed to (511-156), modeling behavior opposite to goal (511-034), assumed incorrectly that students enjoyed activity (513-187), what was planned wasn't fitting (513-368), only way was to be beside him but people came up (514-197), didn't appreciate that Roger had to hear that (514-584)</td>
<td>Other factors—feeling uncomfortable because he felt he had to be as good (514-227), not putting out effort (514-252), repeated spelling test (604-030), talked to child and mother (604-040, 604-047), parent goes off on tangent (604-075)</td>
</tr>
</tbody>
</table>
## Table 13

Findings Indicating the Characteristics of Hitches Related to Improving Teaching-Learning Transactions

<table>
<thead>
<tr>
<th>Being attentive</th>
<th>Expanding awareness</th>
<th>Developing more adequate perceptions</th>
<th>Changing cognitive structure</th>
<th>Changing teaching-learning actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>constantly analyzing teaching behaviors (610-335), searching for meaningful and worthwhile teaching behaviors (610-117), constantly keying in (510-096)</td>
<td>being privy to information related to hitches (611-688), stopping to think why action occurs (611-173), thinking back to teacher preparation days (611-310)</td>
<td>growing by stopping to think why (611-624), wondering why something happened (611-605), predicting meaning of activities for students (610-113), mental picture of each child (610-117, 610-133), meaning from external sources (610-134)</td>
<td>understanding by integrating responses (524-105), using foresight and planning (604-153), keeping many things in your mind (524-580), intimate workings as basis for meaning (611-117)</td>
<td>change style (528-015), deliberately change (524-008), spur of the moment changes (604-165), different responses (510-210), making teaching worthwhile (610-075), different expectations (611-225)</td>
</tr>
</tbody>
</table>
Guiding and extending learning. The overall instructional goal for Mary Eve and Gary was to guide and extend learning by being responsible to promote continual growth adaptively, reflexively, and spontaneously as an integral part of their interactions with students. Mary Eve and Gary discriminated among many teaching-learning activities by using their perceptions of each individual student's growth according to a learning agenda. Mary Eve's and Gary's consciousness of important conditions that affected learning grew from mental notes that became more important as they continued to experience each student's growth. Mary Eve and Gary developed a repertoire or base of both contemplative and participative perceptions that guided their teaching activities with students. Mary Eve and Gary adapted and readjusted teaching-learning activities to suit students as they paid attention to hitches in their teaching.

Empathizing. A relationship with each student based on empathy was a variable in the teaching-learning environment related to Mary Eve's and Gary's hitch sensing. The ability to project how a student would react to a learning activity, to sense what the student was feeling during an activity, and to sense the adequacy of that feeling gave both teachers a basis for refining other learning activities. Learning conditions could be fit more closely with the students' feelings and could help students meet their learning agendas more adequately.

Hitches as a natural part of existence. Hitches were a natural part of being in the teaching-learning environment of the school or class area, and of following each student's learning agenda.
Hitching was teaching (610-365). As a perceptual phenomenon in teaching, hitches were motivated by natural curiosities and creative interests of both students and teachers (604-273). Hitches occurred for Mary Eve and Gary as they sensed conditions of fit during the continuous process of being in the teaching-learning environment: projecting activities into the teaching-learning environment of the school, centering perceptions of the teaching-learning environment with cognitive structure, sequencing transactions as part of being within the teaching-learning environment, and sensing the fit of those transactions as part of newly-formed cognitive structure.

Guiding and extending learning was a continual process that occurred for Mary Eve and Gary as they used hitches to sense interference, need for clarification, and instructional worth of an activity according to the learning agenda for the students.

As a hitch was processed by Mary Eve and Gary, it was accompanied by a sense of compelling action that led to other transactions with other associated sensed fits and preoccupations. These hitches were related to other variables in the teaching-learning environment and to judged instructional worth or interference of those activities as learning agendas continued to be guided and extended. Each hitch motivated other transactions within the teaching-learning environment that were evaluated according to the utility of those activities for guiding and extending teaching and learning, and so on.

Using Hitches to Improve Teaching-Learning

Hitches gave meaning to the variables encountered in the teaching-learning environment by both Mary Eve and Gary. Hitches were part
of a dynamic, spirally developmental process of using more adequate perceptions and a broader experience base as references while contemplating important teaching-learning variables.

Paying attention to hitches and to the variables in the teaching-learning environment to which they were related was part of the natural process of using hitches in teaching. Paying attention to what had already occurred and to what was in process was a starting point for accumulating experiences on which to base future contemplations as part of continually modifying the teaching-learning environment.

As Mary Eve and Gary would act without stopping to contemplate the action—participatively—their actions were suddenly brought to consciousness as the preoccupation associated with a hitch surfaced. They would contemplate the meaning of their actions and their awareness of the teaching-learning environment was expanded.

Being attentive resulted in an expanded awareness for Mary Eve and Gary. Expanded awareness resulted in intricate, accumulated, personal knowledge that explained why students acted as they did and added meaning to students' and teachers' actions. Teaching-learning actions associated with greater meaning led to more adequate perceptions of the teaching-learning environment. Mary Eve and Gary developed confidence in their expanding knowledge and increasingly more adequate perceptions of students' needs.

The process of paying attention to teaching-learning conditions as hitches brought them into consciousness and then expanding awareness of those conditions also led to changing cognitive structure
for Mary Eve and Gary. Integrating the responses that students
made to various proposed learning activities into changing know-
ledge of particular students enabled them to predict students'1
responses to future learning activities. Hitches allowed them to
anticipate and project deficiencies in the teaching-learning environ-
ment and to use foresight and planning in their teaching. Expanded
knowledge gained from hitches was centered in personal experiences
and involved individual students. Both Mary Eve and Gary consid-
ered their teaching to be very personal. They took note of many
experiences so that they would have an expanded base for respond-
ing to individual students in future teaching-learning situations.

Mary Eve and Gary acted with greater self-confidence as they
increased their knowledge of students based on less distorted and
more predictable information about their students and about them-
selves as teachers. They were confident that spontaneous comments
and actions were appropriate in their interactions with students.
These comments and actions were based on both knowing the
teaching-learning environment well and sensing the fit of the activi-
ties to the students' learning agendas. Spontaneous comments and
actions originated from the desire to expose students to new stimuli
that would help students grow in new and different ways.

**Dynamic Development**

The dynamic process of being in the teaching-learning environ-
ment was a continuous one of experiencing the class activities and
conditions for learning, centering those perceptions within existing
cognitive structure, sequencing more and more of these transactions,
and sensing the fit of those transactions inside and outside the teacher.

These transactions led to hitches to which Mary Eve and Gary paid attention. By attending to those hitches, Mary Eve and Gary expanded their awareness and acquired new perceptions and cognitive structure that were useful for changing the teaching-learning environment spontaneously and creatively. These new perceptions were more adequate for future transactions. These new perceptions led to other hitches experienced naturally during the process of being in the class area. Mary Eve and Gary used the dynamic process of sensing hitches and responding to hitches to guide their transactions within the teaching-learning environment, to meet the learning needs of their students more adequately, and to be more adaptive and flexible as they continually changed their teaching behavior.
BEING CONSCIOUS OF CONSCIOUSNESS CAN MAKE A DIFFERENCE IN TEACHING

All of us who have reflected for any length of time on teachers and students working together in an elementary or secondary class have often marveled at the sense of timing of some teachers as they suggest activities, hold conferences while keeping a close watch on other students' learning activities, respond to questions, point out material, evaluate student work, follow up on promises or suggestions made earlier, reprimand gently or not so gently, and continue to stimulate naturally a rich learning environment for their students. During these teaching and learning activities, countless transactions occur. I use the term "transactions" intentionally. A transactional view of a teacher-in-action is as someone neither radically set apart from the learning environment, nor merely in that environment, but as an integral constituent of and by the teaching-learning environment (Cantril et al, 1961, p. 12).

Finding Hitches in Teaching

The research question in this study was how do attention-demanding, sometimes abrupt contemplations of transactions within the teaching-learning environment--called hitches--affect a teacher's perceptions as further transactions occur within the teaching-learning environment accompanied by a sense of esthetic fit, changes
in consciousness, and cognitive reconstruction.

The aim of this study was to find perceptual manifestations of hitches in teaching practice and then to describe how a teacher's perceptions were connected to teaching practice and ultimately to the improvement of that practice. It was necessary to find evidence that hitches existed. Also needed was an authentic description of hitches in terms of teaching-learning activities, the conditions with which hitches were associated, and the meaning of hitches both to the teacher experiencing them and to the interested observer. The outcome desired for this study was to develop a comprehensive definition of hitches as a unique entity or gestalt.

**Methods**

**Design**

The design assumption for this study was that an accurate, reasonably complete, and helpful description of hitches would result from analyzing diverse, thoroughly explored, particular instances in a teaching-learning environment. Ten decision rules based on Duncan and Bargar (Note 3) were used to assure collecting trustworthy and meaningful data. Those rules were used to establish the parameters of the research questions, select language for describing and defining hitches, keep methodology consistent with the transactional nature of the research process, and sample adequately the teaching-learning activities studied (Appendix A).

The research procedures of this study were designed to identify hitches within the context of teaching-learning transactions. The
research procedures were further designed to add information to the ambiguous definition of hitch available at the beginning of this study. The study was not a provisional test of specified or hypothesized characteristics of hitches. Instead, it was fluid enquiry (Schwab, 1960, pp. 20-21) designed to arrive at a plausible description of a perceptual phenomenon assumed to be universal within the teaching-learning environment. The process was guided by predetermined research rules, but the outcome was necessarily vague as the data were examined for significance from the perspective of participants and observer.

**Subjects and Setting**

In order to avoid interference throughout the hitch-defining process by a research process that dictated form over substance, a variation of a case study approach incorporating participant data was chosen. A setting was desired where data could be collected as closely as possible to a teacher's direct experience of hitches. Data were desired that were based on natural, common, authentic transactions among teacher, students, and teaching-learning environment.

The setting selected was a suburban, elementary, open-space school that was particularly known for a principal and faculty who were adaptive and took a self-managed interest in the growth and development of both staff and students (Sanders and Schwab, 1978; Schwab, 1979).

The data for the study were collected from the responses of a second grade teacher, Mary Eve, and corroborated with a third grade teacher, Gary. Both taught in a cluster of five second and
third grade teachers (Appendix C). Mary Eve had 24 students in her class assigned randomly except for two or three students the principal thought would benefit specifically by being in Mary Eve's class. She had taught for four years at the school, interrupted with a leave to be married and to help on a developmental curriculum project. Gary was a first year teacher whose class area was next to Mary Eve's in the cluster. He and Mary Eve did some limited weekly planning together as part of the five member cluster team. My role as observer in Mary Eve's class was a natural one because I had helped frequently with individual students in her class.

Adapted Procedures

Stimulated recall. The procedures for this research were adapted from Interpersonal Process Recall methods (Kagan, 1972; Ronchi, undated). These procedures allowed me to go beyond observable class events and explore hitches from the perspective of the teacher who experienced them. A video taping procedure followed by a facilitating interview questionnaire was developed, field tested, and used to stimulate Mary Eve's recall of unexpressed thoughts related to events occurring in daily teaching-learning settings. This procedure had been found by others to stimulate extensive recall of perceptions and thoughts occurring during very small periods of time (Cicourel, 1974; Mackett-Frank, 1974; Mead, 1976). A wireless microphone system adapted to the video taping equipment allowed Mary Eve full range of the class area during observation.
Data collection. The universe of data available for this study was Mary Eve's perceptions throughout a variety of teaching-learning transactions with a class, and the corroborating explanations by Gary, the cooperating teacher. The sampling procedure was applied to different points in Mary Eve's class experiences during a week. One-hour periods were video taped each day from a week-long schedule established with Mary Eve. The periods included a range of teaching-learning activities, cooperative activities with other teachers, and natural start and stop times characteristic of a school day schedule (Appendix B).

One brief episode was chosen from each one-hour period video taped on 5 consecutive school days according to 12 criteria that were considered to be external manifestations of hitches or hitch-related behaviors. Mary Eve was uninformed of the tentative definition of hitch during the five days as she viewed the brief episodes and answered in-depth questions about her related perceptions. Mary Eve was then informed of the definition and became a creative partner in the study as the earlier comments were analyzed and compared with explanatory comments by both Mary Eve and Gary. All data for this study are transcribed tape recorded comments identified according to a six-digit number useful for reference during analysis (Appendix G).

Data analysis. A variation of the constant comparative method of analysis described by Glaser (1965, pp. 436-445) was used to arrive at descriptive categories from the large number of audio recorded statements by both teachers. Statements made by Mary Eve as an
uninformed participant were analyzed, coded, compared, and eventually categorized into descriptors of hitches. These descriptor categories were compared against each other, further refined, verified, and abstracted based upon data from Mary Eve and Gary as informed participants. The substantive content of the refined descriptor categories and interpretations of the meaning of the categories are the basis for the comprehensive definition of hitches presented as the outcome of this study.

Hitching, Perceiving, Fitting, and Teaching

Teaching and Perceiving

The guiding perceptions, as a teacher acts within the teaching-learning environment, are those that are most pressing upon a teacher's conscious mind. Some perceptions are sensed, acted upon, and never brought to consciousness. They continue unmediated and reflexively processed. They are used continuously by a teacher as part of the teaching-learning environment without being consciously processed. At times these perceptions come into awareness and a teacher contemplates them along with other contemplated perceptions that are part of cognitive structure. The teacher uses the newly formed cognitive structure as reference to guide actions and, based on the resulting transaction, forms new perceptions that will be used in the future.

Hitches

The phenomenon of being concerned, preoccupied, or interested in one or more transactions within the teaching-learning environment
over all others is called a hitch based on Mooney's use of the term (Note 1). This concern is based on a sensed anomalous fit of the transaction compared to a teacher's perceptions of conditions affecting the transaction. Hitches are accompanied by a guiding or compelling sense of action as a teacher brings crucial variables into awareness so that new actions can be projected, taken, and assessed for fit as cognitive structure becomes more adequate. The lingering, recurring contemplation of a significant anomaly in the teaching-learning environment is the natural process of continuing to act on a hitch as teaching actions are refined.

