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. If copyrighted materials were deleted you will find a target note listing the pages 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.
McNairy, Marion R.

THE INSTRUCTIONAL USE OF CHOICE BY A PREKINDERGARTEN TEACHER: A DESCRIPTIVE STUDY OF A CLASSROOM PHENOMENON FROM MULTIPLE PERSPECTIVES

The Ohio State University

Copyright 1981
by
McNairy, Marion R.
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 or pages
2. Colored illustrations, paper or print
3. Photographs with dark background
4. Illustrations are poor copy
5. Pages with black marks, not original copy
6. Print shows through as there is text on both sides of page
7. Indistinct, broken or small print on several pages
8. Print exceeds margin requirements
9. Tightly bound copy with print lost in spine
10. Computer printout pages with indistinct print
11. Page(s) See* lacking when material received, and not available from school or author.
12. Page(s) seem to be missing in numbering only as text follows.
13. Two pages numbered. Text follows.
14. Curling and wrinkled pages
15. Other

University Microfilms International
THE INSTRUCTIONAL USE OF CHOICE BY A PREKINDERGARTEN
TEACHER: A DESCRIPTIVE STUDY OF A CLASSROOM
PHENOMENON FROM MULTIPLE PERSPECTIVES

DISSERTATION

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

By

Marion R. McNairy, B.A., M.S.

* * * * *

The Ohio State University

1981

Reading Committee:
C. Ray Williams
John G. Hough
J. Robert Warmbrod
Evelyn Freeman

Approved By

Adviser
Faculty of Early and Middle Childhood Education
For Michael, Timothy, and Peter
ACKNOWLEDGMENTS

I wish to thank Dr. C. Ray Williams for his guidance throughout this research endeavor. Dr. William's support has contributed to my development as a scholar and a researcher in the field of early childhood education. I am indebted to Dr. John B. Hough for his encouragement, thoughtful criticism, and continued belief in my ability to complete this study. His support of students is an outstanding model for all who engage in higher education. I also wish to extend my appreciation to Dr. J. Robert Warmbrod for his suggestions and interest in this study.

Other persons have contributed to the realization of this study in many diverse ways. Dr. Susan Rodgers (Department of Anthropology, The Ohio University), Dr. Robert Shelly (Department of Sociology, The Ohio University, and Dr. Ann Shelly (Department of Education, Bethany College) provided methodological and conceptual guidance throughout the different stages of the research act. Without the continual personal and professional support of Miss Julia J. Nehls (Department of Human Development and Family Ecology, The Ohio University), the study would never have been undertaken, let alone completed. Anne Lee Bain and Mrs. Eloise Sipes are thanked for editing and preparing the completed manuscript, respectively.
My gratitude to Ann White for her willingness to be the subject of this study is immeasurable. Without her courage, her cooperation, and her dedication to the research activity, this study would never have materialized.

Finally, I thank my sons, Michael, Timothy, and Peter McNairy. I know that they have not always fully understood their mother's pursuit of knowledge, but for their love and support, I will always be grateful.
VITA

April 7, 1939 ....... Born - Oakland, California
1961. ............. B.A., San Francisco State College,
San Francisco, California
1964-1965 ......... Elementary School Teacher, Buffalo
Public Schools, Buffalo, New York
1974-1976 ......... Graduate Assistant, Ohio University,
Athens, Ohio
1976. ............. M.S., Ohio University, Athens, Ohio
1976-1977 ......... Nursery School Teacher, University
Nursery-Child Care Center, Athens, Ohio
1977-1979 ......... Graduate Teaching Associate, Faculty of
Early and Middle Childhood Education,
The Ohio State University, Columbus, Ohio

FIELDS OF STUDY

Major Field: Early Childhood Education

Studies in Early Childhood Education. Professor C. Ray Williams

Studies in Instruction. Professors John B. Hough and James K.
Duncan

Studies in Human Development. Professor George Thompson
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDICATION</td>
<td>11</td>
</tr>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>i11</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>ix</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>x1</td>
</tr>
<tr>
<td><strong>Chapter</strong></td>
<td></td>
</tr>
<tr>
<td><strong>1</strong> INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Rationale</td>
<td>1</td>
</tr>
<tr>
<td>Purposes of the Study</td>
<td>6</td>
</tr>
<tr>
<td>A Methodological Framework</td>
<td>6</td>
</tr>
<tr>
<td>Statement of the Research Problem</td>
<td>8</td>
</tr>
<tr>
<td>Definition of Terms</td>
<td>8</td>
</tr>
<tr>
<td>Organization of the Dissertation</td>
<td>9</td>
</tr>
<tr>
<td><strong>2</strong> METHODOLOGICAL AND PROCEDURAL STRATEGIES</td>
<td>11</td>
</tr>
<tr>
<td>The Nature of the Field Study</td>
<td>12</td>
</tr>
<tr>
<td>Purposes and Assumptions</td>
<td>13</td>
</tr>
<tr>
<td>Information Derived from the Field Study</td>
<td>14</td>
</tr>
<tr>
<td>Strategies Utilized in the Field Study</td>
<td>15</td>
</tr>
<tr>
<td>Analysis and Interpretation of Field Study Data</td>
<td>18</td>
</tr>
<tr>
<td>The Research Process in the Field Study</td>
<td>19</td>
</tr>
<tr>
<td>An Observational System for Instructional Analysis</td>
<td>21</td>
</tr>
<tr>
<td>Analysis.</td>
<td>21</td>
</tr>
<tr>
<td>Dimensions of Instructional Events</td>
<td>24</td>
</tr>
<tr>
<td>Computer Processing of OSIA Information</td>
<td>30</td>
</tr>
<tr>
<td>Procedural Strategies</td>
<td>31</td>
</tr>
<tr>
<td>Phase 1: Conception of the Research Problem</td>
<td>31</td>
</tr>
<tr>
<td>Phase 2: Preparation for the Research Activity</td>
<td>33</td>
</tr>
<tr>
<td>Phase 3: The Research Activity</td>
<td>42</td>
</tr>
<tr>
<td>Phase 4: Research Activity</td>
<td>57</td>
</tr>
<tr>
<td>Summary</td>
<td>66</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>3</td>
<td>THE PHYSICAL AND SOCIAL ENVIRONMENT OF THE CLASSROOM</td>
</tr>
<tr>
<td>The Physical Environment</td>
<td>69</td>
</tr>
<tr>
<td>The Setting</td>
<td>69</td>
</tr>
<tr>
<td>Discussion</td>
<td>80</td>
</tr>
<tr>
<td>The Social Environment</td>
<td>92</td>
</tr>
<tr>
<td>Participants in the Classroom</td>
<td>93</td>
</tr>
<tr>
<td>Adult Interactions in the Classroom</td>
<td>100</td>
</tr>
<tr>
<td>Discussion</td>
<td>101</td>
</tr>
<tr>
<td>Summary</td>
<td>113</td>
</tr>
<tr>
<td>4</td>
<td>THE INSTRUCTIONAL CONTEXT</td>
</tr>
<tr>
<td>A Teacher’s Day in the Classroom</td>
<td>115</td>
</tr>
<tr>
<td>Ann’s Day</td>
<td>116</td>
</tr>
<tr>
<td>Summary</td>
<td>133</td>
</tr>
<tr>
<td>An Analysis of the Teacher’s Classroom Behaviors</td>
<td>133</td>
</tr>
<tr>
<td>Independent Behaviors</td>
<td>134</td>
</tr>
<tr>
<td>Interactive Behaviors</td>
<td>137</td>
</tr>
<tr>
<td>Appraisal Behaviors</td>
<td>139</td>
</tr>
<tr>
<td>Summary</td>
<td>140</td>
</tr>
<tr>
<td>Teacher’s Behavior in the Classroom</td>
<td>141</td>
</tr>
<tr>
<td>Related Literature</td>
<td>141</td>
</tr>
<tr>
<td>Teaching Behaviors from a Qualitative Perspective</td>
<td>149</td>
</tr>
<tr>
<td>Summary</td>
<td>159</td>
</tr>
<tr>
<td>5</td>
<td>CHOICES IN THE CLASSROOM</td>
</tr>
<tr>
<td>A Description and Analysis of a Teacher’s Use of Choice</td>
<td>161</td>
</tr>
<tr>
<td>An Example of a Choice Activity</td>
<td>162</td>
</tr>
<tr>
<td>Quantitative Analysis of Types of Choice</td>
<td>165</td>
</tr>
<tr>
<td>Summary</td>
<td>167</td>
</tr>
<tr>
<td>Choice as an Instructional Strategy</td>
<td>168</td>
</tr>
<tr>
<td>Review of Related Literature</td>
<td>168</td>
</tr>
<tr>
<td>An Instructional Model of Choice</td>
<td>174</td>
</tr>
<tr>
<td>Summary</td>
<td>181</td>
</tr>
<tr>
<td>6</td>
<td>SUMMARY, CONCEPTUAL INTEGRATION, AND IMPLICATIONS</td>
</tr>
<tr>
<td>Summary</td>
<td>182</td>
</tr>
<tr>
<td>Findings About the Environment</td>
<td>183</td>
</tr>
<tr>
<td>Findings About the Instructional Context</td>
<td>184</td>
</tr>
<tr>
<td>Findings About Choice</td>
<td>185</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
</tr>
<tr>
<td>A Conceptual Integration of the Findings</td>
<td>186</td>
</tr>
<tr>
<td>A Model for Conceptual Integration</td>
<td>186</td>
</tr>
<tr>
<td>Implications</td>
<td>190</td>
</tr>
<tr>
<td>Generalizability</td>
<td>190</td>
</tr>
<tr>
<td>Methodological Implications</td>
<td>191</td>
</tr>
<tr>
<td>Conceptual Implications</td>
<td>191</td>
</tr>
<tr>
<td>7 REFLECTIONS OF THE RESEARCHER: A POSTSCRIPT</td>
<td>194</td>
</tr>
<tr>
<td>The Importance of Choice</td>
<td>194</td>
</tr>
<tr>
<td>Importance to the Classroom Teacher</td>
<td>195</td>
</tr>
<tr>
<td>Importance to Educational Researchers</td>
<td>195</td>
</tr>
<tr>
<td>Importance to Teacher Education</td>
<td>196</td>
</tr>
<tr>
<td>Importance to Society</td>
<td>197</td>
</tr>
<tr>
<td>Methodological Importance</td>
<td>198</td>
</tr>
<tr>
<td>Importance to Educational Research</td>
<td>198</td>
</tr>
<tr>
<td>Personal Importance to the Researcher</td>
<td>198</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>200</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>210</td>
</tr>
<tr>
<td>A. Human Subjects Information</td>
<td>211</td>
</tr>
<tr>
<td>B. Teacher Documents</td>
<td>215</td>
</tr>
<tr>
<td>C. Classroom Materials and Equipment</td>
<td>222</td>
</tr>
<tr>
<td>D. The Daily Schedule</td>
<td>228</td>
</tr>
<tr>
<td>E. An Example of OSIA Matrix Analysis</td>
<td>231</td>
</tr>
<tr>
<td>F. An Example of OSIA Subfunction Analysis</td>
<td>233</td>
</tr>
<tr>
<td>G. An Example of OSIA Subscript Analysis</td>
<td>236</td>
</tr>
<tr>
<td>H. Selected Chain and Pool Variables</td>
<td>239</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Research Activities During Phase Two.</td>
<td>41</td>
</tr>
<tr>
<td>2</td>
<td>Research Activities by Weeks, Phase Three</td>
<td>56</td>
</tr>
<tr>
<td>3</td>
<td>Outline for Sampling Procedure.</td>
<td>60</td>
</tr>
<tr>
<td>4</td>
<td>Research Activity by Month During Phase Four</td>
<td>67</td>
</tr>
<tr>
<td>5</td>
<td>Demographic Information Concerning the Children Enrolled in Ann's Classroom</td>
<td>94</td>
</tr>
<tr>
<td>6</td>
<td>Parent Occupations.</td>
<td>95</td>
</tr>
<tr>
<td>7</td>
<td>Time Spent in Interaction With Other Adults</td>
<td>102</td>
</tr>
<tr>
<td>8</td>
<td>Relative Amount of Time Contributed to Interaction by Teacher and by Other Adults.</td>
<td>102</td>
</tr>
<tr>
<td>9</td>
<td>Amount and Percent of Time Spent in Interactions With Adults by Topic</td>
<td>103</td>
</tr>
<tr>
<td>10</td>
<td>A Comparison of Teacher Behavior (by Category) During Morning and Afternoon Group, Free Play, and Clean-Up Times</td>
<td>107</td>
</tr>
<tr>
<td>11</td>
<td>A Comparison of Teacher Behaviors (by Category) During Morning and Afternoon Free Play and Clean-Up Times.</td>
<td>109</td>
</tr>
<tr>
<td>12</td>
<td>Teacher Time Spent in Independent Behavior</td>
<td>135</td>
</tr>
<tr>
<td>13</td>
<td>Teacher Time Spent in Scanning Behavior by Subcategories</td>
<td>135</td>
</tr>
<tr>
<td>14</td>
<td>Teacher Time Spent in Manipulating Artifacts by Subcategories</td>
<td>136</td>
</tr>
<tr>
<td>15</td>
<td>Teacher Time Spent in Interactive Behaviors</td>
<td>138</td>
</tr>
<tr>
<td>Table</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>16</td>
<td>Teacher Time Spent in Interactive Behavior by Categories of Other Persons</td>
<td>138</td>
</tr>
<tr>
<td>17</td>
<td>Teacher Time Spent in Interactive Behavior by Subcategories</td>
<td>139</td>
</tr>
<tr>
<td>18</td>
<td>Amount and Percent of Teacher Time Spent in Appraisal Behavior</td>
<td>140</td>
</tr>
<tr>
<td>19</td>
<td>The Number and Percent of Occurrences of Types of Teacher Choice Behaviors</td>
<td>167</td>
</tr>
<tr>
<td>20</td>
<td>Selected Chain and Pool Variables</td>
<td>237</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Intra-rater Reliability for a Pool of Three Instructional Segments.</td>
<td>62</td>
</tr>
<tr>
<td>2</td>
<td>Dowd Hall and Surroundings.</td>
<td>72</td>
</tr>
<tr>
<td>3</td>
<td>Second Floor of Dowd Hall</td>
<td>73</td>
</tr>
<tr>
<td>4</td>
<td>Ann’s-Room.</td>
<td>76</td>
</tr>
<tr>
<td>5</td>
<td>An Instructional Model of Choice.</td>
<td>175</td>
</tr>
<tr>
<td>6</td>
<td>A Model for Conceptual Integration of the Research Findings.</td>
<td>187</td>
</tr>
</tbody>
</table>
Chapter 1

INTRODUCTION

Young children participating in educational programs are surrounded by environments in which learning can be either facilitated or restricted. Educational goals, objectives, instructional strategies, and learning activities planned and utilized by teachers can enrich the child’s learning experiences or, in some instances, can impede the child’s development or limit the actualization of his or her human potential. Of importance in the study of early childhood education is the examination of the means by which teachers, in daily classroom interaction, implement educational aims or purposes. This knowledge could enrich the understanding of teaching in the early years by providing information that could guide the preservice and inservice education of teachers as well as provide a basis for further research. The purpose of this study, therefore, was to examine and describe the nature of one teaching strategy—a teacher's use of choice—within the context of a prekindergarten classroom.

Rationale for the Study

A major problem in both the study of education and in the practice of teaching is the identification of appropriate means by
which children can be enabled to reach the educational aims or goals valued by the society in which the child lives. Educational decisions reflecting societal values are implemented, for better or for worse, by teachers in their daily interaction with children.

Among the aims of education in a democratic society, development of knowledge and development of responsible citizenship are of primary importance. Piaget, for example, posited the development of knowledge as a primary aim of education and addressed questions concerning the nature of both intelligence and knowledge, as well as their pedagogical implications (1977, p. 28):

The problem of intelligence, and with it the central problem of the pedagogy of teaching, has thus emerged as linked with the fundamental epistemological problem of the nature of knowledge: does the latter constitute a copy of reality or, on the contrary, an assimilation of reality into a structure of transformations?

For Piaget, intelligence, the functions of which "consist in understanding and inventing, in other words in building up structures by structuring reality" (1977, p. 27), is essentially a process of executing and coordinating actions. From its inception in sensory-motor behavior to the more complex interiorized and reflexive forms, intelligence is characterized by activity, which is also a fundamental aspect of knowledge. Piaget emphasized the relationship in the following statement (1977, p. 29):

... knowledge is derived from action, not in the sense of simple associative responses, but in the much deeper sense of the assimilation of reality into the necessary and general coordinations of action. To know an object is to act upon it and to transform it, in order to grasp the mechanisms of that transformation as they function in connection with the
transformative actions themselves. To know is therefore to assimilate reality into structures of transformation, and these are the structures that intelligence constructs as a direct extension of our actions.

In addition to the development of knowledge, the means for intelligent exercise of citizenship is also important as an aim of the educational process. Dewey (1959) stressed the dual nature of the process, emphasizing both psychological and sociological factors. Although the psychological factors provide the basis for education, Dewey also noted the importance of the social factors, suggesting that "education is the fundamental method of social progress and reform" (1959, p. 30). Although Dewey suggested that "by law and punishment, by social agitation and discussion, society can regulate and form itself in a more or less haphazard way" (1959, p. 31), he envisioned education as a means for more systematic social change: "But through education society can formulate its own purposes, can organize its means and resources, and thus shape itself with definiteness and economy in the direction in which it wishes to move (1959, p. 31)." For Dewey, as for Piaget, the underlying characteristic in terms of children's behavior is that of activity. Through active engagement of cognitive and affective processes that lead to creative and independent thought, children are provided the means for the intelligent exercise of citizenship.

Among the processes that lead to and are exercised in responsible actions are those of decision-making and choice. "If human dignity is to exist," stated Oliver and Shaver (Joyce and Weil, 1972,
"then individuals must be able to make choices between alternatives; choice is the essential defining characteristic of human dignity." If children are to grow into adults whose lives are exemplified by human dignity, they must be given opportunities to develop decision-making skills at an early age. Children who leave school without developing these skills are, according to Goodlad (1966, p. 201), "walking indictments on their teachers."

The implication of these statements — that children be actively involved in decision-making in the educational context — is that teaching strategies employed by classroom teachers must allow for and encourage children to make choices. Goodlad (1974, p. 4) emphasized this point by stating, "Clearly, from the beginning, boys and girls in our schools must assume (and this means have the opportunity to assume) responsibility for their own education."

Since the 1960's, a time during which increased emphasis was placed on the importance of the early years in the development of children's learning, "from the beginning" for many children has meant entry into formal educational programs at the ages of three and four rather than at the more traditional age of six years. Project Head Start and the Head Start Planned Variations Project offered early childhood educators potentially effective models on which to base their own educational practices (Bissell, 1973; Hunt, 1975; Rivlin and Timpane, 1975).

Although early childhood programs have the same essential components of human, temporal, and material resources, they differ in
other elements, including philosophical assumptions and theoretical bases, curricular goals, emphasis on process or content, the degree of structure in the program, and instructional strategies (Fein and Clarke-Stewart, 1973; Gordon, 1972; Mayer, 1971). Although descriptions of individual program models and comparisons among them are available, Mayer (1972, pp. 286-287) suggested that "little has been written to explain the differences in instructional techniques and their theoretical rationales. . . ." She then proposed a model of instructional analysis based on three primary interactions: the teacher-child interaction, in which learning is primarily mediated by the teacher; the child-child interaction, in which learning is mediated through peer play; and the child-material interaction, in which learning is mediated by the child's manipulation of materials.

Gordon (1972) proposed a model of analysis based on an instructional theoretical model that included the elements of pupil characteristics, goal characteristics, and instructional situation characteristics. The latter element was subcategorized to include classroom organization, materials, teacher instructional role behavior, teacher management role behavior, and teacher personality. Weikart (1972), in analyzing the classroom behavior of teachers in differing models, identified the degree to which teachers and children initiate classroom activities as a critical variable in the understanding of program differences. Although the need for description and analysis of instruction in early childhood programs has been noted, little has
been systematically done to study instruction in the preschool classroom.

In summary, the need of education to meet the goals of producing responsible members of society leads to questions concerning effective means of meeting those goals. Information derived from studies of teaching in the early years would be of use to teachers, school administrators, teacher educators, and researchers in the accomplishment of their goals and those of society.

**Purposes of the Study**

The focus of this study was on classroom description. More specifically, the purposes were as follows:

1. To provide descriptions of both the classroom context and classroom interactions from multiple perspectives, and
2. to describe, within the complexity of that context and those interactions, the dynamics of teacher behaviors and strategies which encouraged children in the decision-making process.

**A Methodological Framework**

Although a discussion of the methodology used in this study will be presented in greater detail in a later chapter, it is appropriate at this point to introduce the conceptual framework underlying the methodological dimension of the study.
Educational research has been criticized or ignored as irrelevant to teachers and of little use in educational planning. Stubbs and Delamont suggested that much of the irrelevancy of research is a result of the neglect of actual classroom observation of teacher-pupil interaction as well as neglect of the complexity of teaching. These authors argued for "genuine exploratory studies, in an area where any new orthodoxy would be premature, and for approaches which would address complexity, rather than playing with topics that are manageable because they are trivial" (1976, Preface).

During the past two decades, the field study approach has emerged in educational research as an attempt to deal with the complexities of educational phenomena (King, 1978; Phelps, 1979; Schmid, 1979; Sevigny, 1977; Stubbs and Delamont, 1976; Wolcott, 1973). Growing out of the disciplines of anthropology and sociology, the field study, when adapted to classroom studies, exemplifies an holistic approach to the observation and description of classroom dynamics. Characterized by multiple perspectives, that is the viewing of events from standpoint of participants within the event as well as observers of such events, the approach also utilized multiple methods of collecting data about events (Zelditch, 1969). Because the holistic approach has potential for contributing to the knowledge of teaching in the preschool years, this conceptual framework was used in the design and implementation of the study.
Statement of the Research Problem

One begins to understand the dynamics of teacher behavior and strategies by viewing the total classroom environment, including the phenomenon of social interaction, utilizing the holistic framework of the anthropological and sociological fieldwork tradition. But just as anthropologists have begun to focus on specific aspects of culture, such as kinship systems, ritual behavior or economic exchange, so also can educators investigate more specific aspects of classroom life. Within this context, the research problem that guided this study can be expressed in the following questions:

1. What is the nature of the physical and social environment of the classroom as a context for a teacher's use of choice strategies with preschool children?

2. What is the nature of the instructional context in which a preschool teacher's use of choice strategies is imbedded?

3. What is the nature of the choices offered by a preschool teacher to children in the classroom?

Definition of Terms

Terms used in the study are defined in the following manner:

Choice is the opportunity of the power or chance to select among alternatives. The opportunity for choice is given by a preschool kindergarten teacher to children within the totality of the educational setting.
Instruction is "the process of arranging human, material, and temporal resources with the intent of facilitating the learning of self and others" (Hough, 1980). For the purpose of this study only, instruction and teaching will be used synonymously.

Prekindergarten children, or preschool children, are children of three through five years of age who are not enrolled in public school kindergarten.

Organization of the Dissertation

A statement concerning the significance of and the rationale for the study, the purposes of the study, a methodological framework, a statement of the research problem, and definitions of key terms have been presented in Chapter 1. The literature relevant to multiple methodology, including ethnography and systematic classroom observation, and the procedures used in the collection of the data are presented in Chapter 2. A detailed description of the physical and social environment of the classroom and a discussion of the effects of the environment on the use of choice strategies, including reviews of related literature, are presented in Chapter 3. A description of a typical day in the classroom, a quantitative analysis of instructional methods, and a discussion of the instructional context, including a review of relevant literature, are reported in the following chapter. A description and analysis of choices in the instructional, including a review of relevant literature, comprise Chapter 5. Chapter 6 includes a summary and a conceptual integration of the
findings as well as a statement of the implications of the research. The author's reflections concerning the significance of the study are presented in Chapter 7.
To understand and to explain a phenomenon, to find order and meaning in experience, to arrive at truth and knowledge is, ultimately, the purpose of scientific inquiry. Bronowski (1969) defined science as "the organization of our knowledge in such a way that it commands more of the hidden potential in nature" (p. 7), the "search to discover unity . . . in the variety of our experiences" (p. 16), and "the creation of concepts and their exploration in the facts" (p. 60). For Bronowski, science, which is to be understood as process, begins with descriptions of phenomena based on empirically derived data. Having recognized this need, the question that then faces the researcher concerns the ways in which the data most relevant to the research problem can be obtained most efficiently and effectively. Kaplan (1964), speaking of the methods involved in scientific inquiry, suggested that "the scientific method" is a restrictive concept. Rather than viewing scientific methods as a unitary construct, those who are engaged in scientific inquiry should be allowed methodological freedom in the process of inquiry (p. 407). He stated (p. 4),

For the domain of truth has no fixed boundaries within it. In the one world of ideas there are no barriers to
trade or travel. Each discipline may take from others techniques, concepts, laws, data, models, theories, or explanations—in short, whatever it finds useful in its own inquiries.

The purpose of this inquiry was to provide a description of the ways in which teachers of young children share their decision-making power by offering those children choices within the context of classroom life. Recognizing that teaching is a complex activity, the need for a method or methods that reflect that complexity necessitated the use of multiple methodological strategies. The field study, with its framework for multiple strategies, was reasoned to be the most appropriate approach for the research problem.

This chapter, in which the methodology and procedure used in the study will be described, is divided into three sections. The nature of the field study and the use of ethnographic techniques is described in the first section. The introduction and description of the Observational System for Instructional Analysis is presented in the second section. The third section contains a detailed outline of the procedural strategies that were utilized in this study.

The Nature of the Field Study

The necessity for understanding educational phenomena in a total context has led some educators to advocate the use of the anthropological and sociological tradition of the field study. Field study, as defined by Kaplan (1964, p. 165) is the "direct or indirect observation of behavior in circumstances in which it occurs without any
significant intervention of the part of the observer." Although frequently used synonymously with terms such as ethnography, participant observation, and qualitative research, the following discussion attempts to distinguish among these terms.

**Purposes and Assumptions**

One approach to understanding the nature of the field study is to delineate the purposes and assumptions in comparison to another type of research. Iannaccone (1975, pp. 225-226), for example, elaborated the differences between field and experimental studies in the following statement:

The controlled experiment is generated by the existence of what appears to the researcher to be adequate conceptualizations and theory to generate hypotheses for rigorous testing under controlled conditions to produce findings which may be generalizable. The field study is instead undertaken precisely to expand conceptual frameworks and to develop models which lead to theory and eventually to hypothesis testing.

The purpose of the field study is not to verify theory but rather to discover theory grounded in empirical data (Glaser and Strauss, 1967).

Wilson (1977) identified the assumptions or rationale underlying the field study as emerging from two sets of hypotheses. The naturalistic-ecological hypothesis posits that human behavior is influenced by both the physical and psychological settings in which the behavior occurs. The qualitative-phenomenological hypothesis, the source of the second part of the rationale, suggests that human behavior cannot be understood "without understanding the framework within which the subjects interpret their thoughts, feelings, and
actions" (Wilson, 1977, p. 249). A more complete understanding of human behavior, therefore, is predicated upon understanding emanating from an introspective as well as objective stance.

**Information Derived from the Field Study**

The field study provides various types of information in the implementation of a research design. Zelditch (1969, pp. 7-8) identified three broad categories of such information: (1) **Incidents and histories**, which include logs of events, actions observed, and explanations reported by participants; (2) **distributions and frequencies**, including quantification of possessions, time spent in interaction, and repeated observations over a period of time; and (3) **generally known rules and statuses**, which include lists of statuses, persons occupying them, and informant accounts.

In discussion of research, two types of data—qualitative and quantitative—have been compared and dichotomized. Zelditch's delineation of information categories cuts across this dichotomy, which, according to Iannaccone (1975), is unnecessary. Qualitative data refers to descriptions of the qualities of a particular phenomenon, frequently from the viewpoint of a participant, and quantitative data results from the categorization, measurement, and enumeration of those qualities from the perspective of an observer (Hough, 1979). According to Zelditch's categories, both types of information are needed in the field study.
Strategies Utilized in the Field Study

For each category of information identified by Zelditch, a corresponding method of data collection was proposed. Participant observation was suggested as the most appropriate means for the collections of incidents and histories, enumerations and samples the most effective for distributions and frequencies, and informant interviewing the most advantageous for generally known rules and statuses. Of the three methods, participant observation is primary.

Participant observation. The strategy of participant observation refers to the sharing by the researcher of daily experiences of the participants involved in the study for the purpose of data collection. Gold (1958) described four roles of the participant observer on a continuum from complete participant to complete observer: (1) the complete participant, in which the identity and purpose of the observer is unknown to those observed; (2) participant-as-observer, in which the field relationship is known to both the observed and the observer; (3) the observer-as-participant, in which the researcher engages in one-visit interviews; and (4) the complete observer, in which there is no social interaction between the observer and the observed.

Although each role has advantages and disadvantages (Gold, 1958; Schwartz and Schwartz, 1969) and role definitions may have to be changed in the course of the study in order to prevent distortions
in the data, the major implication of participant observation is that
the researcher is the major instrument in the collection of data.

**Enumeration and samples.** This strategy includes "survey and
direct, repeated, countable observations" (Zelditch, 1969, p. 9). The
need for quantitative data in field studies has been discussed by
Smith (1975) and Pelto and Pelto (1978). The latter authors, however,
emphasized some of the dangers involved in quantification:

Misplaced quantification is often worse than none at all. Quantification without clear conceptualization of the rele­
vant population, and other operational precautions lead to
error and mystification. Also, it is clear that many of
these methodological precautions require extensive supporting
field work--participant observation, interviewing, and other
qualitative backup research--to give reality and meaning to
the numbers and percentages (p. 140).

**Informant-interviewing.** The third strategy proposed by
Zelditch was that of informant-interviewing, in which information is
not gained through direct observation by the researcher. Zelditch
restricted informant-interviewing to reports from perceptive persons
concerning other people and events not observed by the researcher.
Two other sources of indirect information related to informant-
interviewing have been proposed by McCall and Simmons (1969). The
first is that of respondent-interviewing, which is concerned with "the
personal feelings, perceptions, motives, habits, or intentions of the
interviewee" (p. 62), and the second is that of various records and
documents pertaining to the phenomenon.
The methods that Zelditch has described are also the primary strategies used by ethnographers within the anthropological tradition. Ethnography, as defined by Wolcott (1975), refers to both the basic descriptive data collected by an ethnographer and the science of cultural description. He maintained that "one can take an ethnographic approach to studying any aspect of human social life" (p. 112). Pelto and Pelto (1978) provided an extensive description of ethnographic techniques which include, but are not restricted to, participant-observation, informant-interviewing, and enumeration and samples.

Multiple strategies. Although participant observation has been noted as the primary source of data collection in field studies, other strategies can be used in conjunction with participant observation as a means for controlling the quality of data collected by the observer. Several authors (McCall, 1969; Schwarz and Schwarz, 1969; Vidich, 1969) have discussed the possible contaminants to data collected by means of participant observation. These potential contaminants include reactive effects instigated by the presence of the investigator, limitations imposed by the observer's inability to observe all aspects of the phenomena, and distorted effects of selective perceptions. The perceptions of the researcher are, to a greater or lesser degree, influenced by that person's experiences. In the present study, the researcher's perceptions of the classroom were potentially affected by such experiences as motherhood, classroom
teaching with three- and four-year-old children in the same Center in which the data were collected, and intensive study of early childhood education at two universities.