Someone observing a teacher who has encountered a hitch would likely see an expressed, recurring, persisting, noticeable change in mental activity. These might be manifested as lingering glances, repeated references to a phenomenon, persisting actions, or reflective behaviors. Other manifestations might be emotional—excited, annoyed, or disappointed. Highly adaptive teaching behavior might occur, such as trial and error, unusual responses, soliciting clarification uniquely with a learner, and actively exploring before acting. Hitches might occur abruptly or they might occur after a series of cumulatively significant perceptions precipitates a sensed preoccupation and accompanying sense of compelling action.

**Perception.** Hitches are a perceptual phenomenon. Perception is a process humans use to experience the environment and gain meaning from it (Ebel, 1969, p. 933; Mooney, 1963, p. 54). Perception is the organization of personal meanings existing for every individual at any given instant in time (Hamachek, 1971, p. 33). As perceptions
continuously change, learning and greater cumulative values of perceptions for guiding future transactions occur (Hamachek, pp. 32-61). Thus, actions are motivated by perceptions. Hitches, as a sensed anomaly in the teaching-learning environment, affect the perceptual basis for future transactions, the meanings associated with those transactions, and the actions and conditions of which a teacher is conscious in the teaching-learning environment.

**Testing reality.** Hitches affect the continual improvement of teaching-learning conditions by affecting a teacher's perceptions of the reality of the environment. In order to make rational, meaningful, and fitting choices, teachers function adaptively and engage in behaviors that are continually tested against the perceived reality of the teaching-learning environment. The qualitative expansion of perceptions as part of testing realities leads to improved rationality--consciousness of the effect of actions within the environment and the ability to guide reality-testing and decisions (Davis, 1974).

The process of curiously, naturally, and dynamically experiencing, centering, and transacting within the environment and then of using the comparative feedback from the environment to organize perceptions of the environment continuously into cognitive structure is learning. Learning is motivated by a quest for equilibrium and order within the environment (Cantril et al, 1961, pp. 7-8; Sanders, 1973, pp. 4-5; Penrose, 1979; Perkinson, 1978). Hitches are the anomalies by which elements of the environment can be selectively brought to consciousness and, thus, by which rationality and decision making can be improved.
Self-managed growth. The process of change toward more adequate perceptions that enable a teacher to transact adaptively and flexibly within the teaching-learning environment is essentially staff development, as that concept is known in modern schooling. When teachers are more self-confident, base transactions on perceptions that are closer and closer to reality and less under unknown domination of distorted perceptions, and have self-managed knowledge of themselves based on predictable, known potentialities, they are moving toward internal psychological freedom (Weinstein, 1975, pp. xviii-xx). Adapting behavior in response to hitches is the means for developing greater internal psychological freedom and, thus, for growing and developing.

Esthetic Evaluation

Evaluating the fit of perceptions with what is experienced in the teaching-learning environment is mostly a preconscious process that is drawn into consciousness as needed to improve perceptual acuity qualitatively (Davis, 1974). This fitting process is called esthetic evaluation because it is a process of being sensitive to the harmony or equilibrium of perceptions of the environment with images projected onto the environment. Judging sensed fit to be significant leads to the process of drawing preconscious, participative perceptions into consciousness to be considered along with contemplative perceptions as part of testing the reality of the teaching-learning environment and sharpening perceptual acuity. Hitches are the contemplation of such subjectively-valued perceptions. Thus, hitches are perceived at the critical intersection of preconscious and conscious behaviors.
Preconscious processes. Participative perceptions are a multivariate, multidimensional, integrated, reflexively mediated, continuous field of meanings associated with experiences that a person continually uses as reference for consideration and action as selective attention is triggered (Bargaret al., 1975; Broadbent, 1971; Carrington, 1978; Ghiselin, 1952; Koestler, 1964; Polya, 1957). Participative perceptions are associated with preconscious behaviors. Although an individual is not aware of preconscious behaviors, they can be drawn into consciousness. A dynamic pathway or connection exists between preconscious and conscious behaviors that is both physiological and psychological (Anthony, 1959; Bargaret al., 1975; Ehrenzweig, 1953; Hart, 1978; Hall, 1974; Hebb, 1949; Koestler, 1964; Libet, 1978; Nadelman, 1974, 1976; Ornstein, 1973; Paivio, 1974; Rennells, 1976; Singer, 1976; Sontag, 1978; Velasco et al., 1979). Esthetic evaluation draws preconscious behaviors into conscious behaviors so that attention can be focused efficiently on actions and objects that are valued subjectively.

Conscious processes. Although consciousness is only a small and shifting portion of experience, the scope and content of what is contemplated has immediate, dynamic connections with preconscious experiences that are not obvious at the time (Dewey, 1916, p. 6). Conscious behaviors are associated with being aware, feeling, sensing contemplative perceptions, and conceptualizing reconstructed cognitive schema as elements of the environment are connected with an understanding of that element from a point of view (Dewey, 1910, pp. 56-67; Ebel, 1969, pp. 724-725; Piaget, 1976, pp. 332-353).
Contemplative perceptions are under conscious domination of the individual. They are analytic and reflective. Contemplative perceptions are known to the individual as transactions occur within the environment.

A plausible neurological description of cerebral reality-testing is that rapid, preconscious, and continuous mental processing of perceptions occurs through the medium of millions of neuronal firings within the context of both previous experience and anticipated future events. These neuronal firings can be reduced drastically from more than 10,000,000 to 20 bits per second. The reduction leads to deliberate, reflective concentration upon the event or object selectively centered in consciousness. The contemplative perception continues as the center of reflective action until it no longer requires attention (Anthony, 1959; Eccles cited in Jones, 1974; Hart, 1978; Jones, 1974; Jung, 1978; Libet, 1978; Matthyse, 1977; Mesulam and Geschwind, 1978; Rougel-Buser et al., 1978; Velasco et al., 1979).

Kutas and Hillyard (1980) found that semantic anomalies in a sentence reading task elicited an event-related-potential late negative brain wave (N 400). This brain wave may have been an electrophysiological sign of reprocessing an anomaly similar to the preoccupation described as a hitch in teaching.

Perceptual equilibrium. As a teacher acts consciously within the teaching-learning environment with access to preconscious, participative perceptions, some perceptions are pesky, engaging, meaningful, or exceptionally interesting. Because of their anomalous nature, they compel conscious action. By acting consciously, a teacher rearranges
her or his perceptual field in order to fit one transactional system (person) within another system (teaching-learning environment) harmoniously so that maximum benefit is achieved for both (Kilpatrick, 1969; Mooney, 1963; Penrose, 1979; Perkinson, 1978). Teaching is the process of transacting within the teaching-learning environment that is continually rearranged according to sensed equilibrium.

Findings

Evidence of Hitches

The methodology of this study was to explore selected episodes of teaching-learning transactions by using a video tape of the transactions to stimulate Mary Eve's recall of both her perceptions during that time and the meaning of those perceptions to her. This process essentially "exploded" a very small episode into a much more complete description of Mary Eve's perceptions. Five episodes ranging from 1 minute, 30 seconds to 2 minutes, 24 seconds were examined in depth (Table 1). Thirty hitches were identified from those five episodes and from subsequent interviews with Mary Eve and Gary (Table 2 and Table 3). Nineteen of the hitches were discussed in more detail earlier in this study. The number identified and discussed is a function of pragmatic limits established for the study.

Characteristics of Hitches

Each hitch identified in this study was a preoccupation with something in the teaching-learning environment that compelled an action that followed. The preoccupations of Mary Eve or Gary were grouped into three types according to their sensed fit of how well transactions
occurring within the teaching-learning environment fit with the conditions that they perceived existed in the environment: needing better fit, appreciating fit, or sensing fit without associating subjective values to the conditions of fit.

The hitches were also classified as being associated with five different types of compelling action: get more information, restructure view of the teaching-learning environment, tolerate conditions in anticipation of fewer future anomalies, restructure the teaching-learning environment, and continue acting based on confirmation of the teacher's assumptions (Table 4). The fifteen hitches identified for Mary Eve while she was uninformed of the definition of hitch were reviewed after they had been categorized. Most of these hitches had been classified as needing better fit. No hitches that had been classified as needing better fit or as fitting without valuing were classified as being associated with feeling compelled to continue acting based on confirmation of assumptions.

Other characteristics of hitches were also determined by constantly grouping events according to common factors. These groups eventually were called intrinsic characteristics, perceptual characteristics, and characteristics related to teaching-learning variables. The following sections list the characteristics and the associated categories into which common events were grouped.

**Intrinsic Characteristics**

Intrinsic characteristics of hitches were those events typical of hitches simply because they were hitches. The feelings associated with hitches by Mary Eve and Gary were classified into interference,
uncertainty, affirmation, and searching. Persisting thoughts associated with hitches were classified into capitalizing on teaching-learning activities.

Other comments were classified into headings that explain how hitches are serially connected by far-reaching effects, by several hitches being associated together, by several hitches being associated with one student, and by the interconnected nature of the hitches according to the scope of preoccupations. Some preoccupations were comprehensive in nature and others were limited to specific, narrowly focused concerns or interests.

The effects of hitches were classified into those that concerned increasing understanding and those that concerned acting for instructional reasons. Table 5 lists specific examples of events that illustrate the effects of hitches according to the five types of compelling action into which hitches were classified. In Table 6 events are named according to the intrinsic characteristics of hitches.

Perceptual Characteristics

Characteristics of hitches related to perceptions were classified into five categories: holistic-cumulative perceptions, subconscious-preconscious perceptions, selective perceptions, emerging perceptions, and contemplations. Table 7 classifies 60 events according to the 5 identified characteristics of hitches related to perceptions.

The events classified as related to holistic-cumulative perceptions were further broken down into growing awareness, expanding repertoire, reference points, and interconnected perceptions. Subconscious-preconscious perceptions identified from Mary Eve's
and Gary's comments were classified as continuous, accessible, and integrated into a repertoire of experiences. Events related to selective perceptions were classified into four characteristics: associated with concurrent disparities, switching attention, supreme concentration, and esthetic evaluation. The events classified according to the emerging nature of perceptions associated with hitches were divided according to two characteristics: abrupt and gradual. Contemplation was the fifth identified category of events related to perceptions. Events that described contemplation were classified as retrospective, prospective, and focusing on the object of contemplation.

**Characteristics Related to Teaching-Learning Variables**

Many comments by Mary Eve and Gary seemed to indicate a responsibility to guide and extend learning similar to the definition of that theme identified by Walberg and Thomas (1971).

Events related to guiding and extending learning were classified into making mental notes for acting adaptively-readjustively, and for responding participatively on the basis of unmediated, reflexive perceptions. Making mental notes was further organized into events related to promised future action, to connections between events, and to data for potential consideration. Thinking of alternatives, switching gears, and improving fit of projected actions with perceived actions were headings under which adaptive-readjustive actions were further organized. Participative teaching responses were classified into responses to a hitch, reflexive actions, and experiences for future use (Table 10).
Other comments by Mary Eve and Gary that related to teaching-learning conditions were associated with empathizing with students. Events that were associated with being empathetic were divided into those that described relating to others and those that described using empathy in teaching. Table 11 lists those events.

Clarifying was another category related to teaching and learning into which events were classified. This category is similar to soliciting clarification (Duncan and Hough, 1970) from the perspective that it is a nonappraising behavior initiated by the teacher designed to get a fuller meaning of something in the teaching-learning environment. Judging instructional worth was a category of events related to guiding teaching-learning activities, to perceiving improved ability of students to discriminate among subject matter variables, or to experiencing progress toward a goal. Several factors identified from the events were also classified as interfering with the teaching-learning agenda. These were student behaviors; schedule and time; inconsistent goals, actions, and assumptions; and personal adjustment factors (Table 12).

Many of the events in the data also described the process of changing and improving teaching-learning transactions. Events that were grouped together under this category had the following common characteristics: being attentive, expanding awareness, developing more adequate perceptions, changing cognitive structure, and changing teaching-learning action. These events are listed in Table 13.
Discussion

The methods of this study for collecting and analyzing data provided descriptions of perceptual phenomena called hitches. Hitches affected a teacher's perceptions as sensing fit, changing levels of awareness, cognitive restructuring, and further transacting within the teaching-learning environment occurred. In order to find hitches in Mary Eve's teaching, behavioral manifestations of transactions within the teaching-learning environment that were recurring, attention-demanding, and anomalous were identified. The discussion that follows in this section is the interpretation given to the meaning of those transactions during which I inferred Mary Eve was experiencing a hitch and to the meaning of transactions that Gary and Mary Eve identified as hitches later in the study.

What I did in this study was to probe Mary Eve's and Gary's perceptions as deeply as possible in order to describe the process of being caught or hitched onto a preoccupying transaction. What I also did as part of the methods of this study was to involve them actively in helping me explore my interpretation of their experience of hitches.

Hitches as Sensed Fit and Compelling Actions

A hitch is a preoccupation with a transaction experienced within the teaching-learning environment that is accompanied by a compelling sense of action (Sanders and Schwab, 1980). Mary Eve and Gary sensed that certain transactions within the teaching-learning environment of their school were the focus of their attention and awareness as they continually engaged in different transactions.
Sensed fit of what was projected onto the teaching-learning environment with what was perceived from the teaching-learning environment was an important condition for the compelling action that accompanied the preoccupation of a hitch.

Transactions that needed to fit better directed attention and motivated additional compelling actions. Appreciating sense of fit also created preoccupations that motivated new transactions—often to continue similar transactions or to extend transactions. Sensing fit objectively without judging whether or not it was acceptable or unacceptable was a third force that motivated compelling actions such as getting more information, intervening in the teaching-learning environment, or tolerating sensed anomalies.

Compelling actions were the natural consequences of sensed fit. They were oriented both internally and externally for the teacher who experienced them. Compelling actions that were oriented internally were to get more information, to restructure view of the teaching-learning environment, and to tolerate anomalies in favor of fewer in the future. These internally directed compelling actions concerned clarifying the nature or quality of fit, changing cognitive structure as the basis for new transactions, and suspending a proposed transaction in favor of a more opportune time for action.