The quality of the data collected through participant observation, however, can be checked by the use of a process known as triangulation, which Denzin (1970, p. 301) defined as "the use of multiple methods in the study of the same object." Denzin elaborated the concept of triangulation to include multiplicity of data, investigators, and theories as well as of methodologies. McCall (1969, p. 130) concurred with this argument, stating that "the key to quality control in participant observation is . . . the thorough use of multiple indicants of any particular fact and an insistence on a very high degree of consonance among these indicants. . . ." The use of multiple methods in field research, therefore, provides a means by which the quality of data can be controlled and rival interpretations can be ruled out.

Analysis and Interpretation of Field Study Data

Two approaches to the analysis of data generated by ethnographic techniques have been described by Pelto and Pelto (1978). The emic analytical approach views the phenomenon being studied from the perspective of the participants within the phenomenon, developing categories for analysis based on the participants' own classificatory systems. The etic approach, on the other hand, finds the researcher
standing "outside of a particular culture to see its separate events, primarily in relation to their similarities and differences, as compared to events in other cultures, rather than in reference to the sequence of events within that one particular culture" (Pike, in Pelto and Pelto, 1978, p. 4). Geertz (1973), however, suggested that neither approach is sufficient in and of itself and stated that "our double task is to uncover the conceptual structures that inform our subjects' acts ... and to construct a system of analysis in whose terms what is generic to those structures ... will stand out against the other determinants of human behavior" (p. 27).

The analysis of ethnographic data, therefore, appears to be a "condition of tension" in which discovery of the subjects' conceptualization is to be balanced with the researcher's intellectual capabilities and history for analysis and interpretation; for, as Geertz (1973, p. 27) also noted, "one does not start (or ought not) intellectually empty-handed."

The Research Process in the Field Study

The field study research process is most appropriately characterized as "temporarily developing" (Sevigny, 1978). The researcher, although cognizant of the knowledge and theoretical constructs pertinent to the research problem, is not guided in his field study by a priori hypotheses or a structured research design. The research activity is, rather, characterized by flexibility and an emergent design.
The research process can be understood more clearly by descriptions provided by Strauss, Iannecone, and McCall and Simmons. Strauss et al. (1964) described the research process in terms of three basic phases. An initial phase consists of observation in which problems begin to emerge. The intermediate stage is one in which problems are clearly specified, and focus is centered on particular aspects of the field, and the third phase is one in which a systematic attempt is made to identify various hypotheses.

Iannecone (1975) stressed the reiterative nature of the research process in his definition of field study:

By field study I mean a pattern of activities which consists of a reiterative cycle of sequentially collecting data, analyzing it to develop crude hypotheses which guide the next stage of data gathering, collecting additional data, reanalysis, and further hypothesis development, and rechecking with additional data collected followed by continued reanalysis (p. 222).

Another aspect of the research process, that of simultaneity of research activities, was stressed by McCall and Simmons (1969). Rather than delineate phases of the research process, these authors proposed that the research process be understood in terms of "analytically distinguishable aspect(s) of a multiplex process" (p. 61). They designated research design, data collection, analysis, and report-writing as the four simultaneous aspects of the research process that "continually influence and impinge on one another" (p. 61). Characteristic of each of these descriptions is the flexibility and fluidity of the continually emergent research design.
The first section of this chapter has presented an overview of the field study, in which distinctions have been made among various terms frequently used synonymously with the term, field study. It was seen that ethnography, qualitative research, and participant observation are subsets of the generic type of research known as the field study. The second section of this chapter is concerned with the description of a direct observation system which can be viewed as an educational elaboration of Zelditch's category of enumeration and samples.

An Observational System for Instructional Analysis

The idea that direct observation of a behavior under study, together with enumerations of repeated behavior over a period of time, is integral to the concept of the field study has been presented in the previous section of this chapter. The method of direct and systematic observation is one that has been carefully developed and continuously refined by educational researchers (Dunkin and Biddle, 1974; Hyman, 1974; Medley and Mitzel, 1963; Rosenshine and Furst, 1973).

The development of instruments for direct and systematic observation resulted from the failure of earlier studies, which were focused on teacher characteristics, to provide meaningful information on the study of teaching. "Perhaps the most significant shortcomings of these early studies," stated Dunkin and Biddle (1974), p. 13), "is that they assiduously avoided looking at the actual processes of
teaching in the classroom." The inadequacies of these earlier studies led researchers to focus on actual classroom teaching within a process-product paradigm, in which specific teaching processes were related to student outcome or product.

The proliferation of instruments for classroom observation led Rosenshine and Furst (1973) to maintain that, although distinctions among different types of instruments are no longer precise, three characteristics can be identified that potentially distinguish among various instruments. These are the recording procedures, the scope and specificity of items, and the format used in the coding procedure. There are basically two types of recording procedures: category systems, in which an event is recorded each time it occurs, and sign systems, in which an event is recorded once in a given period of time, no matter how many times the event occurs within the specified time period. The second characteristic identified by Rosenshine and Furst concerned inference differences in items: high-inference items are those an observer must infer on the basis of observations, and low-inference items are more specific and require less inference. The authors noted, however, that both high- and low-inference items were being included in both sign and category systems. The third characteristic was that of differences in format, which included multiple coding—the coding of events along several dimensions—and subdivision of major categories—the breakdown of larger categories into sets of events.
Regardless of the distinctions among them, the advantage of observational systems, especially of those that include multiple coding and subdivision of categories, is the quantification of the qualitative aspects of teaching, a method that complements the qualitative data collected by the use of ethnographic methods.

Among the instruments possessing the greatest potential for systematic observation of classroom events is the Observational System for Instructional Analysis (OSIA) originally developed by Hough (1967). Having undergone several revisions, the system in its present form (Hough, 1980a, 1980b) provides a conceptual framework for the collection, analysis, and description of classroom events. The OSIA, supported by a sophisticated system for computer analysis, was designed to collect information about instruction where instruction is defined as "the process of arranging human, material and temporal resources with the intent of facilitating the learning of self and others" (Hough, 1980a pp. 1-2).

With respect to Rosenshine and Furst's characteristics, the OSIA is both a category and sign instrument, with events being coded at intervals of five seconds or less (as in the case of change of events during the five-second interval). The system contains both low- and high-inferences items, and its format permits the coding of multiple dimensions of events as well as the subdivision of categories into two levels of subscripts.
Dimensions of Instructional Events

The author of the OSIA described the collection of information about instructional events as occurring on six levels. Schmid (1979) reconceptualized the six levels as nine dimensions. The dimensions will be presented in the following paragraphs with definitions adapted from those of the original author. Definitions are reprinted with permission of the author.

The focus of the observation. The first dimension of the OSIA concerns the focus of the observation. The observer can choose to focus on the teacher, an individual student, the instructional setting, or some other element of the setting, such as another person. This dimension allows the researcher purposely to sample relevant behaviors in accordance with the needs of the research problem.

The instructional situation. The second dimension allows the observer to record a description of the instructional situation(s) in which information is being collected. The instructional settings include the class setting, which involves all members of the class in an interactive exercise; the group setting, in which a smaller number of students interact and which may or may not include the teacher; a tutorial or dyad, in which two persons are involved in an instructional event; and an independent situation indicated by the absence of social interaction rather than by physical isolation. In addition, a fifth category is included for settings other than the ones listed.
As with the first dimension, the focus of instructional settings can be purposely selected.

The source of instructional events. The third dimension involves potential sources of instructional events. This dimension contains three categories, those of teacher, student, and other.

Categories of instructional events. Although Hough and Duncan (1975) originally described instructional categories in conjunction with instructional functions, Schmid's treatment of the two as separate dimensions facilitates the clarity of description. The thirteen generic categories of instructional events can be combined with two levels of subscripts. These subcripts not only provide opportunities for finer discrimination among instructional events but also allow the researcher to describe, in a quantitative manner, characteristics of instructional events derived from the use of ethnographic techniques. The thirteen categories are defined in the following manner:

**Thinking:** Any nonappraisal behavior in which a person is apparently reflecting on (thinking about) some substantive or managerial aspect of classroom instruction. The behavior is essentially one of being consciously in communication with one's self.

**Sensing:** Any nonappraisal behavior in which a person uses one's senses (seeing, hearing, feeling, tasting, and smelling) to take in information from an external source. The behavior is essentially one of being in sensory contact with one's external environment.

**Manipulating Artifacts:** Any nonappraisal behavior in which one manipulates (works with) instructional artifacts (curricular-instructional materials).
Initiating: Any spoken, unspoken, or mediated nonappraisal behavior that presents substantive or managerial information to another or others. The initiating behavior may be an expression of knowledge and/or an expression of feeling states or value preferences.

Responding: Any spoken, unspoken or mediated nonappraisal behavior that responds substantively or managerially to an element in the instructional situation, (i.e., the antecedent behavior of another or an instructional artifact[s]). The responding behavior may be an expression of knowledge, demonstration of a skill and/or an expression of a feeling state or value preference.

Soliciting Clarification: Any manifest nonappraisal behavior (spoken, unspoken or mediated) that evokes or is intended to evoke from another person the fuller meaning of an antecedent behavior of that other person or a produce of his behavior. The antecedent behavior may have involved expressions of knowledge, expressions of feeling states or value preferences, and/or expressions through motor behavior. The behavior intended to evoke the fuller meaning may be in the form of a question, direction, or suggestion.

Soliciting: Any manifest (spoken, unspoken or mediated) nonappraisal behavior that evokes or is clearly intended to evoke substantive and/or managerial behavior from another person in the instructional situation. Specifically excluded here are those behaviors which fall in the category of soliciting clarification. The soliciting behaviors may ask for expressions of knowledge, expressions of feeling states or value preferences, or expressions through motor behavior.

Judging Correctness: Any manifest (spoken, unspoken or mediated) behavior that responds or reacts to an antecedent behavior of the self or another or to produce such behavior appearing in the instructional situations by judging the behavior or the product of behavior to have been logically, empirically or normatively correct in some degree. Publicly accepted criteria are invoked or could be invoked to support the judgment.

Personal Positive Judging: Any manifest behavior (spoken, unspoken or mediated) that responds or reacts to a person (self or another), an antecedent behavior of the self or another, or to a product of such behavior appearing in the instructional situation by expressing a personal, positive
judgment about the person, behavior or product of behavior. The criteria for making the judgment are personal and arise from the feeling states or value preferences of the person doing the judging.

Acknowledging: Any manifest (spoken, unspoken or mediated) behavior that responds or reacts to a person (self or other), an antecedent behavior of the self or of another, or to a product of such behavior appearing in the instructional situation by acknowledging the person, behavior, or product in ways that indicate that the person, behavior, or product has been perceived. No judgment is explicitly expressed.

Judging Incorrectness: Any manifest (spoken, unspoken or mediated) behavior that responds or reacts to an antecedent behavior of the self or another or to a product of such behavior appearing in the instructional situation by judging the behavior or the product of behavior to have been logically, empirically, or normatively incorrect in some degree. Publicly accepted criteria are invoked or could be invoked to support the judgment.

Personal Negative Judgment: Any manifest behavior (spoken, unspoken or mediated) that responds or reacts to a person (self or other), an antecedent behavior of the self or another, or to a product of such behavior by expressing a personal, negative judgment about the person, behavior or product of behavior. The criteria for making the judgment are personal and arise from the feeling states or value preferences of the person doing the judging.

Instructionally Nonfunctional Behavior: All instances of teacher or student behavior that are not clearly related in a functional way to instruction or classroom management.

Functions of instructional events. The fifth dimension is concerned with the particular instructional function identified with the observed instructional event. The functions are classified as appraisal, substantive, managerial, and other and are defined in the following manner:

Appraisal Behavior: Behavior that judges or acknowledges a person, a behavior, or a product of a person's behavior who is a member of the instructional situation.
Substantive Behavior: Any manifest non-appraising behavior that is intended to facilitate the attainment of new learning, or sustain or extinguish prior learnings that are considered by those in the instructional situation to be a legitimate part of the subject matter of the field under study.

Managerial Behavior: Any manifest, non-appraising, non-substantive behavior that is intended to create non-substantive conditions that facilitate the attainment of new learnings or sustain or extinguish prior learnings.

Substantive and managerial functions are used in conjunction with the first seven categories of instructional events—thinking, sensing, manipulating artifacts, initiating, responding, soliciting clarification, and soliciting. Appraisal function are used in conjunction with the categories of judging correctness, positive personal judgment, acknowledgement, judging incorrectness, and negative personal judgment. The function designated as other refers to instructionally nonfunctional behaviors or category thirteen.

Subcategories of Instructional Functions. The breakdown of the three major instructional functions comprises the sixth dimension. The subcategories are described as appraisal, either express or accentuate; substantive, either explicate or arrange; and managerial, either structure or admonish. These examples of subfunctions or subcategories are defined as follows:

Express: Appraisal behaviors expressed or delivered in a way that is customary and lacking particular distinction.

Accentuate: Appraisal behaviors that are emphasized or heightened in effect.

Explicate: Instructing in such a way that others or the self may, by means of the techniques employed, create conditions supportive of or directly promoting learning. This
may be accomplished by telling others, questioning others, answering the questions of others, seeking clarification of the meaning of others or engaging in independent study that performs similar functions in an individualized setting.

**Arrange:** Instructing in such a way that, in part at least, others or the self may do things that are related to the subject matter under study. But, that which is done is primarily characterized by structuring conditions in such a way as to facilitate, sustain or extinguish substantive learnings without engaging in substantive explication.

**Structure:** Instruction that makes use of non-substantive and non-appraisal behaviors with the intent of creating non-substantive conditions that are supportive of or directly promoting learning.

**Admonish:** A particular type of managerial instructional behavior intended to cause, inhibit or re-direct the behavior of self or others for the purpose of gaining or regaining non-substantive conditions that are intended to support or directly promote learning.

Although these subcategories have been provided by the author of the OSIA (Hough, 1980a, 1980b) as examples of one level of sub-scripting, researchers have the option of using up to fifteen sub-categories or subfunctions for descriptions of inductively derived behavior.

**Communication modes.** The seventh dimension, that of the modes of communication, allow the observer to indicate whether the instructional event was communicated verbally, nonverbally, or by use of other instructional media.

**Instructional strategies.** The eighth dimension focuses on three instructional strategies, which are defined as follows:
Independent (or private): A strategy in which a person is psychologically isolated from others in the instructional settings, and the person has substantial control over his or her arrangement of human (self), material, and temporal resources.

Direct (or expository): A strategy in which information of some nature is being communicated from one person to one or more other people, and the communication is unidirectional.

Interactive (or reciprocal): A strategy which utilizes reciprocal communication, by which is meant communication that goes back and forth between or among people.

Subscribed events. The ninth dimension allows an observer the use of up to twenty additional categories for further distinctions among instructional events. The observer can select any of the thirteen basic categories or combinations of categories and subclassify them. These twenty subclassifications, together with the fifteen level-one subscripts, provide the researcher with multiple opportunities to further refine descriptions of instruction.

Computer Processing of OSIA Information

The computer program for analysis of OSIA data includes the following analyses: four strategy, subfunction, subscript, context, timeline, ratio, two matrix, chain and pool, and calculation analyses.

In the second section of this chapter, the OSIA has been introduced, and nine dimensions of instructional events recorded by the system have been described. The relationship of the OSIA to the kinds of information derived from the use of ethnographic techniques can be seen in the potential utilization of two levels of inductively
derived subscripts. Through further classification of generic events, the researcher is able to gain information about frequencies and distributions of naturally occurring phenomena in the classroom.

In the next section of this chapter, the specific procedural strategies used in this study will be described.

Procedural Strategies

The purpose of the third section of this chapter is to describe the manner in which the study of a teacher's use of choice in the classroom evolved. Included in this section are phases of the research activity: (1) conception of the research problem, (2) preparation for the research activity, (3) collection and preliminary analysis of the data, and (4) final data analysis and report writing.

Phase One: Conceptualization of the Research Problem

Prior to the planning and implementation of a research problem is a stage in which much activity—covert as well as overt—occurs, and the decisions made by a researcher at this stage impact upon later decisions and activities. It would seem necessary, therefore, to begin a description of procedural strategies with an acknowledgment of the types of activities that occurred during this phase.

The first aspect of the conceptualization phase concerned the researcher's teaching experiences in a prekindergarten classroom, which provided the "ground" from which the research problem emerged. The classroom in which the researcher taught had been chosen as a
training site for one of the Head Start Planned Variations models, and, as a teacher, the researcher was trained in the philosophy, curriculum, and instructional strategies of that model. One of the primary curricular goals of the model was that of responsible decision-making by children. Daily planning of educational activities by the children, together with the teacher, led the researcher-as-teacher to note that (1) children were capable of making choices, (2) partnership in the planning process led to more purposive child behavior, and (3) teachers differed in their abilities to give children opportunities to make meaningful decisions.

The relationship between decision-making and child behavior continued to interest the researcher in the move from the preschool to the university classroom. When the researcher was confronted with the task of selecting a research problem for the doctoral program, the classroom behaviors involving choice and decision-making prompted a preliminary search for related research and theory. In the beginning, two aspects of the problem were delineated, one related to children's decision-making behavior and the other related to teacher's choice strategies. Not until later in the research activity, however, was the focus finally placed on the instructional aspect of the problem. The first strategy used by the researcher in pursuit of relevant literature was that of personal communication with professional educators in universities and in the field. Essentially two kinds of information emerged from these conversations: one was that the topic was considered relevant, and the other was that no one knew of any
empirical studies related to choice and decision-making in the classroom.

Having been strengthened in the resolve to continue the pursuit of related theory or research by the acknowledged relevance of the topic, the researcher moved to a second strategy involving library searches, which yielded little in the way of a significant body of empirical research. What did emerge, however, was a rationale for the study that was congruent with the rationale that had emerged from the researcher's classroom experience as a teacher.

At this point, the researcher designed a research study that was quasi-experimental in nature. When the design was presented to potential subjects, however, lack of support for the study led to its discard and alternative procedures were studied for potential use. The researcher, recognizing the need for a more basic and a richer description of the phenomenon of choice, chose the field study approach to investigate the problem.

Phase Two: Preparation for the Research Activity

The second phase involved research activities that occurred during the five months prior to data collection in the field. These activities included gaining entry to the field site, designing data collection strategies, and preparing for the implementation of those strategies.

Gaining entry. The issue of gaining entry to a field site is one of great importance, for the validity of the data subsequently
obtained by the researcher through participation and interviewing is dependent upon the relationship between researcher and subject(s) (Johnson, 1975). Considerations involved in gaining entry—pre-entry research, development of a plausible explanation for conducting the research, gaining authority from the top to the bottom of hierarchical positions within the field, and preparing for and engaging in reciprocal negotiations—are addressed by Dean et al. (1969), Johnson (1975), and Schatzman and Strauss (1973). The last authors, however, stress the continuous nature of the problem, stating, "... the experienced researcher recognizes that entering relatively complex human organizations is a process in which he will be engaged long after 'permission' to enter has been granted (Schatzman and Strauss, 1973, p. 23).

The purpose of this section is to describe the initial procedures undertaken by the researcher to gain entry to the field. Subsequent steps, illustrating the continuous nature of the problem, are presented in later sections.

Initial contacts for gaining entry were made during the summer preceding the collection of data. Geographical constraints on the researcher limited the choice of a preschool classroom to three sources: a for-profit day care center, a federally funded day care center, and a university-based nursery school/day care center. Having had prior experiences as a parent, teacher, or researcher in all three centers, the researcher chose to contact the director of the university nursery/day care center, which had an outstanding reputation for
excellent teaching, sound educational programs, and a willingness to cooperate with researchers.

At the initial meeting with the director, the researcher explained the purpose of the study and the criteria for the selection of a teacher. These criteria included professional training with completion of an undergraduate degree in either education or early childhood education, the utilization of teaching strategies that allowed children some degree of freedom in the classroom, and an amenability to participation in the research study. The director gave permission for the study to be conducted in the center and also gave to the researcher names of six persons meeting the criteria. Five of the teachers, when contacted, were unwilling to participate in the research, but the sixth teacher indicated interest. Although the researcher and the interested teacher had met once in an informal, non-professional setting, they were not well acquainted.

The researcher arranged a meeting with the teacher, Ann White (pseudonym) during September, 1979. Ann was told that the researcher wanted to study the teaching practices utilized by a preschool teacher and that ethnographic techniques, which were explained to the teacher, would be used for the collection of data. Ann was also told that the researcher would use a tape recorder to collect data as well as interview the teacher, children, students, and possibly parents. Ann consented to be the subject of the intensive, in-depth study planned by the researcher.
Having secured permission from the director and the teacher, additional steps were taken to gain cooperation from three other sources. The first source was the dean of the academic college in which the day care center was housed. Prior to September 1979, the director of the day care center had the ultimate authority to grant permission for research studies undertaken at the center. The newly appointed dean of the recently created college to which the center was administratively attached, however, now required permission from the Dean's Office to conduct research at the day care center. At an interview between the Dean and the researcher in October, permission was granted to the researcher contingent upon approval of the research study by the College's Human Subjects Committee.

The second source from whom cooperation was secured was that of Ann's co-teacher, Kate Black (pseudonym). Kate, having spoken to Ann about an unwillingness to participate in any research project, was asked to attend a meeting of the dean, the associate dean, the director of the center, Ann, and the researcher. Strategies had been planned to alleviate Kate's concerns; but Kate missed the meeting. Those who were present finally decided that Ann would talk to Kate about the research and her excitement over participation in it. After this had happened, Kate asked to see a preliminary copy of the research proposal. This was given to Kate on the condition that she would not reveal the specifics of the proposal to Ann. Having been reassured by Ann and by the reading of the proposal, Kate agreed to let the researcher use the room for research purposes.
The final source of cooperation was that of the parents of the children enrolled in Ann's class. Letters to the parents were sent in December 1979. These letters explained the study and requested permission to talk with the children informally (see Appendix A). Permission was granted by all parents with the exception of one.

By the end of the second phase, initial cooperation had been obtained from all persons directly and indirectly involved in the research study.

Planning and developing data collection strategies. The understanding of experiences frequently is limited because of biases and distortions in the perception of those experiences. Understanding the complexity of the phenomenon of choice in the classroom necessitated the collection of information from several perspective while utilizing a variety of strategies. The strategies planned for use in the collection of data included those of direct and indirect observation—direct observation in the form of participant observation and indirect observation in the form of informant and respondent interviewing and the collection of documents.

The primary strategy employed in data collection was that of participant observation, the witnessing of classroom events as they occurred. In terms of Schatzman and Strauss' (1973) definitions of various roles of the observer in the field situation, the researcher, more specifically, was to act in the mode of limited interaction.
The observer does not set himself or herself apart but minimally intervenes in order to seek clarification and meaning of events.

Prior to the data collection, the following decisions were made and steps were taken. All classroom observations were to be audio tape recorded using a Wollensak Portable Stereo Cassette Recorder Model Number 2522AV. The teacher's verbal behaviors were to be recorded on one channel using a wireless microphone, Lectrosonics Model Number M116; Lectrosonics wireless microphone transmitter Model Number M30R, and Lectrosonics wireless microphone receiver Model Number R31. The researcher's description of the teacher's non-verbal behaviors plus any researcher comments were to be recorded on the second channel using the Wollensak microphone. The tape recordings then would provide the source for (1) field notes describing classroom interactions and contextual arrangements and (2) specific transcriptions for use in the analysis of classroom interactions and instructional behaviors, utilizing the OSIA with field-developed categories. The audio tape recorder equipment was field tested by the researcher at two different sites on four different occasions to develop proficiency in the use of the equipment.

Possible reactive effects of both the researcher's presence in the classroom and the recording equipment were recognized. Since the day care center functioned as a university laboratory school for students in various academic disciplines, the children were used to the presence of adults other than teachers in the classroom, thus reducing the reactive effects of the researcher. In order to diminish
the potential reactive effects of the recording equipment, the teacher was to introduce a tape recorder into the classroom prior to the beginning of the study, allowing the children familiarity with the tape recorder and microphone. The researcher was to bring a second tape recorder into the classroom during the period of data collection for use by the children.

Recognizing that the teacher behavior observed by the researcher might possibly be labeled "teacher behavior under the conditions of observation," a second strategy was developed to obtain information about events and behaviors occurring in the absence of the researcher. Informant interviewing, providing information concerning events that have occurred in the absence of the researcher, and respondent interviewing, in which respondents provide information concerning their own perceptions of events and behaviors, were to be utilized with the teacher, co-teacher (if possible), student teacher, and selected children. All interviews were to be informal in nature. Periodic interviews were scheduled with the teacher. In addition, the potential need for spontaneous interviews was recognized by both teacher and researcher. The student teacher was asked to participate in an unstructured interview outside of the classroom, and the children were to be spontaneously interviewed within the classroom. The co-teacher was to be approached informally at a time that the researcher felt that the co-teacher would not be threatened by questions. In addition, interviews were to be arranged during the analysis phase for the purposes of host identification (Schatzman and
Strauss, 1973) to validate observer information and conceptualization.

A third strategy for the collection of information was the use of documents. The teacher was asked to write a statement concerning her philosophy of education and a sketch of her educational life history to enable the researcher to explore potential relationships between experiences or values and teacher behavior. In addition, the Director of the Office of University Planning was to be asked for architectural plans of the building and adjacent playgrounds to provide information on the physical environment.

The selection and development of multiple strategies was accomplished during the months of September through December 1979.

Arrangements. Three types of arrangements were made prior to the beginning of the study. A proposal for the study was prepared and submitted to the Human Subjects Review Committee of both the researcher's university and the College to which the day care center was administratively attached. The study was approved by both committees without requests for further information. The second arrangement concerned the acquisition of audio tape recorder equipment. The equipment was ordered in the latter part of October and was delivered after a period of six to eight weeks. The third arrangement concerned the transcription of the audio tapes on a regular basis. A typist was hired to transcribe and type prior to the beginning of the study.

The activities involved in Phase Two were brought to completion prior to the beginning of the study.
<table>
<thead>
<tr>
<th>Months</th>
<th>August</th>
<th>September</th>
<th>October</th>
<th>November</th>
<th>December</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gaining Entry</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permission of Director</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Selection of Teacher</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permission of Dean</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Permission of Co-Teacher</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Permission of Parents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td><strong>Selection of Data Collection Strategies</strong></td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Arrangements</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal to Human Subjects Review Committees</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Arrangement for Recording Equipment</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Arrangement for Transcription</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
Phase Three: The Research Activity

The third phase of the research study took place during the months of January and February 1980. The activities in which the researcher was engaged during this period of time included gaining entry, participant observation, interviews, gathering documents, developing a subscript system for the OSIA, engaging in continuous analysis of data, and arrangements.

Gaining entry. The final problems of gaining entry involved the co-teacher, the student teacher, student laboratory workers, and the children. Entry problems with the co-teacher, Kate, provided the most trouble. Kate was extremely tense during the researcher's first visits, and that tension was reflected in her interactions with the children and her co-workers. The researcher's strategies in dealing with Kate included (1) friendly conversation focused on the children in the classroom, (2) positive comments on the arrangement of the room (a problem with which Kate had been dealing for several years), and (3) the development of a sense of camaraderie during the extra-curricular activity of bowling, at which time the researcher and Kate played on the same team. Kate was an excellent bowler (in contrast to the researcher), and it was not difficult to praise honestly Kate's accomplishments as a bowler. During the first three weeks of the observation period, Kate gradually became more relaxed and more accepting of the researcher. The greatest degree of acceptance of the researcher by Kate came after the researcher offered to monitor the
room during a two-hour nap period, thus allowing both Kate and Ann to attend a luncheon meeting of importance to both of them.

Gaining entry with the student teacher, Sally Green, proved to be very easy. The teacher, Ann, had described the research project to Sally and had answered Sally's questions about her role in the study. Ann then introduced Sally to the researcher on the first day of school. The researcher utilized the strategies of (1) demonstrating interest in the children, and (2) demonstrating interest in Sally's professional goals in order to establish a good rapport with Sally. Evidence of final acceptance of the researcher by Sally came when Sally agreed to participate in a two-hour audio tape recorded interview with the researcher.

Student laboratory workers presented no problems in terms of gaining entry. Either Ann or the researcher explained the purpose and method of the research project individually to each student, emphasizing that the focus of the study was to be on the classroom teacher, Ann. Students were reassured that the research would, in no way, evaluate student performance.

Gaining entry with the children was a delightful experience in contrast to other entry experiences. Children's reaction to the researcher's presence could be etically categorized as either passive or active. The passive reaction was characterized by glances in the researcher's direction as well as by walking slowly in front of the researcher. The active form of reaction was exhibited in questions to the researcher concerning equipment and researcher activity,
verbalizations of desires to handle the equipment and/or speak into the microphone, and offers to help the researcher in setting up and taking down the equipment. The researcher employed the following strategies to gain entry with the children: (1) the researcher allowed children to initiate any conversation; (2) the researcher’s response to questions concerning equipment and researcher activity were to be answered with simple and straightforward answers; (3) children were to be given an opportunity to explore both visually and manually the equipment if they so desired; and (4) the researcher was to build rapport by indicating an interest in the children’s behavior. The researcher was aided by Ann, who answered questions concerning the wireless microphone and the researcher’s presence in the classroom. An example of Ann’s interaction with children about the microphone can be found in the following excerpt from the researcher’s field notes:

Julia asked Ann what I was doing. Ann explained to her and said, ‘Do you understand?’ Someone else asked why I wanted to hear Ann. Ann told her that I was interested in hearing what she (Ann) said to children. Julia tried to smell Ann’s mike. ‘What does it smell like?’ asked Ann. Julia said that it smelled like cheese. Joy then asked if she could smell it, and Ann let her. The others asked if they could smell, and one of them said that it smelled like black. Ann then suggested that the group talk about the mike at group time instead of at lunch. Marty, smelling the mike, said, ‘It smells like you.’ Julia pulled the transmitter out of Ann’s pocket and said that she wanted to see it. Ann told her that she could see it at group time. Libby asked what was inside the transmitter, and Ann told her that she couldn’t open it because it would break. The girls continued asking questions which Ann answered (Field notes, 1/4/80).

Acceptance of the researcher by the children was evidenced by verbal greetings upon the researcher’s arrival in the classroom,
physical demonstrations of affection by the children, and requests for help from children.

Participant observation. The researcher had decided to be present in the classroom for a three-hour period daily, rotating observation periods to ensure that all time periods were included. During the month of January, the researcher spent nineteen days in the classroom for a period of 57 hours. By the end of that month, however, the researcher recognized the need to observe for full days and asked the teachers for permission to observe from 9:30 a.m. to 5:00 p.m., the times in which Ann was present in the classroom. Permission was granted, and the researcher spent eleven full days in the classroom for a total of 82 hours. The total number of hours spent in classroom observation, 139 hours, fell within the previously established range of 50 to 150 hours.