Sense of fit also led to externally oriented compelling actions. Restructuring the teaching-learning environment was associated with teaching-learning transactions that needed better fit or with the process of continually adjusting teaching-learning conditions without judging sense of fit. Feeling compelled to continue acting
within the teaching-learning environment was associated with appreciation of the sense of fit. Sense of fit caused attentions to be focused on past transactions and caused new transactions to be proposed and considered. These potential transactions became compelling, conscious actions. They became the next natural transaction within the teaching-learning environment based on previously sensed fit.

Hitches and Classroom Activities

Three claims have been asserted during this study. The first claim was an original assumption and the other two follow from the findings of this study. The original assumption of this study was that hitches are a universal phenomenon and that the general course of sensing hitches is the same for all teachers. Underlying this assumption was the transactional view of human existence as a process of reaching out and engaging the environment; sensing that outreach within; selectively including, excluding, or tolerating what was sensed; and sequentially ordering transactions within the environment. As a transactional process within the teaching-learning environment, teaching is viewed as the process of selectively engaging significant variables moment by moment via hitches sensed and translated into action. Gary expressed it by saying, "Hitching is teaching" (610-365).

The second claim is that the existence of hitches has been verified in Mary Eve's and Gary's class activities by the descriptions of perceptions experienced by both of them. Hitches were readily identifiable from the descriptions of Mary Eve's perceptions during
episodes indicating hitches according to external, manifest criteria. Many hitches were identified from those episodes and from other descriptions during later stages of this study. Hitches were discussed in terms of teaching-learning activities in a previous chapter titled "Evidence of Hitches." The third claim is that hitches are abundant in teaching. Hitches were evidently abundant even in the very limited amount of Mary Eve's time that was explored in depth during the study. The hitches described were diverse and involved many different aspects of teaching.

**Hitches and Perceptions**

Hitches affected teacher perceptions in terms of past, present, and future transactions because of the holistic-cumulative nature of perceptions and the selective function performed by sensing fit when preconscious perceptions were drawn into contemplation. Perceptions by which the teaching-learning environment was experienced were both preconsciously and consciously added to an expanding, growing, interconnected, cumulative, and holistic base. Preconscious perceptions were integrated, accessible, and continuous. They were selectively drawn into contemplation for both retrospective and prospective use as sensed fit became the preoccupying force that led to cathexis—focusing supreme attention selectively on certain perceptions during a hitch.

During a hitch, consciousness was altered by selectively focusing on critical elements of the teaching-learning environment in relation to a holistic, cumulative base of perceptions. During this altered state of consciousness, a limited set of subjectively valued variables
was perceived, differentiated, and integrated into cognitive structure until a satisfactory fit of those variables within the teaching-learning environment was sensed, or until a different set of variables became selectively more important and attention demanding. In this way hitches continued to be the perceptual process for engaging past, present, and future perceptions of the teaching-learning environment and for deriving meaning from transactions selectively considered and enacted within that environment.

Hitches and Teaching-Learning

A sense of responsibility to guide and extend the developmental progress of each student within the teaching-learning environment created hitches for Mary Eve and Gary as progress was compared with learning agendas. Guiding and extending learning was often a spontaneous, adaptive, and reflexive process based on an empathetic relationship with each student whereby reactions, feelings, and adequacy of learning activities for students were sensed by the teacher.

Learning activities for a student seemed to be embodied in a student's learning agenda. A learning agenda was the sum of the teacher's sense of which direction the students' learning activities were headed based on his or her estimate of past, present, and future experiences with the children within the teaching-learning environment. A learning agenda took the tangible form of a work folder in which were included activity outlines, problem sheets, spelling words, book lists, writing, and other notes and reminders. A learning agenda was much more inclusive than just the student's
work folder. It included unwritten plans for many learning activities such as reading privileges during recess, building kites, making caterpillar cages, and lunching with students. These learning activities seemed designed to build student-teacher-learning environment relationships that would promote student learning. Activities were added spontaneously and deliberately to student learning agendas as hitches occurred.

The teaching-learning environment was the set of conditions—both physical and mental—within which the behavior of teacher and students occurred. Teacher and students were neither radically set apart nor merely in the teaching-learning environment. As persons within it, they were integral constituents of, in, and by the teaching-learning environment. Their past experiences, present conditions, or future projected actions did not limit their ability to change in the future as long as they were able to sense meaning from their perceptions of the environment, to organize perceptions of the environment into newly formed cognitive structure, and to improve the qualitative nature of their perceptions continually. Responding to a hitch created by the sensed fit of teaching-learning activities led to adapted and readjusted transactions originating from the participative and contemplative perceptions of the teacher.

Being in the teaching-learning environment was a natural process of continuously experiencing the teaching-learning environment and continually guiding and extending learning. Hitches were the perceptual phenomenon by which the teacher's continuous experience
within the teaching-learning environment was translated into compelling actions that guided and extended learning according to a sense of improving fit.

**Hitch-Sensing and Hitch-Using**

Sensing hitches led to using hitches. The feelings, persisting thoughts, and connection of those feelings and thoughts to the holistic and cumulative perceptions that were the base of a teacher's experiences led to two hitch-using effects: increasing understanding and acting for instructional reasons. The compelling actions that accompanied a hitch were motivated by a priority for harmony and good fit within the teaching-learning environment. Hitch-using included the priority for sensing harmony—increasing understanding by reflexively experiencing, clarifying, and thoughtfully contemplating transactions. Hitch-using continued in the form of compelling actions, based on sensed fit, that were either reflexive or deliberate.

**Hitches and Evolving Improvement of Teaching**

Being in the teaching-learning environment was a dynamic process accompanied by continuously sensing fit and continually changing cognitive structure and actions. This dynamic process led to continuously-changing perceptions. Hitches created the need for participatively sensing important variables and contemplatively paying attention to them. These perceptions resulted in more fitting, more adequate perceptions, and reconstructed cognitive processes useful for creative, spontaneous, purposeful transactions.
as a teacher continually adapted teaching-learning activities. Transacting within the teaching-learning environment adaptively and flexibly in response to hitches was the dynamic process by which teacher actions were based less on distorted perceptions and more on perceptions closer to reality.

**Significance of Hitches**

Hitches connect perceptions of the environment to the transactions within the environment. By so doing, they enable teachers and students to improve the quality of human interaction continually within the teaching-learning environment.

**Connecting perceptions with transactions.** By acting as a result of experiencing hitches, a teacher rearranges his or her perceptual field in order to fit one transactional system (person) within another system (teaching-learning environment) harmoniously and efficaciously (Mooney, 1963, p. 55). How one system is fitted within another is particularly dependent on the elemental-contextual nature of humans (Harrington, 1974, pp. 102-105). The elemental nature of human existence is the continuous sensing of and transacting within the environment. The contextual nature of human existence is the continually changing environment experienced over time. Given human existence, time is certain but environments are uncertain and changing. Hitches connect elemental givens with contextual variables associated with changes of the past, present, and future. Hitches draw sensed fit from the elemental core of existence and connect fit with compelling action upon contextual variables.
Improving the quality of human transactions. Hitches are a process by which two elemental-contextual beings such as student and teacher are linked together within the teaching-learning environment. Although each has different contexts of experience, they share the elemental core of existence while acting within the teaching-learning environment (Harrington, p. 103). Hitches connect the elemental nature of one human with that of another through a common bond of time and sensing the other's elemental nature. By mutually sharing time and space, teacher and learner become sensitive to each other and sense the fit of their existence with each other within the teaching-learning environment. As learners and teachers transact, they mutually share contexts. As evolving perceptions become closer to reality for adaptively adjusted contextual variables, the quality of human transactions within the teaching-learning environment improves.

Strengths and Limitations of the Study

This study is the first systematic investigation of the perceptual phenomenon hitch. Hitches are described in terms of diverse teaching and learning activities. The language used to describe hitches is grounded in authentic human experience, in the limited literature on hitches, and in the theoretical literature of perception and reality-testing.

Universal phenomenon. I began this study with the assumption that hitches were universal, based on theory grounded in the literature of perception and reality-testing. Through reasonable, logical, theoretically based, diverse choices of times, and an in-depth
probe of human perceptions occurring when a set of manifest descriptors was evident, the abundant nature of hitches has been established. Although some readers may claim that the abundant nature of hitches is the function of interpretive view, the careful attention to decision rules designed to provide trustworthy and meaningful data, the authenticity of my experiences within the teaching-learning environment studied, the corroborating statements of a person who was first uninformed and then informed of the phenomenon hitch, and the guiding information from previous studies of human perception are convincing evidence of the authenticity of this new find.

**Setting.** This study was conducted in an elementary school. This provided a diverse setting in terms of subject matter and different types of transactions involving the same teacher. The openness and naiveté of second graders was a benefit as well. The setting chosen was where I had sensed the phenomenon hitch while working with the teacher and students. Thus, it was a good place to study hitches.

The elementary setting need not limit the appeal of this study only to professors, parents, students, teachers, administrators, and others who have experienced or are interested in elementary classes. The findings and interpretations of this study still apply to others, limited only by their interest in exploring the application of these results to their own context.

Hitches were examined in this study in the class area where external manifestations of hitches could be video taped conveniently.
Periods of time were video taped that overlapped starting and ending times of activities and that included lunch with the students in the class area. However, other parts of a teacher's day such as recess duty, lunch in the teachers' lounge, interactions with students before and after school, and other usual transactions during the school day were not sampled during the primary data collection when stimulated recall procedures were used. During the secondary data collection phase of this study, Mary Eve's and Gary's recorded examples of hitches that occurred throughout the day compensated for this sampling weakness to a limited extent. Examples listed by them included hitches related to outside activities during field day, to recess activities, to a conference with a mother after school, and to contemplations during lunch in the teacher's lounge.

Subjects. By virtue of their interest in self-promoted growth and development, and of their own obvious good personal adjustment, the subjects were able to answer many of the probing questions and carry on discussions about hitches with great insight. They were also willing to commit the additional time necessary to meet the rigor of the study design. Some readers may say that hitches are a phenomenon limited to good teachers who are very secure in their ability to transact within the teaching-learning environment and thus to engage in reflexive, spontaneous, compelling teaching actions. The two teachers in this study were obviously very good. However, the point is that the difference between these subjects and any others on a continuum of awareness of the qualitative nature of personal perceptions is only a matter of degree and not
of substance. We all continuously change the qualitative fit of our perceptions to be closer and closer to the reality of our environment unless we become disconnected from reality altogether.

**Methodology.** The methods of this study allowed choosing from many instances where manifestations of a hitch were observed. A teacher's perceptions of those instances were probed by Interpersonal Process Recall (Kagan, 1972; Ronchi, undated) procedures that provided a careful and clear view of perceptions related to hitches. I was able to get a very close look at hitches, based on natural and authentic transactions with the "hitch-senser," and then back off and apply a theoretical framework to the data as a "hitch-viewer." Practical constraints on the teacher's time and the obvious desire for this study to be an unobtrusive observation of natural teaching-learning activities limited the time available to sample teaching time and the teachers' availability to be involved in providing definitive statements. Likewise, the time between collection of primary and secondary data was limited by the need to continue collecting important explanations from the teachers without fully analyzing the content of previous explanations. However, the adapted methods of this study served the research objective well and provided trustworthy and meaningful data.

**Implications and Recommendations**

Through the process of sensing hitches, we connect both contemplative and participative perceptions with actions and we can, in turn, affect the quality of human transactions. Thus, paying selective attention to certain perceptions has an effect on actions.
Being attentive as well as the object of attention does make a difference. Furthermore, being attentive affects the transactions that follow. There are several implications for present practice or future study that result from what we now know about hitches.

**Planning Instruction**

There is always a dilemma of priority for teachers' time in schools. How much emphasis should be placed on planning for instruction versus carrying out instruction? The implications of the present evidence about hitches are that greater efforts should be made to document or record current school work as a history or as a growing repertoire of fitting transactions that help teachers and others understand the learning agenda of the students.

Traditionally, lesson plans are written for the entire class. These are essentially predictions of what will happen and, more critically, what will successfully fit with each student's learning agenda. If teachers, principals, and college instructors are spending inordinate amounts of time preparing, turning in, checking, and modifying lesson plans and lecture notes, the implications of this study are that this practice should be modified in favor of recording more accurately present and past significantly good school work that is related to the broad course of study or learning agenda for the individual student involved. In essence, this practice would be formalizing the mental notes, connecting important learning events, and collecting important data for meaningful consideration in preparation for a more adaptive-readjustive teaching style. Since students have hitches, too, and are continually
connecting their perceptions with transactions within the teaching-learning environment, they can be part of that documentation procedure.

Managing Schools and Supervising Teachers

The characteristics of hitches related to teaching-learning variables have an analogous implication for faculty chairpersons, college deans, superintendents, principals, supervisors, and other managers. Managers may often be guilty of ignoring the learning agenda of each person for whom they are responsible. The managers may be attentive people and able to articulate the policy positions of the agency or organization very adequately. However, they may not be able to improve the fit of institutional activities with the growth and development of agency members spontaneously and adaptively, since they do not have in mind those members' learning agendas. Worse yet, they may be forcing teachers, professors, or others to fit their learning agendas with institutional goals or working directly against the learning goals of agency members.

Likewise, those in charge of supervising teachers may often be ignoring the learning agendas of those they are responsible to help by taking a pathological view of supervision. Thus, they may emphasize unfitting events in their efforts to change what they consider unacceptable instead of seeking to guide and extend the development of those they are supervising.
Studying Instruction and Management

Interaction analysis is a useful tool to study both the qualitative and quantitative nature of human transactions. By studying what characterizes transactions, attention can be directed selectively toward desirable behaviors and transactions. The characteristics of hitches related to teaching-learning variables identified in this study could also be the basis of such transactional studies for the purpose of determining more clearly how hitches are useful for guiding and extending learning, empathizing, clarifying, judging instructional worth, judging interference with learning agendas, and improving teaching-learning transactions.

Understanding Creative Behavior

The nature of the creative process includes a sense of order, sense of the whole, and sense of esthetic fit. Since hitches are accompanied by selective fitting that draws preconsciousness into consciousness, and since hitches are a preoccupation with sensed fit that is translated into a compelling action that is often spontaneous, adaptive, and creative, hitches are an important variable in the creative process. Understanding hitches and using them to pay greater attention to a holistic, cumulative base of perceptions may provide a useful discipline for promoting creative behavior or understanding the creative process more fully.