The role of the researcher in terms of participant observation was that of "participant-as-observer," in accordance with Gold's (1958) delineation of potential aspects of this particular strategy for data collection. The researcher sat along the north wall of the room and verbally described the teacher's non-verbal behavior into the tape-recorder microphone. When conversation was initiated by either the teacher or the children, the researcher responded. Upon occasion, especially with regard to the behavior of the children, the researcher engaged in "limited interaction" (Schatzman and Strauss, 1973) to seek clarification and meaning. On two occasions, the researcher assumed
the role of total participant. At those times, the teachers asked the researcher to assume the role of teacher during naptime; on neither occasion, however, were the classroom teachers present.

Termination of the observations resulted from two factors: (1) preliminary analysis of field notes indicated consistency of teacher behavior, an analysis that was supported by Vartuli's (1979) study of ten teachers over a period of time; and (2) an upheaval in the administration of the child care center that adversely reflected teacher attitudes and behavior.

All observations were audio tape recorded, the tapes were reviewed, and field notes were written on the basis of the review of the tapes.

Interviews. Informal interviews were held throughout January and February with the teacher, student teacher, and children. Informal interviews were divided into two categories: planned interviews were those that had previously been scheduled, and spontaneous interviews were those initiated by the interviewer without prior notice. Planned interviews were held with the teacher four times throughout the observation period. These took place either in a classroom in an adjacent building or in the teacher's classroom during nap time. One planned interview was held with the student teacher at the researcher's home. Spontaneous interviews between the teacher and the researcher were held on several occasions.
Interviews with children were difficult to hold. The researcher initiated six spontaneous interviews with children in January. Of the six children, two were able to respond to the researcher's questions, while the responses of the other four children were not pertinent to the questions.

Documents. At the beginning of the observation period, the researcher asked the teacher to write two short papers—a statement of the teacher's philosophy of education and an educational "life history." The teacher complied with this request and submitted the documents in January. (See Appendix B).

The Director of the Child Care Center was asked to obtain architects' drawings of the building and surrounding playground areas. These documents were submitted to the researcher in February. In addition, the researcher prepared a map of the classroom, indicating major areas and division markers. Maps of the environment can be found in Chapter 3.

A third document, prepared by the researcher, was an inventory of materials and equipment found in the classroom. This inventory was completed in February. (See Appendix C). A fourth document, outlining the daily schedule, was copied from the master schedule posted on the door of the room. (See Appendix D).

Preparation of the OSIA subcategories. Although the primary purpose of the research project was to identify strategies by which a teacher gave choices to children, observations in the classroom
suggested that choice strategies were affected by the physical and social environment of the classroom as well as by the general instructional behaviors of the teacher. The Observational System for Instructional Analysis (Hough, 1980a, 1980b) allows for inductively derived constructs within a framework of deductively derived generic categories at two subscript levels. The OSIA was modified by the researcher to reflect social interactions among adults in the classroom, instructional behavior of the teacher, and choices given to children by the teacher.

The flexibility of the OSIA allowed for coding of the time of day during the daily routine, periods during the observation schedule, identification of adult interactions with the teacher, identification of the content of adult conversations, and modifications of the generic categories to reflect instructional practices and choices.

The first modification of the OSIA made by the researcher involved elimination of the substantive/managerial distinction. It was reasoned that the substantive elements of a prekindergarten program involved the totality of children's experiences, therefore, all interactions can be construed as substantive in nature. Thus, all teacher-child interactions were to be coded as substantive.

A second modification reflected the researcher's desire to identify differing time periods at two levels -- within a day and across the observational period. The managerial coding convention was used in the following way for purposes of identification only:
<table>
<thead>
<tr>
<th>Subfunction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>T01</td>
<td><strong>Free time</strong>--the time in which children are engaged individually or in small groups in child initiated play.</td>
</tr>
<tr>
<td>T02</td>
<td><strong>Group time</strong>--the time in which children are engaged as a total group in teacher initiated and teacher-directed activity.</td>
</tr>
<tr>
<td>T03</td>
<td><strong>Clean-up time</strong>--the time that brings to a close free time and during which children return materials and equipment to storage units.</td>
</tr>
<tr>
<td>T04</td>
<td><strong>Snack/Lunch time</strong>--the time in which children are engaged in eating behaviors.</td>
</tr>
<tr>
<td>T05</td>
<td><strong>Nap time</strong>--a period of time in which children are supposedly engaged in sleep or rest behaviors.</td>
</tr>
<tr>
<td>T06</td>
<td><strong>Bathroom time</strong>--the times during which the children are taken to the bathroom as a group.</td>
</tr>
<tr>
<td>T07</td>
<td><strong>Outdoor time</strong>--the time during which the children are engaged individually or in small groups on an outdoor playground.</td>
</tr>
</tbody>
</table>

To further identify differences in time periods, the following subfunctions and subscripts were added to the coding convention for time only:

<table>
<thead>
<tr>
<th>Subfunction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The event occurred during the initial two weeks of the observation period.</td>
</tr>
<tr>
<td>M</td>
<td>The event occurred during the middle two weeks of the observation period.</td>
</tr>
<tr>
<td>V</td>
<td>The event occurred during the final two weeks of the observation period.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Subscript</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The event occurred during the morning.</td>
</tr>
<tr>
<td>2</td>
<td>The event occurred in the afternoon.</td>
</tr>
</tbody>
</table>
A third modification resulted from the researcher's desire to identify the adults with whom the teacher interacted and the substance of the interaction. This involved modifying the Q coding convention (Source of Instructional Event) only, in the following manner:

**Subfunction**

<table>
<thead>
<tr>
<th>Subfunction</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The teacher spoke to or was spoken to by the co-teacher.</td>
</tr>
<tr>
<td>U</td>
<td>The teacher spoke to or was spoken to by the student teacher.</td>
</tr>
<tr>
<td>V</td>
<td>The teacher spoke to or was spoken to by a college student assigned to the room for purposes of field experiences.</td>
</tr>
<tr>
<td>M</td>
<td>The teacher spoke to or was spoken to by a parent.</td>
</tr>
<tr>
<td>MU</td>
<td>The teacher spoke to or was spoken to by the researcher.</td>
</tr>
</tbody>
</table>

**Subscript**

<table>
<thead>
<tr>
<th>Subscript</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The conversation pertained to the Child Care Center policies or administrative action.</td>
</tr>
<tr>
<td>B</td>
<td>The conversation pertained to the physical environment of the classroom.</td>
</tr>
<tr>
<td>C</td>
<td>The conversation pertained to teaching, including planning of curriculum and teaching strategies.</td>
</tr>
<tr>
<td>D</td>
<td>The discussion pertained to children's behavior both within and outside of the classroom.</td>
</tr>
<tr>
<td>E</td>
<td>The conversation pertained to children's health.</td>
</tr>
<tr>
<td>F</td>
<td>The conversation pertained to personal matters.</td>
</tr>
</tbody>
</table>
In addition to the modification of the managerial and source of instructional events categories, the generic categories describing instructional behaviors were modified in the following manner:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>UA</td>
<td><strong>Unspoken</strong> — a mode of expression characterized by the absence of the spoken word.</td>
</tr>
<tr>
<td>AM</td>
<td><strong>Admonish</strong> — judgmental behavior intended to elicit or inhibit the behaviors of others.</td>
</tr>
<tr>
<td></td>
<td><strong>Subscript 1</strong> An admonishment that includes giving a direction.</td>
</tr>
<tr>
<td>AMU</td>
<td><strong>Unspoken Admonishment</strong> — a judgmental behavior intended to elicit or inhibit the behaviors of others without the use of the spoken word.</td>
</tr>
<tr>
<td>VA</td>
<td><strong>Directs</strong> — a nonjudgmental behavior intended to elicit or inhibit the behaviors of others.</td>
</tr>
</tbody>
</table>

The category "x," and the interaction designators "y," and "z" were used with these four categories to further define aspects of the teacher's behavior. The category "x" was used to indicate that the direction or admonishment was rule-related—that is, the direction or admonishment referred to a previously established rule. The separation designator "y" was used to indicate that the direction or admonishment was delivered in an accentuated manner—that is, with a louder than normal voice. The interaction designator "z" indicated that the behavior was accompanied by physical action on the part of the teacher.
In addition to these modifications, other subscripts were developed as constructs emerged from participant observation in the field:

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV</td>
<td>Extends -- a behavior intended to elicit increasingly complex responses or behavior.</td>
</tr>
<tr>
<td>MVU</td>
<td>Extends non-verbally -- unspoken behavior intended to elicit increasingly complex responses or behavior.</td>
</tr>
<tr>
<td>MVA</td>
<td>Scanning -- a behavior involving visual tracking of a child, a small group of children, or between groups of children.</td>
</tr>
<tr>
<td></td>
<td><strong>Subscript 1</strong></td>
</tr>
<tr>
<td></td>
<td>Scanning between groups of children.</td>
</tr>
<tr>
<td></td>
<td><strong>Subscript 2</strong></td>
</tr>
<tr>
<td></td>
<td>Scanning within a small group of children.</td>
</tr>
<tr>
<td></td>
<td><strong>Subscript 3</strong></td>
</tr>
<tr>
<td></td>
<td>Focusing attention on an individual child preceded or followed by visual tracking.</td>
</tr>
<tr>
<td>AVU</td>
<td>Choices -- a behavior that allows children to decide between or among alternative actions or materials.</td>
</tr>
<tr>
<td></td>
<td><strong>Subscript 1</strong></td>
</tr>
</tbody>
</table>
|        | Pseudo-choice--refers to a direction followed by the tag, "okay?"
|        | **Subscript 2**  |
|        | Forced format--refers to a choice to which the response is limited to an answer of either "yes" or "no." |
Food--involves the manipulation or consumption of food.

Responding -- any spoken, unspoken, or mediated nonappraisal behavior that responds substantively or managerially to an element in the instructional situation (i.e., the antecedent behavior of another or an instructional artifact[s]). (OSIA definition)

Unison--the response involved two or more persons responding simultaneously.

Acknowledging -- any manifest (spoken, unspoken or mediated) behavior that responds or reacts to a person (self or other), antecedent behavior of the self or of another, or to the product of such behavior appearing in the instructional situation by acknowledging the person, behavior, or product in ways that indicate that the person, behavior, or product has been perceived. No judgment is explicitly expressed. (OSIA definition)

Repetition--a verbal behavior in which the statement or question of another is repeated in either declarative or interrogative form.

The flexibility of the OSIA allowed the development of a symbol system that enable the encoding of teacher behaviors in a sequential order.

Continuous analysis of information. As field notes were prepared for typing, information was reviewed and compared to previously
read information in order to refine conceptualizations and to identify any need for clarification or verification of information. Formal analysis, however, did not occur at this time.

**Arrangements.** Arrangements during this phase concerned transcription and typing of the audio tapes. One would desire that, having made this kind of arrangement in a previous phase of the research activity, this would not be a matter of concern. But the transcribing equipment and duplicates of the audio tapes were destroyed in a fire that occurred in the typist's home. This necessitated making new arrangement for transcription and typing. Since no one contacted was willing to transcribe, the researcher found herself engaged in the transcription of tapes, while a typist was engaged to prepare a typed copy of the handwritten transcription.

Transcribing is a time-consuming process when it involves stereo tapes. Two possible ways of transcribing were identified. The researcher could transcribe first one channel and then the other and could then "cut and paste" the two manuscripts to relate appropriate descriptions of non-verbal behaviors to corresponding verbal behaviors. The second method involved switching from one channel to another while listening to the tapes. Neither method was satisfactory, and anyone using stereo audio-tape equipment should be aware that transcription will be expensive in either the researcher's time or money!

A summary of activities in Phase Three of the Research Activity is presented in Table 2.
<table>
<thead>
<tr>
<th>Research Activity</th>
<th>Week 1</th>
<th>Week 2</th>
<th>Week 3</th>
<th>Week 4</th>
<th>Week 5</th>
<th>Week 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Record Instruction</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Participant Observation</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Interview Teacher</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Interview Student Teacher</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Interview Children</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Obtain Documents</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>Prepare Transcripts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Review Information</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Develop and refine OSIA subcategories</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Arrangements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
Phase Four: Research Activity

The research activities of phase four occurred within a twelve month period immediately following the end of the observation period. The activities included continued data collection, arrangements, data analysis, comparative analysis, host verification, and report writing.

Data collection. Data collection during this phase consisted of one period of participant observation in March for the purpose of identifying any inconsistencies in previously gathered information.

Arrangements. Arrangements during this period consisted of continued transcriptions and typing of audio tapes.

Data analysis. This section will describe the procedures used for the analysis of information obtained through the use of information obtained through the use of the modified Observational System for Instructional Analysis (OSIA).

The first procedure involved in the analysis of teacher behaviors was related to the question of sampling procedures. All observations had been audio taped recorded, resulting in 139 recorded hours. Although all of the audio tapes could have been analyzed, it appeared to be more parsimonious to draw a representative sample for the purpose of analysis. Three dimensions of concern in the problem of sampling were identified. The first dimension, that of temporal representativeness across the total period of observation, dealt with the issue of consistency of teacher behavior over a prolonged period
of time. The second dimension, that of temporal representativeness within a day, was related to the issue of consistency of teacher behavior in the presence and absence of a co-teacher, as well as to the effects of teacher fatigue, while the third dimension dealt with the issue of consistency of teacher behavior in various types of instructional events within a day. Although it has been argued previously that substantive and managerial distinctions cannot be made with regard to teacher or child behaviors, these distinctions can be applied to various periods of time within the daily classroom schedule. Substantive periods of time were defined as those periods in which the primary task of the teacher was related to the educational experiences of children and included child-initiated activity time, group time, and outdoor time. Managerial periods of time were defined as those periods in which the primary task of the teacher was related to routines necessary to meet the physical and environmental needs of children enrolled in a day care program and included group use of the bathroom, lunches and snacks, naptime, and clean-up time.

The total number of hours that the teacher spent in the classroom on any given day, which equaled six and one half hours or 390 minutes, was selected as the total number of hours to be encoded for the purposes of analysis. Percentages of the total time spent in the various periods within the day were then calculated and utilized in determining the number of minutes to be encoded for each period. The total observation time was divided into three subperiods: the initial
period covered the time from January 3 through January 16; the middle period covered the time from January 17 through January 30; and the final period covered the time from January 31 through February 15. The dimensions were then cross hatched, and periods of audio tape-recorded time were randomly selected to fill the various categories (See Table 3). Mechanical difficulties prohibited the inclusion of outdoor time in the coding schedule and limited the amount of bathroom time included in the schedule. The use of stratified random sampling thus allowed the researcher to obtain temporal and functional representativeness in the encoding schedule.

The second procedure in the analysis of data was to establish the researcher reliability as a coder of categories and subcategories of the OSIA. Prior to the encoding of the randomly selected samples, the researcher's reliability as a coder of the generic categories was established against a criterion coder, using three taped segments of instruction by persons other than the classroom teacher being observed.