Future Research

The research paradigm developed for this study may be instructive to others as they use corroborating data from various
perspectives (triangulation) to verify and develop theory and definitions in future research studies. An outline of the design considerations for this study is included in Appendix A.

**Research model.** At least four aspects of the research design were important to the success of this study: technical adaptations that extended and improved the quality of data, using the subject as a participant in creative development of definition and theory, conscious acknowledgement and use of intrinsic researcher perceptions to screen data as they were collected, and application of the constant comparative method of qualitative analysis (Glaser, 1965) without initial categories into which events could be coded.

Using a wireless microphone made the data collection much less obtrusive and improved the quality of the video taped periods of teaching-learning time. However, the more significant contribution of the video and audio recording procedures was that they helped the subject "relive" the episode that was being investigated, reach back into memory, and recall important related perceptions. The technical procedures helped explore the rich, complex, and interrelated perceptions of the subject related to a very limited segment of experience that exhibited only a few desired external manifestations. The adapted Interpersonal Process Recall (Kagan, 1972) procedures further helped the subject explore her perceptions of the chosen episode. Procedures identified by Kagan that facilitated stimulated recall during video tape playback included: exploratory responses; affective-cognitive responses; active and deliberate communication; honest labeling; assertive, nonjudgmental, and
nonhostile interviewer leads; and a set of key questions to use.

The subject was a participant in the study but not in the customary use of a participant observer. During what was called the primary stage of data collection, the subject agreed to be video taped and to spend one hour each day participating in stimulated recall procedures for the purpose of explaining her thoughts. During that time she was uninformed of the definition of hitch or of the goals of the study. Her uninformed status gave freshness and broader perspectives to the primary data. However, after the primary data were collected, the subject was informed. Then her task was to provide greater depth of analysis at a secondary stage of data collection. During the secondary stage, she verified and modified definitional statements, clarified inferences, interpreted primary data, corroborated the emerging definition with another teacher, and looked for the phenomenon identified in her teaching behaviors during primary data. During the secondary data collection stage, the subject played a unique role as a creative partner in the study. A log of data-collecting events is included in Appendix F.

Throughout the primary data collection stage, my role as researcher included deciding which episodes to propose for in-depth stimulated recall, determining which transcripts were meaningful for further discussion and analysis related to hitches, and classifying emerging theory as participant comments were analyzed. These decision points exemplified fluid enquiry (Schwab, 1960, pp. 20-21) where what constituted significant data was necessarily unknown
and the outlines of a satisfactory outcome were vague or unclear until the data were examined.

The decisions at these points depended on my perceptions of what was significant and meaningful in the universe of the teaching-learning transactions available for study. Likewise, I also selected the subjects' descriptions of perceptions related to those transactions that were interesting and important to analyze from the perspective of the research questions of the study. In essence, I was adding my perspective as researcher in search of hitches as an important vector component of the triangulation of the phenomenon under study—hitches.

The constant comparative method of qualitative analysis (Glaser, 1965) provided structure to guide the study as data were collected. However, the fluid enquiry began without a set of categories into which events could be coded and classified. The basic units of data in this study were statements made by the subjects that described perceptions. Categories emerged from the data as they were reviewed, and common characteristics were necessarily perceived before coding could begin. The original coding of the data was unknown until the events were reviewed from my theoretical framework that defined perception and reality-testing. Thus, the same vector representing researcher perceptions that functioned during selection of teaching-learning transactions considered useful to study was equally as important during the constant comparisons of the data.
Research Topics

There are at least three topics of research related to the present study that are interesting for future explorations of hitches.

**Fitting without valuing.** Fitting without valuing was a very important and unmistakable condition of fit for Mary Eve. However, it was not consistent with the other conditions of fit that have been cited in literature that are related to perceptions, hitches, and creativity. Maddi (1965) describes a different triad of selective fitting behaviors and refers to creative behavior arising from encountering, resolving, or tolerating conflicts. Mooney (1979 (a), p. 4) describes selective fitting as including what is needed, excluding what is damaging, and tolerating what is left over. Both authors cited toleration as one of three types of selective fitting processes. Fitting without valuing was different than toleration for Mary Eve. Further clarification of fitting without valuing would be helpful to understand the use of sensed fit for translating hitches into teaching-learning actions.

**Replication in secondary schools.** Replicating this study in secondary schools would introduce many new variables such as advanced subject matter, cocurricular activities, and social relationships that take on greater importance for students and therefore for teachers concerned with the learning agendas for those students. Secondary teachers usually have several times more students each week than most elementary teachers. The different kinds of learning activities and diffusion of teacher attention to more learning agendas are two different variables that would make replication of
Technical variations. Using hypnosis and measuring event-related-potential brain waves are two technical variations that would be interesting to incorporate into research of hitches. Hypnosis would allow subjects to bring preconscious perceptions to awareness. Many of these preconscious perceptions might be related to contemplative perceptions and hitches identified using video tape and Interpersonal Process Recall (Kagan, 1972; Ronchi, undated) procedures.

Measuring event-related-potential brain waves such as those identified by Kutas and Hillyard (1980) would help identify perceptual anomalies for a classroom teacher that might not be evident from external manifestations otherwise. Such measurements might also be useful to correlate more closely certain behavioral manifestations with experiencing a hitch. An interesting technical arrangement for an experiment would be to replicate the present study using a wireless transmission event-related-potential device and superimposing the graphic image of perceptual anomalies upon the video taped image of teaching-learning transactions. This would help a researcher select very precisely the episode in the teaching-learning environment to explore and further clarify with the subject experiencing the anomaly characteristic of a hitch.
LIST OF REFERENCES


Jean Piaget reports new research findings on causality. ASCD News Exchange, 1975, 17 (3), 3.


Mooney, R. L. Perception and creation. In *Mooney's public papers: The phenomenon of creativity, Volume I*. Columbus, Ohio: The Ohio State University Bookstore, 1979. (a)


Sanders, D. P. & Schwab, M. A school context for teacher development. Theory into Practice, Fall 1980. (Manuscript accepted for publication.)


1. The term hitch came from Mooney based on the work of Cantril et al. (1961; Kilpatrick, 1969) as discussed with Sanders (1973). Sanders and Schwab (1980; pp. 9-10) and Schwab (1979; pp. 171-172) use the term to describe adaptive faculty behavior at Stanford school.

2. In effect, the phenomenon being studied, hitches, is used to improve the definition being derived. By bringing a hitch to the consciousness of a teacher, conscious contemplation is directed toward understanding its effect on teaching, the quality of perceptions about a hitch is improved, and then, as a hitch occurs again, better understanding and consequently improved perceptions of "hitch" evolve. This special relationship helps lead eventually to a clearer understanding of hitch during this study.


This paper was used for classroom discussion and considers research as the design and implementation of transactions between the scientist and real world phenomena that extend our knowledge of the phenomena in ways that can be trusted and that are useful.

4. Throughout the school year I had served as a resource person to the class as a total group and to members of the class individually.
Examples are reading Charlotte's Web to the total class and helping various students prepare TV commercials that we taped and then played for the entire class. Early during the week I was collecting data for the study, Mary Eve and I showed the class part of the period we had video taped the previous day during a class lunch (we all brought our brown bag or cafeteria lunches down to the class area and ate together). Showing the children the video tape answered many natural questions and helped make my presence during the week an accepted and useful phenomenon. I also video taped the students rearranging their desks before school one day as a brief social experiment Mary Eve wanted to share with the students.

5. The last day of school for students the year this study was conducted, Mary Eve gave a photo to each child of a special event for him or her during the school year. She gave me a photo of myself with some children in her class. The following note was attached:

"This picture shows a lasting hitch for me. You are so popular with my class that whenever I think of a model for good rapport building, I'll remember this picture!"


Professor Duncan conducted a structured field study of several staff in the school the year before this study was conducted to determine how teachers evaluated pupil progress. He found that as teachers were less able to distinguish developmental progress of students on various study topics, they used a variety of
activities that encouraged the student to reveal more about her-
self or himself to the teachers. Seeking clarification and creating
micro-environments were two activities that described the partici-
pating teachers' procedures for promoting self-disclosure by stu-
dents. Neither Mary Eve nor Gary participated in Professor
Duncan's study.

7. School climate improvement: A challenge to the school administra-
tor. Bloomington, Indiana: Phi Delta Kappa, undated
(c. 1974).

Factors that affect relationships as part of the general school
teaching-learning climate are respect, trust, high morale, oppor-
tunities for input, continuous academic and social growth, cohe-
siveness, school renewal, and caring. Basic needs that affect
the teaching-learning climate in the school are psychological,
safety, acceptance and friendship, achievement and recognition,
and maximizing one's potential (pp. 7-9). For a description of
the general teaching-learning climate in the school see Sanders

8. Cathexis describes a state when one perception is more important
than all others. Cathexis involves concentration of desire as part
of selective attention. Lortie (1975; pp. 106, 163, 265) uses the
term to describe teacher sentiment that includes reason and
emotion.
APPENDIX A

OUTLINE OF THE RESEARCH DESIGN
TO VERIFY AND DESCRIBE HITCHES IN TEACHING
Outline of the Research Design
to Verify and Describe Hitches in Teaching

I. Decision rules
   A. Ten rules governing reliability and validity of research procedures
   B. Acknowledgement of the transactional nature of the research process
   C. Concern for useful and adequate parameters, language, methodology, and manifestations of the critical variable

II. Goal
   A. Finding hitches in a teacher's perceptions of teaching-learning transactions and describing them in useful, accurate, and generalizable terms
   B. Decision rules: adequate and useful research questions, adequate and useful frame of reference

III. Ideal research setting and procedures
   A. Exploring teacher-learner transactions from the teacher's perceptual perspective
   B. Describing manifestations of hitches in a natural setting
   C. Decision rules: researcher transacting with authentic teaching-learning environment while looking for hitches, and using language embedded in teaching-learning activities

IV. Practical research methods
   A. Adapting procedures to stimulate recall of perceptions during "relived" episodes recorded on video tape
   B. Using researcher's theoretical and experiential perspective to filter transactions in order to assure useful and meaningful data
   C. Using technology and data collection procedures that are natural to the setting for the research
   D. Capitalizing on teacher(s) available times within practical constraints of teaching load
E. Decision rules: selecting adequately informative episodes and passing over unnecessary events

V. Data desired

A. Uninformed participant

1. Selecting reasonable, logical, theoretically justified periods to video tape during a school week

2. Selecting episodes from the video tapes that manifest the criteria, provide a variety of transactions, and interest the teacher experiencing them.

3. Stimulating recall of perceptions that occurred during transactions

B. Informed participant(s)

1. Defining hitches for participant

2. Reviewing and revising written definition

3. Describing hitches to other teachers

4. Corroborating hitches with a cooperating teacher

5. Identifying hitches in teaching

6. Associating personal meaning with hitches

C. Decision rules: selecting representative times to look for hitches; discriminating among transactions useful for further examination

VI. Analysis

A. Constant comparisons of teachers' comments about perceptions

1. Looking for characteristics of perceptions that are similar

2. Looking for theoretical sense in categories of perceptions

3. Looking for theoretical sense of the whole

4. Looking for the meaning of related categories as part of the whole
B. Decision rules: using language that is accurate and adequate, derived from an appropriate frame of reference, and embedded in teaching-learning activities
APPENDIX B

GENERAL WEEKLY CLASS SCHEDULE AND VIDEO TAPE SCHEDULE

232
### General Weekly Schedule

<table>
<thead>
<tr>
<th></th>
<th>MONDAY</th>
<th>TUESDAY</th>
<th>WEDNESDAY</th>
<th>THURSDAY</th>
<th>FRIDAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(video desk changes)</td>
</tr>
<tr>
<td>5/11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/14</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00</td>
<td>VTR</td>
</tr>
<tr>
<td>10:00</td>
<td>VTR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:15</td>
<td>VTR</td>
</tr>
<tr>
<td>11:30</td>
<td>VTR</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:30</td>
<td>VTR</td>
</tr>
<tr>
<td>12:30</td>
<td>(lunch till 12:10)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:30</td>
<td>VTR</td>
</tr>
<tr>
<td>1:15</td>
<td>VTR</td>
</tr>
</tbody>
</table>

**Key:**
- **VTR**—shows when video taping was scheduled and/or actually occurred
- 1.—conflict: general assembly announced; interchange Tuesday and Wednesday
- 2.—conflict: bicycle safety program; change from 2:20 to 1:15
APPENDIX C

PHYSICAL ARRANGEMENT OF
CLUSTER AND CLASS AREA
Cluster B and

Mary Eve's Class Area

KEY: T--table
R--teacher's desk
S--student desks
D--portable divider
G--geography center
C--science center

Enter

To: cluster A, cafeteria

to: gym, media center, school office
APPENDIX D

INTERVIEW PROCEDURES AND QUESTIONS
WHAT TIME DO WE NEED TO BE FINISHED SO THAT YOU CAN MEET ANY OTHER SCHEDULE REQUIREMENTS THAT YOU HAVE?

WHEN YOU SEE YOURSELF ON TAPE YOU WILL FIND THAT YOU REMEMBER IN AMAZING DETAIL ALL KINDS OF THINGS—IMAGES, HOW YOUR BODY FELT, IDEAS YOU HAD—WHICH REALLY DON'T SHOW ON THE VIDEO TAPE. I WOULD LIKE FOR YOU TO TELL ME THE THINGS WHICH WERE GOING ON INSIDE YOU DURING THE TAPED EPISODE SHOWN HERE. WE WILL GO THROUGH THE SEGMENT ONCE JUST TO GET AN IDEA OF WHAT IT IS AND THEN I'D LIKE TO RETURN AND HAVE YOU STOP THE TAPE AS YOU RECALL WHAT WAS HAPPENING INSIDE YOU DURING THE ACTIONS SHOWN ON THE TAPE. AFTER THAT I WANT TO ASK YOU A FEW QUESTIONS ALSO.

1. IF YOUR THOUGHTS COULD TALK, WHAT WOULD THEY BE SAYING DURING THAT SEGMENT?
   
   EXPLAIN THE RELATIONSHIP BETWEEN YOUR FACE OR YOUR ACTIONS AND YOUR THOUGHTS.
   