Using the Scott coefficient, which assumes a criterion coder, inter-observer agreements were calculated. Coefficients of .79, .76, and .80 were obtained. Standards for interpretation suggest .50 as moderate agreement and .75 as high agreement; thus the coefficients of agreement obtained established the researcher's reliability as a coder of generic categories.
## Table 3
### Outline for Sampling Procedures

<table>
<thead>
<tr>
<th></th>
<th>Initial Period</th>
<th>Middle Period</th>
<th>Final Period</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1/30/81 - 1/16/80</td>
<td>1/17/80 - 1/30/80</td>
<td>1/31/80 - 2/15/80</td>
</tr>
<tr>
<td><strong>Group Time</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td>10*</td>
<td>10*</td>
<td>10*</td>
</tr>
<tr>
<td>P.M.</td>
<td>10*(8)**</td>
<td>10*</td>
<td>10*</td>
</tr>
<tr>
<td><strong>Free Play</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td>10*</td>
<td>10*</td>
<td>10*</td>
</tr>
<tr>
<td>P.M.</td>
<td>10*</td>
<td>10*</td>
<td>10*</td>
</tr>
<tr>
<td><strong>Outside Time</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td>25*(0)**</td>
<td>25*(0)**</td>
<td>25*(0)**</td>
</tr>
<tr>
<td>P.M.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clean-up Time</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td>5*</td>
<td>5*</td>
<td>5*</td>
</tr>
<tr>
<td>P.M.</td>
<td>5*</td>
<td>5*</td>
<td>5*</td>
</tr>
<tr>
<td><strong>Lunch/Snack Time</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lunch</td>
<td>15*</td>
<td>15*</td>
<td>15*</td>
</tr>
<tr>
<td>Snack</td>
<td>5*</td>
<td>5*</td>
<td>5*</td>
</tr>
<tr>
<td><strong>Bathroom Time</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td>20*(10)**</td>
<td>20*(8)**</td>
<td>20*(0)**</td>
</tr>
<tr>
<td>P.M.</td>
<td>20*(0)**</td>
<td>20*(0)**</td>
<td>20*(10)**</td>
</tr>
<tr>
<td><strong>Nap Time</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A.M.</td>
<td>29*(5)**</td>
<td>20*</td>
<td>20*</td>
</tr>
<tr>
<td>P.M.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Number of minutes scheduled for encoding.

**Number of minutes actually encoded, if different from scheduled amount of time.
In addition to establishing the researcher reliability as an encoder of generic categories through the process of inter-rater reliability checks, the researcher's stability in encoding over a period of time was established through the process of intra-rater reliability checks. Three randomly selected segments of the instructional behavior of Ann White were encoded by the researcher from a combination of transcripts and audio tapes on two different occasions, separated by an interval of two weeks. Comparisons were made between the encodings (the three different segments having been pooled) using Cohen's K Coefficient, which assumes no criterion coder. Coefficients of .90 for generic categories, .85 for subfunctions, and .92 for subscripts were established. Since the coefficients of agreement fell within an acceptable range, the remainder of the instructional events were encoded on the same day. (See Figure 1).

The third procedure in the analysis of OSIA-derived data involved the transfer of codes to Fortran sheets to facilitate the punching of cards, the actual process of punching those cards, and the running of data through various computer analyses. Four of the twelve possible analyses were chosen: matrix, subfunction, subscript, and chain and pool. The following statements (Kadunc & Hough, 1980) describe the analyses believed to be pertinent to the study:

**Matrix Analysis:** The Matrix Analysis program displays instructional behaviors of teachers and students. . . . This display provides the user with the amount of time in five second intervals given to each behavior, as well
### Categories

<table>
<thead>
<tr>
<th>Categories</th>
<th>Observation 1</th>
<th>Observation 2</th>
<th>Total Frequencies</th>
<th>Total Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequencies</td>
<td>6 26 15 295 105 7 145 13 5 31 1 0 6</td>
<td>6 23 15 310 97 3 142 10 5 30 1 0 5</td>
<td>655</td>
<td>1.00</td>
</tr>
<tr>
<td>Percentages</td>
<td>.01 .04 .02 .45 .16 .01 .22 .02 .01 .05 .00 .00 .01</td>
<td>.01 .04 .02 .48 .15 .00 .22 .01 .01 .05 .00 .00 .01</td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Differences of Percentages</td>
<td>.00 .00 .00 .03 .01 .01 .00 .01 .00 .00 .00 .00 .00 .01</td>
<td>.00 .00 .00 .02 .00 .05 .00 .00 .00 .00 .00 .00 .00 .00</td>
<td></td>
<td>.07</td>
</tr>
<tr>
<td>Products of Percentages</td>
<td>.00 .00 .00 .22 .02 .00 .05 .00 .00 .00 .00 .00 .00 .00 .00</td>
<td>.00 .00 .00 .22 .02 .00 .05 .00 .00 .00 .00 .00 .00 .00 .00</td>
<td></td>
<td>.25</td>
</tr>
</tbody>
</table>

**Cohen's K Coefficient of Agreement** .90

**Figure 1**

**Intra-Rater Reliability for a Pool of Three Segments**
as one step chains (moves). This display includes teacher and student behaviors and X, Y, and Z notations, but does not include the third actor, Other (q) (p. 22).

Subfunction Analysis: The Subfunction Analysis program summarizes as frequencies and percentages the use of subfunctions by behavioral category... A total of fifteen subfunctions can be displayed in the printout. The possible subfunctions are defined as A, U, V, M and all combinations with the user capability of assigning specific meanings to any or all of the letter combinations. The Subfunction Analysis program produces a display of Actual Frequencies and one of Percentages (p. 10).

Subscript Analysis: The Subscript Analysis program summarizes as frequencies and percentages the use of subscripts by behavioral categories... The use has potentially 20 (subscripts) available which must be either a one character alphabetical symbol (A through Z) or a one character number (0 through 9). Numbers and letters can be mixed. The Subscript Analysis program produces a display of Actual Frequencies and one of Percentages (p. 12).

Chain and Pool Analysis: The Chain and Pool Analysis program provides frequency and/or basic statistical information for chains (moves) and pool (sums) of behaviors. User defined chains of events, consisting of eight or less elements, are counted and reported in terms of frequency of occurrence of the chain and mean duration and standard deviations of each chain element. User defined pools or sums of behavior variables are counted and reported in terms of amount of time in five second intervals (p. 26).

The analysis of classroom interactions and instructional behaviors using the OSIA provided quantitative descriptions of qualitative events. This information was used in the study as a means of providing one type of data for the process of describing the phenomenon of choice from multiple perspectives.

Comparative analysis. The purpose of analysis of the data as a whole was to enable the researcher to describe phenomena accurately,
thus facilitating the identification of variables or constructs and potential relationships among them.

One approach to the analysis of qualitative data is that represented by Barton and Lazarfeld (1969) and Glaser (1969), who address the issues inherent in qualitative analysis. Although such analysis is marked by complexity, the initial steps are characterized by the identification of themes, categorization of data, and the development of increasingly more inclusive classificatory units. This approach corresponds to the previously mentioned etic analysis used in ethnographic research in which categorization is established from without. The issue of etic and emic analysis was discussed in the first section of this chapter. Although both forms of analysis were utilized, etic analysis constituted the primary analytical methods.

The process of analysis was undertaken on both vertical and horizontal dimensions. Through a continual review of the data, categories of information and then constructs were developed and refined. Horizontal elaborations of such categories and constructs were established throughout the use of multiple methods and perspectives, including emic analyses. Information from multiple perspectives, including direct observation, interviews, taped instruction, and documents were utilized in this triangulated approach. Triangulation not only provided enrichment in the development of themes and classes, but also reduced possible investigator bias and provided a means for validation of the researcher's interpretation of the data.
Host verification and report writing. Schatzman and Strauss (1973) defined host verification as the submission of major propositions to the host for confirmation of the events upon which the propositions were grounded. The use of this strategy provides a measure of validity of data, although it does not necessarily validate the researcher's conceptualizations emerging from the data. Major descriptive categories were shared twice with Ann White during the analysis stage of the research project. Ann concurred with the researcher's understanding of the classroom experience, indicating that the researcher had accurately described the teacher's behaviors and perceptions.

Upon verification by the host, the researcher began to prepare the written report. This endeavor spanned a period of eleven months, beginning in April 1980 and continuing to March 1981.

The fourth and final phase of the research study consisted of final data collection, arrangements, and preliminary analysis in the early months; data and comparative analysis and host verification in the middle months; and report writing in the final months. Although these subphases have been treated separately, in actual practice there was considerable overlap of the activities (Table 4).

The procedural strategies utilized in the research study have been described in the third section of this chapter. Phase one involved the conceptualization of the research problem while phase two consisted primarily of gaining entry into the research site and planning and developing data collection strategies. Data collection and
preliminary analyses were the major activities of phase three, and phase four consisted of final analyses, host verification, and report writing.

**Summary**

The methods and procedures employed in the study of a teacher's use of choice have been discussed in Chapter 2. The physical and social context in which the teacher's use of choice strategies was contained will be described in Chapter 3.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Data Collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arrangements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transcriptions</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comparative Analysis</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OSIA Encoding</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Computer Runs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Host Verification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Report Writing</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Chapter 3

THE PHYSICAL AND SOCIAL ENVIRONMENT
OF THE CLASSROOM

The intent of this study was to describe the ways in which a teacher gives choices to young children in the classroom context. The recognition that behaviors of teacher do not occur in a vacuum leads one to question the effects of the environment on the planning and implementation of educational experiences. Dunkin and Biddle (1974), in a review of studies of classroom interaction, identify "ecological" variables as important ones to which much thought is given but which are rarely studied. Their review of three studies led them to conclude that the studies did not, "... unfortunately, provide information concerning the layout of features in the various classrooms of the study, nor how teacher (and pupil) movement or other behaviors were affected by environmental features" (p. 200). Adams and Biddle (1974) identified location as a structural characteristic of classroom interaction but stated, "Oddly enough, social science has not been particularly concerned with the demography small groups; ... by and large, demography has been left to those who are interested in larger societies" (p. 158). Delamont (1976), however, utilized environmental information to develop themes for an analysis of teacher differences.
performance cannot begin their act until they have brought themselves to the appropriate place and must terminate their performance when they leave it (p. 22).

The campus. The classroom in which the observations took place was located in a university building on the campus of a midwestern university. The university was located in a small town (town and university population totalled approximately 28,000), which was approximately seventy-five miles from the nearest metropolitan area. The major administrative buildings and some academic buildings on the campus were located on the top of a hill, surrounding a tree-covered green. Other academic buildings and dormitories were spread around the base of the hill. The building in which the preschool classroom was housed was located one block from the major green.

The building and the playgrounds. Dowd Hall (a pseudonym), a three-story, ivy-covered brick building approximately sixty years old, originally housed the university laboratory elementary school. When the laboratory school was closed in 1972, the university opened a day care center in the building to meet the child care needs of university and community families as well as to serve as a field placement site for undergraduate and graduate students from multiple academic disciplines.

Dowd Hall is shaped like the letter "E" with the middle horizontal bar extending beyond the other two bars. The day care center used six rooms on the first floor and two rooms in the east wing of
the building on the second floor. The remainder of the building was used by the departments of dance and theatre. (Interview with the Director of the Day Care Center, 1/4/80.)

Dowd Hall was located between the Music Building and the Education Building and across the street from a major dormitory unit. Three playgrounds were used by the day care center for outdoor play (see Figure 2). One enclosed playground, used by the infant and toddler classes, was immediately adjacent to the building. Two additional playgrounds, both of which were enclosed, were separated from the building, which required adult supervision of movement to and from the playgrounds. The playground between the Music Building and Dowd Hall was covered entirely with grass and was used as a supplementary area. The playground to the rear of Dowd Hall and the Education Building served as the primary playground area. This area was divided into two parts, one of which was black-topped and the other covered with dirt and grass. The black-topped section was used for play with wheeled equipment, while the other area was used for large muscle play on swings and climbing units. The playground also contained a small storage shed in which the wheeled equipment and large hollow blocks were stored. The playground was shared by four classes, which necessitated stringent scheduling of playground time to meet state licensing requirements. Each class was allowed a forty-five minute period on the playground in both mornings and afternoons.

The classroom. Ann's classroom was located in the east wing on the second floor of Dowd Hall. (See Figure 3.) Access to the room
Figure 2

Dowd Hall and Surroundings
Figure 3

Second Floor of Dowd Hall
was provided by inside stairs on the south side of the building and by outside stairs on the north side.

The room itself, situated in the northeast corner of Dowd Hall, was approximately 22 feet wide by 29 feet long. Two doors provided entry to the room, one from the hallway and the other from an adjacent room. The east wall of the room contained eight windows, covering the distance from approximately four feet from the floor to the high ceilings. The lower third of each window was covered by wooden slats placed apart to prevent children from falling from the windows (Interview with the Director of the Day Care Center, 1/4/80). Three radiators, enclosed by wood with metal grills, were also located along the east wall.

The room was separated into four defined areas: a multifunctional area, house area, circle area, and block area. (See Figure 4.) As one entered the room, directly to the left of the doorway was an area that can be defined as multifunctional. The end nearest the door contained two art storage shelves, a storage table, two single tables pushed together to form a square, and eight chairs. The middle section of the area contained a single table, four chairs, and the construction table, while the far end contained two single tables pushed together to form a square, eight chairs, and a sand table with a wooden top. Although Ann labeled the sand table and the art area as separate--"These the lunch tables go across the art and the sand"--her description of the use of the area indicated its multifunctional nature:
That table ([the square table nearest the door]) is pretty exclusively art. I spill my art over here. Some kids want to do sloppy things but other kids still want to do felt tips because that is what they want to do. Or clay—I'll move them over here. If I have eight, like at the end of the quarter, like when I have started to do I would leave this table and chairs down and I would let my aide sit here and do math or science—just have it laid out and wait until a child approached them. So I would use this table here. When we first talked, Kate and I, Kate introduced me to the room. That's the science table, hence the gerbils. We put leaves and rocks and plankton and that kind of thing, but for any real experiments, I use this table ([table in middle section of multifunctional area]) and I pull my chairs apart so that all my kids can sit around it or stand around or whatever. So I interchange art, science, and math. (Interview 1/4/80)

This area, then, was used for art, science, math, sand play, and lunch and snacks. It should be noted that the construction table was "rarely opened" according to Ann and was used primarily for drying art projects.

A second clearly defined area, located in the northeast corner of the room, was labeled either the house area or the doll area. This area contained a child-sized stove, refrigerator, sink, hutch, table with four chairs, two cradles, an ironing board, doll-sized high chair, three storage shelves, and two dressers. Ann noted that this "formerly was the house area but a lot of times we call it the doll area . . . almost interchangeably. I don't know why." When asked if the children called it by one name or the other, Ann replied, "The doll area. I think they are the ones who started it and we picked it up. Now I notice we are using it interchangeably. I hear myself saying both" (Interview, 1/4/80).

The third area, which was adjacent to the house/doll area, was bifunctional in use. It was labeled as either the circle area or the
Figure 4

Ann's Room
quiet area. When asked if these terms were used interchangeably or functionally, Ann responded, "We call it the quiet area when we ask what area they want to play in, and at circle time, it gets called the circle area" (Interview, 1/4/80). This area contained a bookcase holding children's books, three storage shelves for manipulative materials, a round table upon which was placed a gerbil cage containing two gerbils (male and female, frequently with baby gerbils) a child-sized straight chair, and a child-sized rocking chair.

The fourth area was labeled the block area. It contained a climbing unit, room dividers, a chalkboard, storage shelves holding blocks and trucks, a phonograph, a filing cabinet (for teachers' use), and a stack of carpet squares. According to Ann, the use of the climbing unit and the chalkboard was limited: "Unless the climbing box is pulled out into the room, it is closed. . . . And I'll pull my chalkboard out into the area. If the blocks aren't spread around or if it won't upset a building, I'll put my chalkboard so that kids can use it on both sides" (Interview 1/4/80).

Storage of classroom materials. Classroom materials (see Appendix C for an inventory of classroom materials) were stored in one of two kinds of storage units, those accessible only to teachers and those accessible to both teachers and children. There were two wooden cupboards for teacher storage materials, two of which were hung on the wall to the right of the doorway leading from the hall and two which were hung above the short block storage shelf in the
block area. Extra art materials, paints, and supplies were kept in the former, while the latter contained miscellaneous curriculum materials. Immediately adjacent to the teacher art storage cupboard was a narrow cupboard that, although physically accessible to the children, was not used by them. It contained such items as band-aids and cotton balls. In addition to these cupboards, teachers also stored materials in a metal filing cabinet located in the block area and on the top of the long block storage shelf. In the filing cabinet were found lesson plan forms, administrative forms, additional learning materials, and teaching aids. The top of the block storage shelf held items such as wire baskets (as used in offices for incoming and outgoing mail), books, two small boxes with miscellaneous materials, a stapler, a container of pencils and pens, a hole punch, a wooden tray holding a styrofoam egg carton (turned upside down) with a toothbrush inserted in each egg cup, and a tray with a pitcher on it.

Materials that were accessible to both children and teachers were stored in low, wooden storage units that acted as area dividers in some instances. The exception to wooden shelves was a medium-sized cardboard box used for storage of sand table toys; it was kept under the sand table. Materials were stored in the areas in which the material was to be used, and children were not allowed to carry materials out of that area (Interview with Ann, 2/4/80).
In general, the materials available to children in this preschool room were of the type described by Mayer (1971) as those found in a traditional child development program.

**Bulletin boards.** Three bulletin boards were located in the room, all of them used by teachers only. One bulletin board was fastened to the wall directly to the left of the doorway from the hall. In the first week of the observation, Ann planned the display for that board and asked the children to help execute her plans (Field notes, 1/4/80). During the following weeks, Sally (the student teacher) was responsible for planning and executing displays for this bulletin board.

A second bulletin board was located on the inside of the door leading to the hallway. It contained a sign labeling the room and naming the teachers and the student teacher, a daily schedule, the weekly attendance record, fire drill instruction, two lists of children's names (one entitled "Helping Hands" and the other "Door Holders"), and an emergency health plan.

The third bulletin board, on the wall next to the door leading into the adjacent room, was labeled "Teacher Corner." It contained a list of the weekly themes for the winter quarter, the weekly lesson plan, an attendance list for student laboratory workers, the telephone numbers for the police and fire departments, a list of children's birthdays, and other miscellaneous papers.

Children's representations were never placed on these three boards. They were, instead, displayed on the north wall of the room.
Summary. The physical setting in which this research study was conducted consisted primarily of the preschool classroom in a university building and a nearby playground. The classroom itself was divided into well-defined areas, each of which contained materials appropriate for use in that particular area. This section has described the actual setting, while the next section of Part One contains a discussion of the related literature as well as the effects of the physical environment on the teacher's use of choice in the classroom.

Discussion

Related literature. Although the potential importance of the physical environment has been acknowledged by some educators, little systematic research has been undertaken to assess the effects of environmental variables on the behavior of either children or teachers. In addition, the effects of environmental variables have been confounded by the use of the term "setting" (Berk, 1971; Doke and Risley, 1972, 1975; Kounin and Sherman, 1979) synonymously with environment. The functional use of the former term, however, is closer to the concept of classroom structure, which has been defined by Huston-Stein et al. (1977, p. 908) as "the degree to which the educational program involved adult-directed activities." When true environmental variables have been separated from others such as setting, the empirical literature reveals four elements of importance: density (Fagot, 1977;
Prescott and David, 1978; Rohe and Patterson, 1974; Shapiro, 1975; Swift, 1964); privacy (Day and Sheehan, 1974; Prescott and David, 1978; Sheehan and Day, 1975; Swift, 1964); softness (Prescott and David, 1978); and utilization of space (Featherstone, 1974; Kounin and Sherman, 1979; Shapiro, 1975; Shure, 1963).

The effects of the first element of density, or the number of children in proportion to the size of a room, has been related to children's social interaction as well as to children's involvement with materials. Swift (1964), in a review of early studies, noted that aggressive behaviors increased when space was limited, while Rohe and Patterson (1974) found that restricted space led to more aggressive and destructive behavior from males and more unoccupied behavior on the part of females. In addition, Rohe and Patterson found significant interaction between density conditions and amount of resources available. Although these researchers found that increased resources in general led to more constructive, cooperative, and relevant behavior, the interactions indicated that the restriction of resources in high density conditions led to increased social interaction of a negative nature, while increased resources in the high density condition led to relatively more cooperative play and less irrelevant behavior. Thus, restricted quantity of resources led to heightened negative effects of high density conditions, while increased resources ameliorated these effects. Fagot (1977), however, reported conflicting results. In a study of both American classrooms, where space was less restricted, and Dutch classrooms, where space was more restricted, Fagot found that the Dutch children spent
approximately twice as much time in positive social interaction as did the American children. She suggested that conflicts in findings from previous studies were a result of experimental manipulations found in the earlier studies; however, no discussion was centered on the cultural differences between the two samples in Fagot's study as possible explanations for differences.

The relationship of density to children's involvement with materials was studied by Shapiro (1975). Defining involvement by its inverse term of non-involvement (deviant, random, and on-looking behavior), this researcher found significant relationships between the amount of space per child and children's non-involvement. In rooms with less than thirty square feet per child, 26 percent of the behavior reported was that related to non-involvement. In this condition, poor organization and lack of clear boundaries between activity areas led to distraction and on-looking behavior; high noise levels, frequent accidental bumping, and excessive visual stimulation resulted in over-stimulation, frustration, and high rates of deviancy; and inadequate space in areas led to wandering and seeking alternatives to preferred activities. When the space was increased to thirty to fifty square feet per child, non-involvement dropped sharply to 15 percent; however, over-large rooms (more than fifty square feet per child) increased non-involvement to 20 percent and led to more random, exploratory behavior.

The environmental elements of softness and privacy have been discussed by Day and Sheehan (1974), Prescott and David (1978),
Sheehan and Day (1975), and Swift (1964). Softness, as defined by Prescott and David (1978, p. 147), refers to the responsiveness of the environment to the child, particularly on the sensual-tactile level. Components of softness include, among others, malleable materials, large rugs or carpeting, comfortable furniture, dirt, grass, and animals. These authors found an interaction between the softness of an environment and the structure of a classroom (as previously defined), with closed (teacher-directed) structure evidencing less softness and open (child-directed) structure offering more softness. Privacy, on the other hand, was defined in the same article in terms of intrusion-seclusion components. Intrusion refers to freedom from interruptions or distractions from other children, while seclusion refers to freedom for the child to pursue activities individually or in small groups. Day and Sheehan (1974, 1975), based on both formal and informal observations of preschool child care settings, supported the need for privacy, while Swift (1964) suggested that the type of preschool program (nursery school versus day care), as well as goals for individual children, might be determinants of the amount of private space needed in a classroom. Children who are enrolled in full-day programs or whose home environments are crowded might need greater amounts of private space, whereas children who enrolled in half-day nursery school programs for the purpose of developing social interaction skills might need less space for privacy.

The fourth element of the environment is that of utilization of space or, more specifically, the use of clearly defined areas
within space. Pollowy (1970) noted that physical space is necessary but not sufficient for increased child involvement and suggested that visual identification of activity areas is also needed. Kounin and Sherman (1979) posited that activity areas influence the amount and kind of social interaction, the intensity and rate of conflict, and the rate of imitation. The effects of several components of activity areas on the behavior of children have been identified. One, defined as "holding power" by Kounin and Sherman (1979) and as "density" by Shure (1963), refers to "a setting's capacity to sustain participation" (Kounin and Sherman, 1979, p. 146). The latter researchers found the roleplay, sand, art, and book areas to be high in holding power, while clothing, display, and vehicle areas were lowest in holding power. A possible explanation offered by the researchers was that the degree to which an area provided indications of change as a result of a child's action on materials affected its sustaining power. Shure (1963) found that more time was spent in the block areas and then, in decreasing order, in the art, games, doll, and book areas. She also indicated the possibility of sex differences, with boys spending more time in the block area, girls in the art area. Kounin and Sherman (1979) found that solitary play was greatest in the clothing, puzzle, and vehicle areas; small groups were more prevalent in the sand, science, props, climbers, and book settings, and music centers. Shure (1963) found solitary play was more frequently evidenced in the book and game areas, simple awareness was more prevalent
in the art and block areas, and social interaction most frequently found in the doll area.

In addition to the sex differences in the utilization of areas identified by Shure, Featherstone (1974) introduced the possibility of socio-economic differences in the use of areas by children. She found that low-income black children were more frequently found in the real kitchen (as contrasted to the housekeeping area) and project room, while white, middle-income children were more often found in the art, block, and table toy areas. Featherstone noted, however, that the small number of children prohibited separation of the effects of race and economic class. In the discussion of possible explanations for differences in the attraction of different children to various areas, Featherstone noted that the kitchen and project room provided the continuous presence of an adult and more structured activities, leading to a greater degree of teacher direction. The art, block, and table toy areas provided intermittent teacher presence and more flexibility in the structure of activities, leading to a greater degree of child-directed activity. Featherstone also noted that there were exceptions to the use of areas on the basis of socio-economic and racial characteristics and suggested that within group variability might be greater than between group variability in further studies. She posited that children may naturally select areas that are compatible with individual learning styles and that a variety of areas should be offered within the preschool setting.
In addition to the literature already cited, two studies focused on constraints on children's behavior. Jackson and Wolfson (1968) defined constraints as "experiences that might be interpreted as disruptive or as interfering with the natural pursuit of children's desires" (pp. 358-359). Among the various types of constraints listed in their taxonomy were those of environmental and institutional limitations. Jackson and Wolfson found that a small but equal percentage of constraints were the result of environmental limitations and institutional restrictions. Berk (1971), in a similar study based on observations in four different preschool settings, found that institutional limitations accounted for an even smaller percentage of constraints than the Jackson and Wolfson study and reported the absence of any environmental limitations in any of the settings studied.

Although the literature concerning the effects of the environment on the behavior of children is relatively limited, systematic inquiry into the effects of the environment on teacher behavior is even more so. Fagot (1977) noted that, under conditions of high density, teachers planned daily activities more carefully, were more directive with children, and offered no free-choice play. Polloway (1974) noted that, under the same conditions, a high degree of teacher supervisory involvement was necessary.

The importance of space on the behavior of both children and teachers has been summarized by Prescott and David (1978):
We found that the quality of space directly affected the degree of freedom permitted both adults and children.

If the arrangement of space and materials enabled the child to explore activities and make choices on his own, he was more interested and involved. Such an arrangement changed the adult role from that of supervisor or rule enforcer and permitted more adult-child interaction on a one-to-one basis. When adults deal with children as individuals, they became more aware of individual differences and needs. Consequently, the program evolved to better respond to those needs. The products were child involvement and more sensitive, friendly, and encouraging adult behavior.

If space was of low quality, the freedom of both adults and children was limited. Adults were forced to assume more responsibility for order and activity and their behavior was more neutral and insensitive. Their emphasis tended to be on guidance and restriction rather than interaction. The children were also less likely to be involved and interested (p. 152).

Having presented a brief review of the literature regarding the importance of the physical environment on the behavior of both teachers and children, an analysis of the environment of the current study is presented in the following section.

Implications for choice. In terms of effecting the teacher's use of choice with children, the physical environment of the classroom both provided and prohibited opportunities for children's decision-making. The discussion of the physical environment in relation to choice concerns the building, the playground, and the preschool classroom.

Two structural characteristics of the building prohibited the teacher from giving certain choices: the location of the bathroom and the kitchen. The location of the bathroom down the hall from the
classroom necessitated frequent group usage. During the times specified for group use of the bathroom, all children were required to be in the bathroom, although not all were forced to use the bathroom. "You just ask them to try. If they say they can't go, it's okay," stated Ann (Interview, 1/4/80). There was, however, no choice between staying in the classroom or going into the bathroom with the group.

The second structural impediment to choice was the location of the kitchen on the first floor of Dowd Hall. The location, together with center-imposed eating times, inhibited the freedom of the children to choose times for eating snacks and lunch. Children had the freedom to accept or reject food at the prescribed times (with the exception of lunch), but they did not have the choice of consuming food at times other than the scheduled ones.

The playground also presented restrictions on the teacher's utilization of choice strategies. The absence of an immediately adjacent playground and the need for scheduled use limited the teacher's use of the playground to two periods of time per day. Children were required to be on the playground at the scheduled times but were not allowed at any other time. This prohibited the teacher from allowing indoor-outdoor choices during child-initiated activity periods. A second factor concerning playground restrictions was that of the division of the playground into black-topped and dirt areas. During inclement weather, children were not allowed to play in the dirt areas and were required to stay on the black-topped surface. The third factor related to the playground involved the use of materials
and equipment, which were stored in a shed on the playground itself. During inclement weather (and when the key to the shed was lost) children were not allowed to remove equipment from the shed. Thus, under poor weather conditions, the children were restricted to the black-topped areas with no equipment, which severely limited opportunities for choice.

The classroom itself provided opportunities for and restrictions of choice. The arrangement of the room into distinct areas allowed the teacher flexibility in offering alternatives for the children's use of space. At certain times, however, the children's choice of space was limited by the teacher's action of closing an area altogether, limiting the number of children in an area, or closing an area to specific children. An area could be closed by the teacher to encourage children to utilize other areas, to encourage more positive social interaction, to prevent inappropriate behavior, and to punish unacceptable behavior. Ann cited examples of closing areas for the reasons listed above (Interview, 1/4/80):

In the beginning of the year, we were finding people like Aaron (pseudonym) who was really into gross motor . . . just physical on the playground and in the block area. Never in the doll area or art area. I don't even know if he knew we had a sand table. And this was happening with some other children too. Some of my girls would only be in the doll area all day long which is okay. As a new teacher in a new room and some of those children new to day care, we wanted them to experience all the areas and have some proficiency. Like Aaron turned out to be quite an artist. We didn't know that. He learned how to use scissors, discovered clay, that kind of thing. I guess we do it now if we see that an area is being over-used.
Or if sometimes there is a group of children who are experiencing a lot of social difficulties and they are all drawn to a play area like the doll area or they don't get along well, instead of having the same irritating clique, if we can block off that doll area, then they have to go somewhere else. A lot of times not together. It helps make friendships and interactions.

Unless the climbing box is pulled out into the room, it is closed (Interview, 1/4/80). But that climbing box is nothing but a nuisance. What you're doing is disciplining because it's there. "Get out of the climbing box. The climbing box is closed." In the few times you do use it, it's not worth it (Interview, 2/4/80).

"We were getting, like day after day, Jenny and Melissa (pseudonyms) would play in the doll area and not clean it up, and what we tried was social pressure. 'Well, we can't eat lunch until Jenny and Melissa are finished.' We tried withholding. 'Well, if you are late for lunch, you might not have time for dessert.' We tried everything. Finally, one day I said, when I had the felt shape board out, 'Where would you like to play?' I would announce it, 'Jenny and Melissa cannot play in the doll area . . . because they don't know how to clean up.' That lasted one day. The next day they cleaned it up. Sometimes closing the areas as a discipline . . .

These four excerpts from the interviews cited illustrate the ways in which the teacher used the environment to limit children's choices.

A second aspect of the classroom that affected choice was that of materials, including the storage of and limitations on the use thereof. As mentioned in a previous section of this chapter, materials were stored in both low units accessible to children and in high or closed units, which were inaccessible to children. Three of the latter type were found in the art area. In these cupboards were stored paints, paste, and miscellaneous art materials. The storage
at least one material—paste—in units inaccessible to children was based on a conscious decision made by Ann:

I like them to ask for paste. You never know if they are going to eat it, if they are going to take hands full. I like to at least say, 'You only need a little bit of that kind of thing. Especially the kind that you squeeze out.' They will waste cups full. That upsets me. That I monitor a bit (Interview, 1/4/80).

Art materials always accessible to the children were, according to Ann in the same interview, "clay, felt tips, papers to cut up, scissors." The researcher found no evidence of clay, however, in the room while taking an inventory of the materials and equipment.

Another limitation regarding the use of materials was related to a room rule that forced children to use materials only in the area in which the materials was stored. Ann described the rule in the following way:

And then she (Kate) gave them the rule about toys staying in that area. That the doll house toys are supposed to stay in the doll house, and the blocks are supposed to stay in the blocks, and the sand is supposed to stay in the sand table (Interview, 2/4/80).