   EXPLAIN ANY OF THOSE THOUGHTS WHICH COULD BE CHARACTERIZED AS PERSISTING, RECURRING, LINGERING, OR CONTINUING.

2. WOULD YOU EXPLAIN ANY SENSE OF APPRECIATION OR DEPRECIATION ON YOUR PART DURING THE VIDEO TAPE SEGMENT.
   
   AT ANY TIME DURING THE SEGMENT WERE YOU AWARE OF A SENSE OF CONGRUENCE?
   
   AT ANY TIME DURING THE SEGMENT WERE YOU AWARE OF A SENSE OF DISSONANCE?

3. IN WHAT WAYS DID YOUR LEVEL OF AWARENESS CHANGE IN THIS SEGMENT?
   
   WHEN DID IT CHANGE?
   
   WAS IT RELATED TO ANYTHING ELSE BEFORE OR AFTER THE SEGMENT?

4. CAN YOU DESCRIBE ANY ONE THOUGHT OF PERCEPTION WHICH CAME UPON YOU ABRUPTLY DURING THIS SEGMENT?
   
   WHEN DID YOU FIRST SENSE IT?
   
   HOW DID YOU KNOW?
   
   WAS IT RELATED TO PREVIOUS EVENTS DURING THE DAY? ....BEFORE TODAY?
WAS IT RELATED TO EVENTS WHICH FOLLOWED DURING THE DAY?....IN THE FUTURE?

5. DESCRIBE ANY SENSE OF ACTION WHICH YOU FELT NEEDED TO BE TAKEN DURING THIS PARTICULAR SEGMENT.

6. DESCRIBE ANY THOUGHTS OR FEELINGS THAT COULDN'T QUITE BREAK THROUGH INTO YOUR CONSCIOUS MIND OR WHICH SEEMED SUBCONSCIOUS DURING THIS SEGMENT.

7. HOW DID PRESSING CONCERNS OR INTERESTS YOU HAVE AFFECT YOUR TEACHING IN THIS VIDEO TAPED EPISODE? CAN YOU GIVE A PARTICULAR INSTANCE WHERE REFLECTION OR CONTEMPLATION OCCURRED ABOUT A RESPONSE TO A CHILD OR A CHILD'S RESPONSE TO YOU?

HOW HAS REFLECTION OR CONTEMPLATION AFFECTED YOUR INTERACTION WITH THE CHILD TODAY?
APPENDIX E

SUMMARY AND ONE-LINE DEFINITION OF HITCH
USED DURING DATA COLLECTION
Hitches

This study is based on two levels of consciousness in teaching—

1. preconsciousness—refers to reflexive, unmediated behaviors which are characterized by participative perception  
   e.g., touching the keys of a typewriter while typing fast; one isn't conscious of them on the tips of one's fingers, but one is in fact touching them—many responses to children can be of this type

2. consciousness—refers to reflective behaviors which are characterized by contemplative perception  
   e.g., being careful to select a book for a young girl in your class which doesn't stereotype the sexes

This study uses Rosenberg's model of diagnostic teaching--

1. intentionality in teaching acts
2. domination of the curriculum (structure for learning) on the part of the teacher by either preconscious or conscious control
3. teaching as a transactional process
4. curriculum is harmonized with the child's functioning level at the moment of the instructional transaction

   e.g., a diagnostic teacher would probably not have any set way of teaching to be used with all children at one time--trying to systematically vary instruction based on what is being learned and the child's 'powers' at the moment

The phenomenon being looked for in this study is a Hitch

   a hitch is said to be occurring when feedback from the teaching-learning situation continues to linger or is abruptly brought to consciousness or tends to recur

   a hitch depends on the congruity or incongruity of fit with what should be at the time (this may relate to prior expectations)

   Hitches lead to contemplation of improving fit between learning and teaching which leads to reflexive acts in the class by the teacher which leads to further contemplation which eventually leads to a response or behavior which can be added to a set of participative teaching perceptions likely to be congruous with what the teacher would like to have occur.

It seems that--

   hitches can be planned
   hitches can feel comfortable or uncomfortable
   many hitches can be occurring at the same time
students experience hitches—hitches are as much a part of learning as of teaching.

Hitches can be massive or minute—

- preparing for a luau and integrating spelling, motor development, self-concept, social skills, school-community relations, reading, singing, or art into the activity for different children at varying levels of involvement over two-three weeks

- recalling the mention yesterday of bluejays by a child when you realize that he doesn't recognize them in a science filmstrip
Hitches

(Fitting or unfitting event in teaching which changes your awareness of the event, action, person)

1. Identify the instructional situation and conditions.

2. Describe the hitch in terms of your thoughts and feelings.

3. What led to the hitch?

4. What effect did the hitch have on later activities?

5. What meaning does a hitch give to your teaching?
APPENDIX F

LOG OF DATA-COLLECTING EVENTS
Log of Data-Collecting Events
May, June 1976

Primary Data

5/3  Orient Mary Eve to research methodology--no substantive discussion

5/5  Field test video taping and stimulated recall interview

5/7  Revise questionnaire, change procedure to use wireless microphone

5/10 Tape 1--review with Mary Eve after school and make schedule change 1

5/11 Tape 2--review with Mary Eve after school and make schedule change 2

5/12 Tape 3--review with Mary Eve after school

5/13 Tape 4--review with Mary Eve after school; she chooses one of several episodes

5/14 Tape 5--review with Mary Eve after school; she again chooses one of several episodes; discussion of phenomenon after review

Secondary Data

5/18 Discuss similar events to the ones video taped in her class with Mary Eve

5/20 Give full written description of hitch to Mary Eve

5/21 Discuss full definition and brief reactions by Mary Eve

5/24 Discuss definition thoroughly with Mary Eve

5/25 Give one-page description of hitch to Mary Eve

5/26 Discuss hitches with Mary Eve and Gary

5/28 Discuss hitches with all five teachers of cluster B using written materials

6/1  Place tape recorder in planning area for Mary Eve and Gary with simple definition attached
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6/4</td>
<td>Review definition of hitch with Mary Eve and Gary</td>
</tr>
<tr>
<td>6/10</td>
<td>Interview Gary about the meaning of hitches in teaching</td>
</tr>
<tr>
<td>6/11</td>
<td>Interview Mary Eve about the meaning of hitches in teaching</td>
</tr>
</tbody>
</table>
APPENDIX G

TRANSCRIPT OF EVENTS CITED IN ANALYSIS
OF HITCHES AND RELATED CHARACTERISTICS
EXPLANATION: Each event is identified by a three-digit data number and a three-digit tape recorder index number separated by a hyphen. Event 510-058 occurs on the tape of May 10 at point 058. Side two of each tape begins with event 500 by convention. See Appendix F for a log of data collecting activities.

Episode 510: Mary Eve was having a conference with one child while the remaining 23 worked on individual work plans. Mary Eve changed activities several times.

510-049 Don: Let's go back through the tape again and you say everything that is happening that you care to say.

510-058 Mary Eve: As I was having the conference, I kept thinking of Roger and some of the others not doing their tasks--I had to keep thinking what Jeff had just said so I wouldn't keep repeating it to him. I wasn't really concentrating on Jeff because I wasn't tuning the others out.

510-083 Mary Eve: I could tell that Patrick had just walked up there and he had to wait. Bunky--I knew what he needed and I could just reach over and check his spelling words for him.

510-096 Mary Eve: I find I'm constantly keying in on everything that is going on. Just like glancing up.

510-102 Don: How do you feel and what do you think about when you are processing all that stuff that is happening?

510-104 Mary Eve: I feel comfortable when I'm processing all the information I'm receiving, because I can tell who needs help and I'm trying to get them independent.

510-110 Mary Eve: I remember doing that. Two boys were wrestling. Shawn wasn't keying in so I just went back to Jeff.

510-156 Don: If I wanted to understand what you are doing as a teacher during this episode, what should I know about what is going on?

510-163 Mary Eve: I have in my mind what everyone is supposed to be doing in the morning up until lunch time. So this is the first hour. We have talked about it and they are supposed to be doing their folders and are scheduling their own work. I'm trying to keep 24 plans going.

510-197 Mary Eve: It seems to me we didn't do much else [but reading conferences] today.
Mary Eve: Many of the comments are off the top of my head....It's just very instant comments. I don't worry about whether the comments are appropriate. I just don't. It just seems to be whatever fits the situation by just knowing the student. I can say different things to different students.

Don: If your feelings could talk, what would they be saying?

Mary Eve: There are many things going on. I'm feeling that they are worth my time. So I chop up the students' time instead of making them wait.

Don: Describe any feelings that were persisting, recurring, lingering, or similar to those terms.

Mary Eve: Persistent feelings were pressure against time. I sensed that children want immediate feedback.

Don: Would you explain any sense of appreciation or the opposite, depreciation, during this episode.

Mary Eve: I felt negative about Roger and Kevin's argument about a pencil which required my leaving Jeff.

Don: Did you sense congruence or incongruence with your goals for them during that time?

Mary Eve: This was a feeling of incongruence as far as my goals for [their] behavior.

Don: In what ways did your level of awareness change during this episode?

Mary Eve: From looking at the entire group as a pattern of activities to be done, to an individual's needs via the conference. My attention kept shifting back to Roger and his problems with a pencil.

Mary Eve: I also became aware at this time that this was the first day that the pupils couldn't move their desks until 9:05. Most have their tables but they didn't work at their tables—they worked in their groups.

Don: When did you become aware that they were working in groups and not at assigned work tables?

Mary Eve: I became aware of it during the first hour this morning.
Don: Describe any sense of action that you knew needed to be taken during this episode.

Mary Eve: I knew I would have to get up and get Kevin a pencil. I knew it....It was premeditated. The other events were very instantaneous. I find that I don't think about those things.

Don: Describe any thoughts which couldn't quite break through to your conscious mind or which seemed subconscious during this segment. Anything under the surface trying to come through?

Mary Eve: Today wasn't the way I envisioned it to be.

Don: How did processing concerns or interests you have affect your teaching during this particular episode?

Mary Eve: When he asks for a conference, I'll stop the world to have it. I knew that I wouldn't with someone else. Jeff has picked this up. He only asks for conferences once. It's kind of a growing awareness.

Don: Is there anything else you want to tell me?

Mary Eve: About being aware of what other people are doing--I had no idea of what the other teachers were doing. I try to keep visual contact with everybody, to know where they are....It's just a feeling of responsibility--knowing where they are and what tasks they are doing.

Don: Did you say earlier that today's activities were a departure from what you thought they might be? Do you ever change by adding instead of taking away rather directly? What causes you to change?

Mary Eve: I sometimes reorder agenda rather abruptly--but not usually. When I do, it is because the new item has been added to the agenda.

Episode 511: Mary Eve was leading a large group discussion which was relatively open-ended related to a weekly news periodical. She was attempting to establish structure for subsequent learning activities during the following five to ten days.

Mary Eve: We're looking for open-ended situations for our free-time activities. We don't always do this activity.

Mary Eve: As soon as I said that I realized that I had already given five or six things for free time.
Mary Eve: They are getting a lot better at answering open-ended questions and carrying on discussions.

Don: Did you think that at that time or did you just realize that now [viewing the tape]? 

Mary Eve: I had the sense at that time that they were doing better.

Mary Eve: The control type things. I kept thinking that they are interfering with what I want to do.

Mary Eve: The setting—right after recess and before assembly time—it's like there was 15 minutes in which they thought we had to do something. They weren't aware of what I wanted them to do.

Mary Eve: I should have told them my reasons for doing it instead of saying, "Come on, we're going to do it."

Mary Eve: I do that all the time and I don't like it. I interrupt them to tell them they are interrupting.

Mary Eve: My main concern was getting their attention. It seemed so hard that I was really focusing on that.

Mary Eve: I could just reach out to Kevin and stop him from spinning the globe. He does all these nervous type things which drive others right up the wall.

Mary Eve: I was thinking when Billy would say, "I know, I know," that, "Why don't you just go ahead and do it." Don't spend all the time saying "I know" instead of giving the answers.

Mary Eve: I was thinking, "O.K. Greg, you're here, you're there; please settle." It was starting to get to me! I didn't really know where he was.

Mary Eve: I remember knowing that there were some people who didn't have their's [News Ranger] out. I wasn't going to stop it. I knew Tricia was back there because I could hear the table wiggle. I could tell she wasn't participating....because every time I looked up she was somewhere else. And I thought, I'm just not going to stop the whole bit. I'm just not.

Don: If your thoughts could talk, what would they be saying during that episode?

Mary Eve: My thoughts would be saying I wish I had more control. I don't want to have to fight for it. I felt a lot
of stress during that time. I was not getting across what I wanted to.

511-139 Mary Eve: It is so interesting because it had such potential and we weren't getting it. During free time I was hoping to extend it.

511-149 Don: Explain any of your feelings which could be described as persisting or recurring.

511-156 Mary Eve: The looks of disapproval were persisting feelings. The persistent message was "I don't like the way you are behaving." We weren't discussing the things we were supposed to.

511-171 Don: Would you explain any sense of appreciating or not appreciating during this episode?

511-190 Mary Eve: I appreciated Cindy's response to the Freedom Train. I thought she might talk about standing in line.

511-195 Mary Eve: Joseph's comment that maybe people weren't smart enough in those days was a very good comment.

511-199 Mary Eve: I appreciated the way things came out. I didn't appreciate the way there wasn't total participation.

511-206 Mary Eve: Mike's comment about import/export was really good.

511-208 Don: At any time during the episode were you aware of a sense of congruence—things fitting in the same way?

511-228 Mary Eve: The way different ideas and discussions popped up—they weren't listening to each other—wasn't congruent. They just seemed to have to get their ideas out before recess.

511-237 Don: Did any one thought or perception come upon you abruptly during this episode?

511-240 Mary Eve: The one perception that came upon me was that we weren't going to be finished with the activity before recess. That came through.

511-245 Mary Eve: I knew we could carry the conversation on forever. It came to me suddenly....It didn't bother me and I didn't feel like I had to. But it would have been neatly tied up and finished if they would have.

511-261 Mary Eve: Patrick kept saying, "Can I do my reading."
511-305  Don: In what way did you feel your level of perception changing?

511-308  Mary Eve: I felt my level of perception was growing during that time of what some people were doing.

511-336  Mary Eve: I didn't think Joseph was ready to do that—raise his hand and volunteer an answer. I knew he was starting to feel at home here contrary to what his mother told me. He cried at his other school, but he doesn't cry here. I was thinking, "Joseph, I'd like to take a picture of you and show it to your mother. You're participating." I could feel that.

511-357  Don: Describe any sense of action that you felt needed to be taken during this particular episode.

511-372  Mary Eve: I felt I had to give them more free time. They needed to have more time so that our discussion wouldn't become one of those things we talk about but never do.

511-398  Don: Describe any thoughts that couldn't quite break through to your conscious mind or that seemed subconscious during this episode.

511-417  Mary Eve: I was really not sure what would happen during the rest of the day....I was making a new schedule for myself.

511-440  Don: Any relationship between that sense of agenda and the children's behavior?

511-443  Mary Eve: I hadn't planned to use the HAWAII book....but because of their acting out, I felt I needed to use the book to get them calmed down. Using the film strip wouldn't have had a long-range beneficial effect.

511-462  Don: How did pressing concerns or interests that you had affect what you did during this episode?

511-466  Mary Eve: I think....I felt like I had to get--now that we had started it--finished. I felt that I kept saying, "Next, next reader! Don't talk." It wasn't free time. It wasn't an open-ended discussion which could carry on forever and ever and ever. I felt that if we are going to do this, let's get it done. And let's get on to some of these other things. I didn't feel that--well, I like the News Ranger discussions but--I don't feel that it is a key thing that I have to do every week.

511-500  Don: Do you ever reflect on particular instances of your responses or behavior with children later in the day?
Mary Eve: I'll remember what someone said when I get home and I'll think of all the different meanings they could have had. I experienced that yesterday....I wanted to remember to talk to them about it.

Don: Do you do this consciously, on purpose, or does it just happen?

Mary Eve: It just happens. All of a sudden I'm thinking of Brandon and I've got to write myself a note to do something.

Don: How does it [thinking about the child during off-instruction times] affect the child later?

Mary Eve: It makes me more aware of that child....Yesterday Roger wanted me to help make a kite. But he wasn't there, so I went on. Later he said something to me and he realized he had forgotten. So we're going to do it tomorrow. That was a following-up thing.

Episode 512: Mary Eve was leading a highly focused large group science discussion related to birds. Both teacher and pupils were concentrating very hard.

(Mary Eve says, "So it could have been a brown thrasher.")

Mary Eve: On Monday I had shown them the nest that Billy had found in the corn field and we couldn't figure out what kind of nest it was.

Mary Eve: "Kenny, do you see what a pelican looks like?" He ended up coloring it aqua because he thought it was pretty. I told him I thought that color made a beautiful bird, and I colored the dinosaurs differently too, but we were trying to find factual things. So on the bottom of his paper he had written, "It's supposed to be white." So this was a good thing for him to see to relate to him that he wasn't the only one.

Mary Eve: That was an immediate thought. I just said it [referring to the brown thrasher statement in 512-001].

Mary Eve: They all have so many experiences to relate—that I thought regardless of what else, that I wanted to prolong their sharing with each other.

Mary Eve: They were volunteering to share. I didn't feel like I had to only call on people. I was so intent, that I didn't notice that Tony and Adam weren't participating until someone told me.
512-048 Mary Eve: Some of the third graders didn't volunteer as much information as I thought they would. So that's why I would direct specific questions to the children.

512-090 Don: How do thoughts about yesterday compare to your thoughts about today when the schedule was changed?

512-092 Mary Eve: I felt a lot better. Yesterday made me feel tired. I felt excited today. We had a terrific opening and that set the tone. I didn't feel hassled. I really liked the science class.

512-115 Don: From the comment about the nest up through the what-we-know-about-birds frame, what are your thoughts saying?

512-119 Mary Eve: "I'm glad you're so interested." Now that we are talking about being aware of my thoughts, I think I was just so pleased that they were excited and related to it. I was glad that when those particular frames came up that I could stop and point the previous specifics out to the children....I didn't remember the specific frames which were included. I wanted to show this specific film strip, but I didn't know those particular frames were on the film strip.

512-134 Mary Eve: It was, "Oh, there's something about pelicans," and then I pointed it out to Kenny. It was just the spur of the moment; it wasn't planned.

512-137 Don: Could they see your face? Were they reacting to your expressions? How do you think the relationship between what your face was showing and what your thoughts were held up?

512-142 Mary Eve: I think it sustained the whole discussion, because I like to watch birds. I like to study them, and I think just the laughter and relating to the comments helped. It's much nicer to see them in person. I think just the way I showed my enthusiasm compared to yesterday was different.

512-159 Mary Eve: I felt good all the way through....When I found out they liked it, it was very exciting....I'll try to show the other film strips individually to get them to work again in smaller groups.

512-169 Don: Would you explain any sense of appreciation versus depreciation on your part during this episode?

512-173 Mary Eve: Kenny was bubbling over with enthusiasm and I thought, "Oh good! I remembered to say it." So many
times I think I want to remember that if anything comes up and relate it back [to an experience]. The timing was great. We both remembered at the same time....I was very glad that I was able to do that and I feel closer to Kenny now. I think his enthusiasm will just keep going.

512-193 Don: Any time were you aware of a sense of congruence or of things fitting like they should?

512-197 Mary Eve: Yes, throughout....this segment each comment flowed into the other....Everyone was thinking on the same lines. I thought all the "mind lengths" were on the same frequency. We all felt very close. We've all seen birds and wondered what they were.

512-210 Don: How close is what you just described to your model of teaching, if you have one?

512-215 Mary Eve: If people relate very closely, you can do a lot more.

512-225 Don: In what ways did your level of awareness change in that episode?

512-227 Mary Eve: It started out at a high point and just stayed there....I don't really care about nervous, random activity....which is just energy expressed. I don't like to interrupt if the discussion is flowing smoothly. I tend to ignore a lot of squirming, wiggling behavior.

512-238 Don: Are you telling me that your perceptual acuity or clarity really didn't change during that episode; it really didn't change during that episode?

512-240 Mary Eve: Yes, it stayed constant at a high level.

512-247 Don: Did the focus of your perceptions change as opposed to the clearness?

512-250 Mary Eve: I changed from person to person and from individual to the total group. But, there was a very specific time in there when no one else needed to be around. I was just talking to Kenny.

512-256 Don: Was that phenomenon you just described related to any previous event?

512-260 Mary Eve: It was related to his question yesterday. I like to feel like I can talk to an individual as part of the group and they know that I am talking to them and the whole group is included....I want each one to know I'm interested in them only.
Mary Eve: I felt Bobby was happier to be in birds than to be in my science section. Making the cage changed our relationship and Kenny saw that and he was following around. I feel he might not have asked [about the pelican] otherwise.

Don: The day ended rather abruptly for you. Through the rest of this day was there anything else that occurred or that relates to that [bird film strip] instance?

Mary Eve: My first realization--abrupt interruption in thought process--was when I realized that Roger wasn't in the science class.

Don: Describe any sense of action which you felt needed to be taken during this particular episode.

Mary Eve: It was running so smoothly I just wouldn't have changed a thing. I was aware that the two other groups were looking at film strips. I could feel action starting up....when lights from the other cluster areas came on again. Having the cluster dark when they came in at the start of the activities helped.

Don: Was the sense of action subconscious or conscious?

Mary Eve: This just sort of all came together. I remember thinking, "Gee everyone is looking at film strips." And that's why I didn't turn our lights on. At first I was going to but it would disturb them.

Don: How did pressing concerns or interests which you had affect your teaching in this particular episode?

Mary Eve: I want them to see birds. Not to just look at them, but to watch and study them. By having as many experiences for them, I'll help them relate to birds in nature....to discriminate between birds; like Martha asked the difference between bluejay and bluebird.

Don: Was there any recent incident where reflection or contemplation occurred for you where a child has made a response or you have made a response to the child?

Mary Eve: Based on David's comments about understanding nests better, I made a mental note to be sure and work with him more on nests.

Don: What about the claim that one pupil made about seeing rubythroated hummingbirds in her yard?
512-521 Mary Eve: I thought about it briefly when it happened and when the mother came in I asked her....I never said anything else to the child. It might have been an exaggeration for the purpose of getting attention.

512-535 Don: Do you ever find that reflection and contemplation about something that happened then later affects your relationship with the child?

512-539 Mary Eve: It affects my relationship with the child; usually positive....I had a note in my pocket to look up pelicans for Kenny. There was something else I was going to look up, too.

Episode 513: Mary Eve discussed a joint class activity with another teacher and then participated in the activity later on. Resistance by pupils was evident at times during the activity.

513-009 Mary Eve: I changed my mind.

513-033 Mary Eve: I think this afternoon I felt all along that they didn't want to do anything but their work--at least the most vocal ones.

513-049 Mary Eve: And after hearing all the, "I don't want to, I don't want to," I decided that I'd go instead of leaving [for a break].

513-053 Mary Eve: I find in comparing the two classes--I don't know if it's the way I've handled our group sessions--but it's always been by choice.

513-063 Mary Eve: They've gotten used to when I read a story, I put the expression in, but it's not like Mary. It's just different. Roger and Jeff are very matter of fact.

513-068 Mary Eve: I don't know if you picked up Roger's comments throughout the whole story--sarcastic.

513-079 Mary Eve: I kept thinking, "Why couldn't my class be sitting down there around Mary like hers is?"

513-098 Mary Eve: I don't do the expressions like that....The girls were up front with Mary but the boys thought that was the most ridiculous thing.

513-117 Mary Eve: Usually we just talk and I sometimes don't catch on too quickly to her main point--what my class is supposed to be doing. So lots of times I just keep asking her, trying to clarify in my own mind.
Mary Eve: I had to make sure in my mind that they wanted to do that.

Mary Eve: It was kind of optional, but it was kind of required. Just the way I talked to Mary at the finish showed that we're not that static in what we're doing. I didn't know exactly what she had in mind.

Mary Eve: The part that bothered me was that they kept saying, "Do I have to?" but I thought they had liked it.

Don: You said in there that the children enjoyed the story they did the last time. What did you feel or what did you think when you were saying that?

Mary Eve: I was thinking that I remember seeing them last time very engrossed in what she was doing. And with all the static that I was feeling about it, I was thinking maybe that's not true. Maybe they were just being very quiet and very polite, and I just assumed they enjoyed it.

Don: When you said, "You enjoyed it last time," is there anything else about that, that you can tell me?

Mary Eve: The statement, "You enjoyed it so much last time," was strictly an assumption....I assumed that because I saw them sitting there quietly and doing anything.

Mary Eve: I was admitting there that that is what happens [what Roger was saying about the story telling]. It was a factual thing. "Yes, that's what she does, but we're still going to listen to it." I don't know if by the way I was feeling I was projecting [that attitude]. When they were saying, "It's just like being in kindergarten," I was saying, "Well, yes." That's something that I have done in the past. I have treated them as older children--probably because I used to teach fourth graders. That's a past thought.

Mary Eve: Jeff said he was going to stay and write a story and I said, "Yes," because he usually writes long stories.

Mary Eve: And I was remembering at the same time that I talked to them about yesterday that they were the most fidgeting group at the assembly....They had been wanting to do school work instead of being at the assembly. They didn't want to go to the variety show. So now they are saying they don't want to go to their reading activity.

Mary Eve: There were a lot of ideas I was processing. I wasn't free to give them a choice. I had already said they enjoyed it. So I sacrificed some things.
Mary Eve: As I was sitting down, I was thinking, "I'm going to be an example. I'll do the motions." But I didn't do the motions all the time because I didn't feel comfortable doing that. I guess my physical presence was an example but not my participation.

Don: Tell me more about the relationship between what you were doing and what you were thinking.

Mary Eve: I wasn't thinking at all about what was going on. I was hearing it and doing some actions, but I was thinking of Kevin and Mike who were sitting on the table over there, and Roger sitting beside me making all those funny faces, and Patrick sitting on my lap, and having to bodily keep him down to keep him from saying things like, "I'm bored," etc.

Mary Eve: I started thinking of what I was going to do afterwards with the story readers and following that with the let's pretend game.

Don: Explain any of those thoughts that could be characterized as persisting, recurring, lingering, or continuing ones.

Mary Eve: The idea of what I was going to do the rest of the afternoon--I knew what I planned to do, but it just didn't seem to be fitting.

Mary Eve: I started to switch gears. Mrs. Zest was coming in and doing creative dramatics so, "After this group activity we'll start on some 'let's pretend' activities and kind of get them more socially aware of working together so it won't be disastrous with her."

Mary Eve: My mind kept going through the rest of the afternoon--what was going to happen before recess and after recess.

Mary Eve: I was hearing it and processing it, but I wasn't really thinking about it.

Don: You said something about your plans didn't fit. Can you explain that sense of incongruity better?

Mary Eve: My plans got changed right at the beginning of the day during the first half-hour. I can kind of tell what mood they're in....I knew they wanted to work today.

Mary Eve: I was feeling a whole desire to work....Everyone was turned on to doing something so I kind of scratched my ideas of doing lot of the activity things I had planned.
Mary Eve: The let's pretend thing was just ad-lib. I thought of it during the lion hunt [combined activity]. When they were acting out some of the things, even though sarcastically, I thought, "They're acting. They're wanting to do something for themselves, but not in the limits of the story.

Don: In what ways did your level of awareness change in this episode?

Mary Eve: I think when I went over there I was really going to go there and do it, but when I got there it just didn't appeal to me and I tuned it out like lots of other people did around me.

Don: Describe any sense of action you felt needed to be taken during this particular episode.

Mary Eve: Bring the kids back in and getting Patrick back from the front where he was clowning around to sit with me.

Don: You talked earlier about a sense you had of their desire to work. Would you tell me more about that?

Mary Eve: Yes. I could tell it from the people I had seen working during the day. They were working very conscientiously. I was just getting that feeling. Instead of seeing projects out, I was seeing reading and math books—just some of the visual things I picked up.

Don: How did pressing concerns or interests which you have affect your teaching in this particular episode?

Mary Eve: A concern about politeness led me to do all the things we have spoken about.

Mary Eve: I never asked Mary if she minded if children do other things while she reads, but her class never does it so they don't need that introduced to them.

Don: Talk about reflection and contemplation. The remarks you made to the students before they went to the combined activity and after they were there—did you contemplate those concerns?

Mary Eve: I have thought about that before. I can predict various children's actions.

Mary Eve: I keep those things in mind as the situations occur. I don't reflect on how I can change it tomorrow. I just know it's going to happen, and I'm prepared.
Episode 514: Mary Eve and Roger interacted several different times during a one-hour period. It began with a timed arithmetic test and continued with her decision to capitalize on a "teachable moment" for Roger related to self-concept, art, and reading.

514-001 (Mary Eve leans over and says, "Roger, you can do it."

514-138 Don: I'm interested in what you said to Roger.

514-140 Mary Eve: I felt I could give some encouragement that he could do it just by the way I said it.

514-146 Mary Eve: When I went over to help him I thought, "That's more unorthodox." Sometimes I don't help him if he doesn't seem to be that frustrated.

514-197 Mary Eve: I was thinking that the only way he's going to do them is if I station myself there beside him and when I do that people start coming up.

514-199 Don: Did you think any more about that conflict--wanting to help him but not being able to stay there?

514-205 Mary Eve: Yes, and I thought of how I could keep people away, and [I thought,] "Well, we'll see how much Roger gets done," He said, "I can't get them. I'm no good at these." I haven't been able to figure out if that's the way he really feels or if that's the way he gets out of things.

514-214 Don: What were you thinking when Roger was saying that to you? [I can't do it.]

514-216 Mary Eve: I was thinking, "I know you can." I wanted him to know that I felt sympathetic toward him but that I knew he could do it.

514-225 Don: Did you feel uncomfortable with the fact that he wasn't doing the timed test?

514-227 Mary Eve: No. I was feeling uncomfortable because he kept feeling that he had to be as fast as everybody else. I have been positioning myself closer each time.

514-235 Don: Have you contemplated that behavior before?

514-240 Mary Eve: Yes. I've contemplated that. The same thing happens in spelling when they get their spelling interest money.

514-252 Mary Eve: I keep thinking when I see him in that situation that he doesn't want to lose but he's not putting out the effort to win. I react to him, "Roger, if you can't at least
try, there's no hope for you." Lot of times I've accommodated him--timed only his work time. I've tried lots of different approaches but then he feels stranger because that's not how the other kids do it.

514-273 Don: When did you start thinking about Roger when he came up to you at the interest center?

514-275 Mary Eve: As he came I could feel his presence. I could see him coming over the periphery there. I knew he was back there.

514-281 Mary Eve: I was thinking that I paid so much attention to him reading that page, that he was feeling pretty down about the test, and if he's feeling down about one thing, the next thing he does he wants to feel good about.

514-315 Mary Eve: At times I am more concerned about what is going to happen to the building. I don't care if there's paint on the carpet. We're supposed to use the building. I don't really hassle them about messy things. That's a real conflict.

514-330 Don: You told Roger you were going to go to the cluster library with him. Why did you do that?

514-340 Mary Eve: I was thinking as I was going that the whole bucket might be on the floor when I return, but I thought Roger was more important than the building.

514-370 Mary Eve: Jeff asked about the Hawaii book. I'm getting so I can just point to it or answer and I don't even stop and talk to them.

514-467 Don: What title would you put on this video tape?

514-470 Mary Eve: "Total informality," or "Today I felt I was really working with individuals."

514-490 Mary Eve: I thought that was the best time to give them a test. They were occupied before and afterwards they would want to go back to work. I consciously put the test right in the middle.

514-514 Don: Were any of those thoughts that you had persisting, continuing, or recurring?

514-518 Mary Eve: The thought did persist throughout the day. I really felt the need today to get one-to-one.

514-520 Don: Would you describe that need as more conscious or preconscious?
Mary Eve: I think it was subconscious because I really didn't plan to do it that way....I saw that they had moved their desks. They had been playing according to my rules. Now I'd like to see what they were doing.

Don: As I've been sitting here during this interview my back has been against this chair and although it was touching I didn't perceive my back touching it until now. Has any analogous thing happened for you in this episode? You may have been doing something but you weren't aware of it until some point in time.

Mary Eve: I wasn't consciously aware of the fact that they had taken control of their day until Greg commented about groups. They had moved their desks. When Greg said that it struck me that, "We aren't at tables today."

Don: Would you explain anything you particularly appreciated or didn't appreciate during this episode?

Mary Eve: Joseph brought his test and Roger turned his paper over. When Joseph said something it indicated he was keeping track of his time. I appreciated Roger's feeling and I really appreciated that Joseph was keeping track of himself, but I didn't appreciate that Roger had to hear that.

Don: In what ways did your level of awareness change in this episode?

Mary Eve: It changed from focus on one person before the test started to the whole class, back to Roger, back to the class, back to Roger—and I never got back to the reading conference.

Don: Is there any other relationship between shifting from individuals to the whole class and Roger's request for reading a book subsequently?

Mary Eve: When I read with Roger eventually, it will bring closure to this little saga of Roger.

Don: Can you describe any sense of action that you felt compelled to take today?

Mary Eve: I felt I needed to follow up on Van Gogh with Roger....He might not like or care about Van Gogh. But I like art, and I wanted to show the picture and broaden his experience.

Don: Earlier you referred to sensations which came upon you somewhat subconsciously. Please describe that some
Mary Eve: The groups which were chosen earlier in the week weren't as stable as I had thought the relationships would be....I just happened to notice it and wonder why and look back on what had happened.

Don: Can you think of anytime today when you were thinking or contemplating, or reflecting, or reviewing?

Mary Eve: During lunch it struck me that I had a Van Gogh in my file....All during lunch I kept trying to think where I could find a picture.

Mary Eve: I was also thinking about how some of the children would react to a special speaker and maybe the students would want to go.

Don: Will you do anything differently to change that kind of behavior?

Mary Eve: I think the next time....I'll ask the reluctant ones to be reporters and be involved persons.

Don: When did you think of that?

Mary Eve: I thought of that during the speakers presentation. I like to watch the children during special speakers and movies.

Thorough discussion with Mary Eve of definition of hitch received four days earlier.

Don: Go ahead and tell me what you think about the definition of hitches.

Mary Eve: I like to be in charge of my actions. Just deliberately changing some things very consciously.

Mary Eve: I agree with the concept of "reflex-like" participative teacher behavior. That's a lot of what happens.

Mary Eve: I don't only dwell on one particular instance or one particular child. It's like it always is going through my mind. Continued press is an accurate description. I find that I stop and think about many things and jot notes about them more than one time.

Mary Eve: There are times when a child makes a comment and you automatically remember the situation.
Mary Eve: Integrating the responses into a repertoire helps me to accumulate a knowledge of how someone is going to respond. It just happens time and time again.

It explains why people do things... .All in two or three seconds it all comes into focus without even thinking about it.

Don: Are there times when you react to children with very spontaneous reactions?

Mary Eve: I didn't even contemplate an answer. I just step in and say something and later I think about it.

Don: Do you think there is such a phenomenon as pre-conscious processing in your mind?

Mary Eve: Yes, I think there is. Some things I say, which seem to be spontaneous, I would only say to that particular child. I don't say the same things to one person as another. And it's without even thinking about which person I'm speaking to.

Don: Do you think hitches tend to be more likely times of incongruity versus congruity?

Mary Eve: It's probably 50-50 or 60-40 in favor of more unfitting. But an awful lot of fitting, especially in my thoughts at the end of the day, are accomplished fits that I want to carry further in my contemplative perception.

Don: Is it possible that you have many targets you would like to move toward and have you contemplated how one child's particular targets fit into the general activities for the entire class?

Mary Eve: Many things which seem unrelated to the curriculum relate to a broader sense of contemplation about a particular child....They all of a sudden come together in a particular instance.

Don: Can you give me an example in class activities that fits with your emerging definition of hitch?

Mary Eve: Kevin is sitting there on a Monday morning not doing his subtraction facts and I realize I didn't ask him about his weekend. I know he goes to his grandparents on the weekend and I realize I haven't bothered to ask him about it....Once he has unloaded, I get him back into math.

Don: What do you think you integrate into your own set of behaviors from that experience?
Mary Eve: I become conscious of those things which affect Kevin. And I do it with more than one [child] at a time....

All of a sudden, I "click" in to another child. Sometimes I'm more abrupt than they are in my perceptions.

Don: Are there times when a child sees something far beyond your expectations and you get turned on about that?

Mary Eve: Bunky is an example of a child who made some beautiful clay objects as an activity related to his reading. It has had far-reaching effects....His success is kind of snowballing.

Don: Do you find yourself contemplating his success after school hours?

Mary Eve: Yes, and I have been able to modify his work folder.

Mary Eve: Hitches which begin from incongruous actions can develop into hitches based on congruous action and just keep going.

Don: If we were going to explain this written definition to Gary, how would you change it?

Mary Eve: Use the definition of incongruity to mean what the teacher predicted would happen [the sense of comparing].

Mary Eve: More than one hitch can occur at a time.

Mary Eve: The importance of the hitch is when it's in effect. There are always hitches in effect. Since hitches are always in effect, we need to know how they tie into a conscious state.

Mary Eve: The repertoire of teaching behaviors is very important to recognize and use as part of behavior and as a growth technique.

Mary Eve: The abruptness in behavior is one of the most important phenomena for recognizing a hitch. To me it means suddenly realizing background information.

Mary Eve: Establishing a link with events is part of a hitch--searching for causes related to what you are going to act.

Don: Are you comfortable with the notion that there is both a preconscious and a conscious aspect of mental
processing that brings things into awareness?

524-538 Mary Eve: You can almost visualize the situation as soon as it clicks.

524-550 Mary Eve: You see the situation. It's like you change personalities. You're thinking. You're totally aware of all the situations related to the individual and that instance.

524-567 Don: How has being involved in research on hitches affected you as a teacher?

524-570 Mary Eve: It's made me more aware of them and helped me recognize them when they happen. I think many are still happening that I don't recognize.

524-576 Don: How does it affect how you teach? Does it change it any?

524-580 Mary Eve: I feel very personal about my teaching. It's just the way I approach things....Maybe I just kind of keep all those things in my mind. It doesn't feel overcrowded.

Discussion of hitches with Mary Eve and Gary.

526-010 Don: I've asked Mary Eve to explain something we call hitches to you. Why don't you go ahead, Mary Eve.

526-012 Mary Eve: The phenomenon we studied is the contemplative aspect of teaching. A hitch is occurring when something automatically happens which makes you to reflect on something in teaching. It can be from something which is very congruous, that matches very well with what you are doing, or incongruous. It comes down to doing things which you aren't even conscious of without even thinking or being conscious of it. It's just knowing what you're going to do based on all your previous experience.

526-023 Gary: It comes down to knowing how they tick inside from all the clues and motivation keys you get from their actions....I spend a lot of time at my desk just watching children.

526-030 Mary Eve: An example of a hitch is seeing a problem in the face of a pupil and then knowing what to do based on a repertoire of behaviors.

526-045 Gary: Everyone has a rough nerve they need soothed. Once you find it, other things are much easier and better received. Coaching intramural basketball gave me a more
complete view of my kids for me.

526-074 Mary Eve: Are reflections on previous knowledge part of that information?

526-076 Gary: I noticed so many gross and fine motor problems that could be reflected in the classroom.

526-102 Mary Eve: Contract setting conferences provide for a time when all the attention is focused on them [pupils].

526-108 You aren't conscious of all the other things going on around you, but all of a sudden you focus all of the things you know about that person.

526-198 Gary: A student was just about to start division and I knew it could be difficult for her so I called her up [to my desk] and asked her....She said, "Yes, my math does look hard." But after we looked closer at a problem she said, "Oh, that's easy."....I have so much information about them that I can almost know their thinking process. Your repertoire is all different for each child.

526-324 Mary Eve: A negative hitch is when you see something incongruous....A hitch is them not doing what you want them to. Then you contemplate what you're going to do to get them back where they should be.

526-348 Mary Eve: A serendipity hitch is showing a filmstrip and realizing there is an example of the answer to a question a child asked yesterday. You refer to it automatically. Seeing the filmstrip frame joggs your memory.

526-360 Mary Eve: A lot of the hitches we found were trying to bring things together--trying to make the incongruous congruous. But some hitches can be dwelling on what you appreciate and what caused it.

526-380 Mary Eve: Hitches also reflect a mind set which generalizes to all teachers or to the principal in general regardless of [a child's] experience.

Discussion of written materials about a hitch with all five teachers of cluster B.

528-002 Don: I'd prefer for Mary Eve and Gary to explain to you the phenomenon that I was looking for in their teaching. Then we can go from there.

528-007 Mary Eve: You know a lot of things....about all your students and then something happens that either fits with what you are thinking or it doesn't fit. That instance is a
hitch. All of those things you've been thinking and all those things you know about the child come back to you to think about and to contemplate....to help you change your style with that child or to do something else with that child.

Mary Eve: A favorite example is of One Day Everything Went Wrong. Everyone who has read that book and done an activity has wanted to make butter....I knew she wanted to make butter even before she told me about it. She even had that page open. I immediately thought, "Should she make butter."....All of the other things--her self-confidence, the way she acts in the classroom--all of those things I thought of and it determined what my attitude was going to be.

Mary Eve: An example of a hitch yesterday was when I was reading to David during recess duty and stopped to look out, he filled in the next word. This brought to consciousness the fact that I do this constantly with my pupils. I've evaluated David's reading performance over the year as a result, too.

Mary Eve: Being involved with looking at hitches made me more aware of individuals at the time things happen and this happens so continuously that it has an effect.

Examples of hitches recorded by Mary Eve and Gary.

Mary Eve: I noticed that David, who had been standing beside me during reading and had filled in the missing word once before, was standing beside me again today when I did it [looked up in mid-sentence]. I noticed he didn't go on and say the next word. I wondered if something I had said or done or even the way I looked at him when it happened the first time maybe inhibited him or made him realize that I did not stop because I didn't know the word, but because I wanted people to be quiet. I am anxious to see what he does next time.

Mary Eve: Today during sharing Shawn, who is a relatively new member of the class and who has been rather domineering in some respects, brought some computer films in and gave a very, very good talk to the class....Everyone seemed to be listening but Eddie said, "Hey, please be quiet. I can't hear him." Usually it has seemed that Eddie has been pretty vocal against Shawn. It just seemed so tremendous that Eddie requested other people to be quiet so that he could listen to Shawn give his talk....I am very glad to see this kind of behavior coming out with Shawn and the other students.
Mary Eve: I noticed today during field day that coming up to the standing broad jump David, who has not usually come in first or second place in anything, ended up by default with only two people in the contest and he ended up in first place. He is as proud as a peacock of his achievement because he is very rarely among the top people when they are doing athletic things. I really hope that his self-confidence from this will be a lot higher and that he will be a lot more sure of himself.

Mary Eve: One of the times I noticed a hitch, I had given a spelling test on Friday of all the second grade words and on Monday I published the results of the amounts of money each student got. Tuesday morning I received a note from Frankie's mother wondering why he was the fourth lowest in the class since I had assured her previously that there was no learning problem. Immediately I thought, "Should I give him the test over again?" I didn't see why she was so upset about his spelling. He is being compared to a cousin and there are a lot of family background situations that he is trying to live up to. As a result of this, I called her. I asked him the words orally. I told him that when you take a test you have to do the best that you can. It's not a matter of not doing the best that you can just because you don't want to do it. His mother came in yesterday after field day [instead of keeping the appointment for the following Monday]. As soon as she walked in I thought, "Why couldn't you wait until Monday?" It had really been such a hectic day that I was not prepared to give her any whole summer program of what he should do to help his spelling, which is what she insists on having. During the rest of the year I will be extremely conscious of Frankie's spelling, or of anything Frankie does that might encourage his mother to go off on a tangent about something if he doesn't perform up to her expectations.

Mary Eve: This was a very unfitting event which changed my awareness. The first hitch was way back in September. I am constantly aware of what I should do with Frankie as a result of a lot of parent involvement.

Gary: During reading and math we have structured free time to work at the person's pace. Steve manages to find a myriad of questions to ask me—anything to get out of work. So when I notice a pattern of questions developing, I lay down the rules immediately that he has a certain number of pages to read or a certain number of problems to complete. If he does not complete them he finishes either before he goes out to recess or lunch. As soon as I see the light in his eyes that means he's going to ask a question, I ask him if the question is worth asking and this gets him back on task.
Gary: Today at recess we had an incident during a ball
game...where one student knocked down another student.
The student knocked down is extremely short-tempered....
and I knew I should get over there immediately because
something was going to happen....The boy on the ground
came up with his fists flying and tackled the other boy
from behind....We had a short talk with all the boys in-
volved about rules of the game and ways to solve problems.
This problem has gone on all year and I hope we can do
something about it.

Gary: Julie came up to me with a reading book to ask me
how to pronounce a word. Before she could even show me
which word it was, I had picked it out of the page already
and told her what it was. She looked at me and said,
"Mr. Kagarise, how did you know?" I told her it's just
one of those things [natural to teaching].

Gary: Jeff came up to me during reading time. I have
pretty structured rules about reading period and what is
done during that time. I sensed for some reason that today
was not a good day for reading for him. His question was
if he could go to the library to look up information on in-
serts. I asked him if he was tired of reading....He
looked very hesitant about even asking the question be-
cause of the rules. I'm surprised he came up to me with
that kind of question....But he wanted to go so bad that
he had to ask the question....He came back from the
library with some books....He was very interested in the
whole topic.

Gary: I've been thinking about the concept of a hitch and
what it means to my teaching. I've come to the conclusion
that anticipation of problems or deficiencies in my own
teaching has greatly increased the students' learning....
It's just incredible what you can do with a little bit of fore-
sight and planning....I've learned to know what it is
about students that either turns them on or turns them off
and I've anticipated working with students....so that the
activity holds their interest a little longer, and produces
in them the desire to find out what is going on, and to
stay with the group....Even if I have to change a certain
activity at the spur of the moment, at least I'm prepared to
change it. It's just incredible how often I see the attention
span wandering and falling apart for so many students.
Then, if I go ahead and ask the student what is going on
or change it without asking them, they are more enthusias-
tic about the project itself and it's much more meaningful.

Gary: One of my girl's parents just recently got a divorce.
I wasn't aware of the problem at home until one day she
came up to me and said her daddy was leaving them and
wouldn't be staying with them anymore....I felt a great deal of trust being developed between us but I also saw in her a longing for something--for someone--to help out with the hurt she was feeling....We talked about the situation and how she would have to adjust....and I noticed a concern for her mother and four-year-old sister ....I noticed afterwards....she would bring in dolls, animals, and pets to feel as if she loved them....I went out of my way to be a special person for her and ease some of the pain....For a couple days she was very downcast and quiet....then she brought in a batch of cookies and she had such a nice smile on her face, I couldn't help but think that she had solved some of the problems....and felt a little bit better....Sometimes she slips back into a very reflective, distraught mood....and I get very frustrated that I can't help her.

Gary: Several times during the year at recess I've seen students [boys] who are playing....rough games get nicked a little bit or hurt. To me it didn't seem they were....really hurt. But they were hurt in their own minds and so many times....I would help them ease the pain. They seem to respond to that little bit of extra attention....There's such a deep need for attention and love....and they need the love and attention for little boys....that comes from a man sometimes....They come to me more often than they do to the women. It's interesting.

Interview with Gary about the meaning of hitches in teaching.

Don: I'd like you to describe one more hitch and what happened during a hitch you recall.

Gary: A hitch related to the entire class--People were bored with the language study we were doing. When Mike suggested that we write TV scripts in play format, the expression on their faces told me that this was what we ought to do. Their ideas which spilled out told me that this was what to do....I wanted to see if they could reproduce it in written form and then act it out.

Don: Tell me what went through your mind when the suggestion was made.

Gary: As soon as the activity was suggested, my mind was full of all the possible learning experiences which could come out of it in vocal, writing, acting, working with each other, group dynamics, self-discipline, group discipline.

All these things went zoom and I could see how all these things would develop.
Don: What led to the hitch which you described above?

Gary: It starts with a desire to expose children to new stimuli....which help them grow and develop in new and complete ways....These experiences and thoughts come to me spontaneously out of my own desires and frustrations as a teacher. I start to look for ways to make my teaching worthwhile and easier.

Don: What effect did hitchs have on you as a teacher and what's inside your head?

Gary: I proved to myself that my insight was certainly valuable, and even though it was spontaneous at times, it was well thought out. Somewhere when I was thinking about something....

Don: You know where?

Gary: I think it just develops through a concern for the kids. You just know automatically that it would help.

Don: I wish I knew more about that.

Gary: You get to know the children so well that you can almost predict how they are going to react and the meaning that they will take with them.

Don: Without using my definition of hitch, or Mary Eve's, tell me what a hitch means to you.

Gary: For me it's a constant state of mind--either conscious or semi-conscious or totally unconscious--in which I am searching for more meaningful experiences and I have a certain basis that I am using to find those experiences for the kids. The basis comes from very intimate workings with them--with all of them--through a basic foundation of personal one-to-one relationship with each child so that after awhile, I get a picture of the whole class and I can pinpoint certain people who relate to this, this, or this, and then I find experiences which brings in all of them so that something is meaningful for everybody. I structure those lessons so that somebody can pick out something that they either succeed with, have a good time with, or grow with.

Gary: It's not necessarily planned at all. The language hitch came from the kids....around certain goals I had.

Gary: A hitch is a perception of a certain situation and if you're right, it's great. If you're a little off, well it's frustrating and you have to work a little harder at times.
Don: Have you thought about hitches much since we began talking about them?

Gary: Yes. I noticed how much of my teaching was unconscious. Minute by minute something new is coming up.... The teaching day is so stimulating and it's hard to keep up with all the ideas. It's almost too much at times. But these kind of thoughts are constantly occurring to me and most of them fit together in some way. They go together in a pattern. One big hitch is made up of many little hitches which jell together in a final product.

Don: What is characteristic about you as a teacher which affects how hitches occur for you?

Gary: The driving force behind my teaching is that every child has certain talents which he doesn't know about and it's up to me (I don't even know them) to help them find them and to make the learning of the student at school happy, rewarding, and progressive on a scale of learning.

Don: Help me understand where hitches fit into your teaching style.

Gary: They are a state of consciousness, unconsciousness, a state of being, of constant analysis of your teaching behavior.

Don: Does hitching interfere with teaching?

Gary: Hitching is teaching! It makes for very complex teaching. It's a drain....I really didn't think of all these things until we began to talk about it. That is a hitch itself. I had a basic outline, but the more we talk about it, the more these things keep coming to me and the deeper the analysis becomes.

Interview with Mary Eve about the meaning of hitches in teaching.

Don: Are there some hitches neutral--neither positive or negative?

Mary Eve: Some are those which add information, or add to an information gap. By the end of the school year you have a really strong set of things that you have accumulated. I intend to use some of the results of hitches with other students.

Mary Eve: Yesterday Mrs. Gookler said, "You have changed my child's manners," and I said, "I haven't done anything to really stress that." But she said, "You expect
it. There are no ifs, ands, or buts." That just happened and I'm glad she told me. It's never been a written objective.

611-156 Don: Can you recall sometime in your life when manners were a hitch for you?

611-159 Mary Eve: Coming up through parochial school some things were expected....I feel I am polite with them [my students] and so I just get it back....I guess I have worked on it but not as part of a written objective.

611-168 Don: If I characterized your modeling of good social behavior as part of your repertoire of participative actions, would that be accurate?

611-170 Mary Eve: Yes. I do it without thinking. I just expect it.

611-172 Don: You do a lot of things without thinking. But there are times when I think maybe you do contemplate some things and those are in some way related to hitches. I'm not sure I know how.

611-175 Mary Eve: Sometimes, things that I do without thinking, all of a sudden, something will happen and I stop....It's like something has happened--more of a physical event than a feeling. Then I'll stop and think why am I doing it?

611-182 Don: Are those hitches?

611-183 Mary Eve: Yes, they are....It's like a cumulative hitch, a general feeling. It's like knowing a storm is coming up--like something is growing. All of a sudden it happens, and you stop and look at it, and think about it.

611-203 Don: What is characteristic (unique) about you as a teacher which affects how hitches occur for you?

611-205 Mary Eve: I think hitches for me are different than for anybody....I send out feelings that students are individuals. I don't send out group feelings.

611-225 Mary Eve: My children know that they have been individualized and I shouldn't expect the same things from all of them....They know they are different. That said a lot about what I was trying to do this year. When they said that I thought, "I've met my goal for the year."

611-230 Don: When they said that was that a hitch?

611-233 Mary Eve: That was kind of an appreciation hitch. I thought "My goodness, I've been working for this all
year." I don't think I ever felt that I had put steps down that it was going to happen. But they were saying it had happened. I had told the third grade teachers that they [the students] are really independent.

611-248 Mary Eve: But the fact that they told me what my goal was--was a beautiful thing.

611-297 Mary Eve: The way I perceive a hitch is different because of all my background, expectations placed on me, and the way I organize....In the interview with Mary Cay I learned a lot about myself.

611-304 Don: Did that interview create any hitches?

611-305 Mary Eve: I thought of things which had happened to me a long time ago.

611-308 Don: Did you contemplate what your perceptions of life were?

611-310 Mary Eve: I felt so good about getting the results back....I was pleasantly surprised with myself. I felt better about myself....That made me think of what I had done to prepare myself as a teacher when I was at OSU.

611-605 Mary Eve: I think that knowing them....the hitch happens at the end of a day when I'm wondering why it happened and it dawns on me why. Now, knowing about a hitch and knowing what happened last time, I should have said, "OK why don't you want to?--Tell me about it"....I have grown through just learning to stop and think why something is happening.

611-640 Don: Is thinking about hitches enough? Do you trust yourself to act on them....as opposed to categorizing them and realizing perceptions, and then acting?

611-645 Mary Eve: I think that happens at the thought process.

611-646 Don: Does this happen consciously or unconsciously?

611-647 Mary Eve: Unconsciously. I'm amazed at the human mind.

611-660 Don: What meaning does having a hitch give your teaching?

611-669 Mary Eve: It broadens and personalizes teaching.

611-686 Don: Anything else you want to tell me about hitches?

611-688 Mary Eve: I like hitches! I feel privy to information....related to using them....It's made me more aware of my class.
APPENDIX H

INDEX OF IMPORTANT TERMS AND
DESCRIPTIONS RELATED TO HITCHES
<table>
<thead>
<tr>
<th>Term or Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cathexis</td>
<td>202, 227</td>
</tr>
<tr>
<td>Consciousness</td>
<td>132, 192</td>
</tr>
<tr>
<td>Contemplative perception</td>
<td>193</td>
</tr>
<tr>
<td>Esthetic evaluation</td>
<td>142, 191</td>
</tr>
<tr>
<td>Guiding and extending learning</td>
<td>148, 203</td>
</tr>
<tr>
<td>Hitch</td>
<td>188, 199</td>
</tr>
<tr>
<td>Hitches--</td>
<td></td>
</tr>
<tr>
<td>Improving teaching-learning behaviors</td>
<td>198</td>
</tr>
<tr>
<td>Intrinsic characteristics</td>
<td>195</td>
</tr>
<tr>
<td>Perceptual characteristics</td>
<td>196</td>
</tr>
<tr>
<td>Teaching-learning variables</td>
<td>197</td>
</tr>
<tr>
<td>Learning</td>
<td>190</td>
</tr>
<tr>
<td>Learning agenda</td>
<td>164, 203</td>
</tr>
<tr>
<td>Participative perception</td>
<td>192</td>
</tr>
<tr>
<td>Perception</td>
<td>189</td>
</tr>
<tr>
<td>Perceptual equilibrium</td>
<td>193</td>
</tr>
<tr>
<td>Preconsciousness</td>
<td>192</td>
</tr>
<tr>
<td>Rationality</td>
<td>190</td>
</tr>
<tr>
<td>Reality-testing</td>
<td>190</td>
</tr>
<tr>
<td>Selective perception</td>
<td>202</td>
</tr>
<tr>
<td>Staff development</td>
<td>191</td>
</tr>
<tr>
<td>Teaching</td>
<td>194</td>
</tr>
<tr>
<td>Teaching-learning environment</td>
<td>183</td>
</tr>
</tbody>
</table>