When asked in the same interview if she felt there was value in taking materials to different parts of the room, Ann replied,

Yeah. I think it's incentive. In fact, this week I'd like to set up a grocery store in here and have dramatic play between these two areas. And in actuality, I shouldn't be doing that. I just think, um, I can understand why you might want to do that, because, especially in the first couple of weeks of school, this place would be just a mess. But I think once the kids know the areas and know, recognize what toy goes where, that if you continue that rule, what you're essentially doing is stifling their creativity. You see, in the block area I've seen the girls use the big blocks and make a house area and decide to be certain thing. And with just the prop of a doll, you see, that opens a whole new world.
So that, I can understand starting out that way, but I think you would loosen up after a certain period . . . I think by doing that, there's only so many combinations. After a certain period of time, the child's done that. And I thought, what you would want would be new and exciting experiences and letting the child manipulate his own environment. You know, kids can think of a million things to do with everything. But you're limiting it . . .

**Summary.** The importance of the physical environment has been cited, and the limitations of the environment on the teacher's use of choice have been described. The limitations included structural factors inherent in the building, location of playgrounds, teacher's restrictions of the use of room areas, and location and rules about materials. Factors that encouraged choice were division of the room into areas with minimal restrictions as to use and availability of many materials for children's use.

The issue of the effect of the physical environment as it relates to choice has been described in the first section of this chapter. Of equal importance is the effect of the social environment on the teacher's behavior, which may directly or indirectly relate to her use of choice. This issue is discussed in the following section.

**The Social Environment**

The human aspects of an environment can affect the ways in which teachers relate to each other and to the children. Descriptions of the children and teachers and of adult interactions in the classroom will be presented in this second part of Chapter 3. The
descriptions will be followed by a discussion of staff relationships and their effects on the teacher's use of choice.

Participants in the Classroom

The children. Seventeen children were enrolled in Ann's class during the winter of 1980. Of those, four were children new to the room, having been enrolled at various times during the month of January. Ten of the children were female and seven were males. The average age of the children was 4.3 years, with the range being 3.4 to 5.0 years. The average height of the children was 43.9 inches, with a range of 38.5 to 45.3 inches. The average weight was 40.2 pounds, with a range of 30.5 to 51.0 pounds (see Table 5).

Five of the seventeen children lived in single-parent homes, and in all instances the single parent was the mother. Seven were only children, while the remainder had one sibling each. Parental occupations included students, professors, housewives, secretaries, and community service coordinators (see Table 6). One child spoke no English, another child was bi-lingual, and the remaining children spoke English as the primary language.

Although the center primarily offered full day care services, two children were enrolled for half-day sessions only. One attended in the morning and the other in the afternoon. Some of the children, however, left the center in the mid-afternoon, leaving a smaller group in the late afternoon.
Table 5
Demographic Information Concerning the Children Enrolled in Ann's Classroom

<table>
<thead>
<tr>
<th>Name*</th>
<th>Age in years</th>
<th>Height in inches</th>
<th>Weight in pounds</th>
<th>Sibling</th>
<th>Single parent</th>
</tr>
</thead>
<tbody>
<tr>
<td>JUAN</td>
<td>3.8</td>
<td>39.25</td>
<td>35.25</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>LUISA</td>
<td>4.7</td>
<td>41.50</td>
<td>36.50</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>JENNY</td>
<td>3.9</td>
<td>41.25</td>
<td>41.00</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>ANDREW</td>
<td>4.4</td>
<td>42.75</td>
<td>36.50</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>JULIA</td>
<td>4.0</td>
<td>41.00</td>
<td>37.25</td>
<td>0</td>
<td>x</td>
</tr>
<tr>
<td>ROBYN</td>
<td>5.0</td>
<td>43.00</td>
<td>43.00</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>MARTY</td>
<td>4.11</td>
<td>42.75</td>
<td>38.50</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MELISSA</td>
<td>4.3</td>
<td>39.75</td>
<td>40.50</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>JEREMY A.</td>
<td>4.9</td>
<td>45.25</td>
<td>51.00</td>
<td>0</td>
<td>x</td>
</tr>
<tr>
<td>JOY</td>
<td>3.4</td>
<td>38.50</td>
<td>32.00</td>
<td>1</td>
<td>x</td>
</tr>
<tr>
<td>LIBBY</td>
<td>4.8</td>
<td>42.00</td>
<td>38.00</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BETH</td>
<td>4.0</td>
<td>42.50</td>
<td>39.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>SOPHIA</td>
<td>4.6</td>
<td>39.75</td>
<td>30.50</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>ROBBY</td>
<td>4.5</td>
<td>40.75</td>
<td>33.00</td>
<td>0</td>
<td>x</td>
</tr>
<tr>
<td>JEREMY B.**</td>
<td>4.11</td>
<td>40.00</td>
<td>36.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>PETER</td>
<td>4.11</td>
<td>42.00</td>
<td>36.00</td>
<td>1</td>
<td>x</td>
</tr>
<tr>
<td>AARON**</td>
<td>3.8</td>
<td>41.50</td>
<td>39.00</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

*Pseudonyms

**Half-day enrollment
Table 6
Parent Occupations

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bookkeeper</td>
<td>1</td>
</tr>
<tr>
<td>Children's Services Coordinator</td>
<td>1</td>
</tr>
<tr>
<td>Community Services Coordinator</td>
<td>1</td>
</tr>
<tr>
<td>Cook</td>
<td>1</td>
</tr>
<tr>
<td>Housewife</td>
<td>2</td>
</tr>
<tr>
<td>Library Aide</td>
<td>1</td>
</tr>
<tr>
<td>Professor</td>
<td>4</td>
</tr>
<tr>
<td>Purchasing Agent</td>
<td>1</td>
</tr>
<tr>
<td>Radio TV Salesman</td>
<td>1</td>
</tr>
<tr>
<td>Secretary</td>
<td>3</td>
</tr>
<tr>
<td>Student</td>
<td>11</td>
</tr>
<tr>
<td>Teacher</td>
<td>1</td>
</tr>
<tr>
<td>Typist</td>
<td>1</td>
</tr>
</tbody>
</table>
Because the focus of this study was centered on the classroom teacher, the description of the children will be limited to the demographic information presented above.

The teachers. Ann White, the principal subject of this study, was approximately thirty-one years of age. Ann was married to a doctoral student in the physical sciences, Michael, and they were the parents of a two-year-old son, Jamie. Ann was 5'4" in height and weighed approximately 130 pounds. She had shoulder-length dark brown hair, streaked with gray, and had brown eyes. When she was teaching, Ann generally wore either skirts and turtleneck tops, dresses, or slacks and turtleneck tops. At no time did Ann wear blue denim jeans, the clothing worn by many other teachers and students at the center. Ann's shoes were either open-heeled tan leather clogs and knee-high black boots. On the playground, Ann wore either a calf-length wool coat with a hood or a dark blue ski parka with a rabbit fur-lined hood.

Ann's account of her educational background (see Appendix B) provided the following information:

My educational life history includes the typical elementary school experiences of grades 1-6, a junior high period of seventh and eighth grade, and finally a high school term of four years. I attended a junior college for two years and received an A.A. degree in general studies. I transferred to a university and attained a B.A. degree in (secondary) education with a double major in history and English. I am now involved in a master's program in child development and family ecology (Document: Educational Life History of Ann White).
Ann's work experiences included three years of part-time employment as a library aide in Alaska, one year as a children's librarian in Massachusetts, and two years as a teacher's aide in a federally funded reading program in California. For two years prior to the academic year in which the study was conducted, Ann had worked, first as a volunteer and then as a paid substitute, in the center. She was hired in September, 1980, as the co-teacher in the preschool room of three- and four-year-olds.

Ann's academic preparation for her role as a preschool teacher included four courses in early childhood. Although a graduate student, Ann was required to take two undergraduate classes--child development and preschool guidance--for her master's degree program. One of the requirements for the preschool guidance class was a three hour, weekly field experience, which Ann fulfilled in a preschool classroom at the day care center. In addition to these two courses, Ann took two independent studies, one a continuation of her studies in preschool guidance and the other, a comparison of various early childhood program models.

Ann's limited background in early childhood education led her to use the fall semester to the development of curriculum materials: "I worked on creating a bibliography of books, finger plays, music, art--you know, those files I was working on today" (Interview, 1/4/80). Sally, the student teacher, also noted Ann's desire to improve her teaching skills:

I couldn't believe Ann didn't go to school for early childhood. She was in English and secondary. I was amazed
because I think she does an excellent job. And she is so worried—like this fall when I would go in the room—well, it was all new to her, and she just wanted to do everything. She would go to the library and look at finger plays. And she really likes to keep in touch with things and on top and share ideas and works hard at it (Interview, 1/27/80).

Ann gave the over-all impression of being a caring, concerned, and committed teacher of young children.

Kate Black was Ann's co-teacher. She was a tall, heavy young woman, approximately 24 years of age, with medium brown, shoulder blade-length brown hair, which she normally wore pulled back from her face in a ponytail. She had brown eyes and a pale complexion. Kate always dressed in blue jeans and T-shirts.

Kate, from a small midwestern town located in the same state as the university, had received a B.S. degree in early childhood from the university in which the center was located. All of her undergraduate field experiences had been done in this same center. Upon graduation, she was hired as a teacher at the center and was in her third year of teaching (Interview with the director, 1/3/80).

Kate appeared to be somewhat aloof and reserved. Sally described Kate as "just kind of, I don't know, just laid back. Doesn't get real excitable. I don't think she is blasé, but that's how she seems to me" (Interview, 1/27/80). Ann described Kate as being defensive when she offered suggestions for doing something in the room (Interview 2/4/80) and as being "not a very easy person to approach about anything—at any time" (Interview, 2/4/8).

Another side to Kate, however, was revealed in an anecdote shared by Ann with the researcher.
After lunch, while the children were preparing for nap time, Ann told Kate that she (Ann) had an appointment with Dr. Smith (pseudonym), her major advisor. Kate said something to Ann, looked at me, smiled, and looked back at me. I wish I could convince her that I cannot hear what she's saying until I listen to the tapes! Ann and I soon left the building together to walk up the hill. I asked Ann what Kate had said to her after lunch. Ann said that Kate had asked her about the appointment with Dr. Smith and then had teased her, saying, "Just enough time for a quick lay, huh?" Ann went on to say to me, "I really feel uncomfortable with that kind of talk. I feel I don't know her well enough to joke like that." (Field Notes, 2/4/80).

Although at most times appearing aloof and withdrawn, Kate did attempt to initiate more interpersonal interactions at times.

Sally Grey, a university senior with a major in early childhood education, was assigned to the classroom as the student teacher for the winter quarter. Although a student, Sally was treated as a third co-teacher by Ann and Kate. Approximately 5'5" in height and 135 pounds in weight, Sally had shoulder-length blond hair and blue eyes.

As the student teacher, Sally was responsible for planning the themes for each week, designing the bulletin board on a weekly basis, and for planning and conducting the morning group activity daily. Sally was a conscientious teacher, which was evidenced by the amount of planning she had done prior to the beginning of the quarter. Sally noted, "I made my lesson plans out, like over Christmas break, and I've been working on them for two years really" (Interview, 1/27/80).

Sally was from a small town in the central area of the state, and it was her goal to return to her home community and teach in a preschool program.
Other adults. In addition to the teacher triad, Ann also interacted with other adults, including college students placed in the room for practicum purposes, parents, and the researcher. Although these groups were included in the analysis of interaction, no attempt will be made to describe the persons individually.

Adult Interactions in the Classroom

Interaction between Ann and other adults in the classroom was measured using a subscripted version of the Observational System for Instructional Analysis (Hough, 1980). Codes were assigned to individual adults (Ann, Kate, and Sally), groups of persons (college students and parents), and to the researcher. In addition to coding individuals and groups, interaction was subscripted and encoded for topics of conversation. These subcategories included topics concerned with the center as a whole, the room, teaching, child behavior, child health, and personal matters. Transcripts of interaction were encoded and analyzed using matrix, subfunction, subscript, and chain and pool analyses, as described in Chapter 2 (see Appendices E, F, G, H).

Of all teacher behavior recorded, 11 percent of Ann's time was spent in relation to other adults; in other words, Ann and other adults spent approximately 56 minutes in interactive behavior. Ann spent the greatest amount of time in adult interaction with college laboratory students (37 percent) and then, in decreasing order, with the student teacher, her co-teacher, parents, and the researcher (see Table 7). When the time was broken down to assess the relative amounts
of time contributed to the interaction by Ann and by the other adults, it was found that Ann contributed approximately twice as much time to the interaction than did other adults (see Table 8).

When the interaction was studied by topic, it was found that over half focused on teaching matters (58 percent). Child behavior was the focus for 17 percent of the time, personal matters, 9 percent, child health, 5 percent, the room, 4 percent, and the center, 3 percent (see Table 9).

In summary, it was found that Ann spent the greatest amount of adult interaction time with students, that she contributed roughly twice as much time to these interactions, and that over one-half of the interaction time was spent in talking about teaching. In this section of Part Two, a quantitative analysis of teacher-adult interactions has been presented. In the following section, a qualitative analysis is discussed.

Discussion

Review of related literature. The nature of the preschool classroom generally necessitates the presence of more than one adult in the room at any time (Spodek, 1972). Interaction between and among the various adults and the effects of that interaction on teacher or child behavior, however, are seldom reported. Spodek noted that, although the typical staffing pattern in the primary grades has been a single teacher in self-contained classroom, the typical pattern for nursery schools and day care centers has been a teacher and an
Table 7
Teacher Time Spent in Interaction With Other Adults

<table>
<thead>
<tr>
<th>Adult</th>
<th>Time (in Minutes)</th>
<th>Percent of Total Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-Teacher</td>
<td>14.2</td>
<td>26%</td>
</tr>
<tr>
<td>Student Teacher</td>
<td>15.3</td>
<td>28%</td>
</tr>
<tr>
<td>College Laboratory Workers</td>
<td>20.6</td>
<td>37%</td>
</tr>
<tr>
<td>Parents</td>
<td>3.0</td>
<td>5%</td>
</tr>
<tr>
<td>Researcher</td>
<td>2.5</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>55.6</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Table 8
Relative Amount of Time Contributed to Interaction by Teacher and by Other Adults

<table>
<thead>
<tr>
<th>Interaction</th>
<th>Amount of time spent by teacher</th>
<th>Amount of time spent by other adult</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher - Co-Teacher</td>
<td>9.5 (67%)</td>
<td>4.7 (33%)</td>
</tr>
<tr>
<td>Teacher - Student Teacher</td>
<td>10.1 (66%)</td>
<td>5.3 (34%)</td>
</tr>
<tr>
<td>Teacher - Laboratory Workers</td>
<td>14.3 (69%)</td>
<td>6.3 (31%)</td>
</tr>
<tr>
<td>Teacher - Parents</td>
<td>1.9 (63%)</td>
<td>1.1 (36%)</td>
</tr>
<tr>
<td>Teacher - Researcher</td>
<td>1.6 (63%)</td>
<td>.9 (37%)</td>
</tr>
</tbody>
</table>
Table 9

Amount and Percent of Time Spent in Interactions
With Adults By Topic

<table>
<thead>
<tr>
<th>Topic</th>
<th>Co-Teacher</th>
<th>Student Teacher</th>
<th>Laboratory Worker</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minutes (Percent)</td>
<td>Minutes (Percent)</td>
<td>Minutes (Percent)</td>
<td>Minutes (Percent)</td>
</tr>
<tr>
<td>The Center</td>
<td>1.5 (95)</td>
<td>.1 (5)</td>
<td>1.6 (3)</td>
<td>4.2 (8)</td>
</tr>
<tr>
<td>The Room</td>
<td>.6 (35)</td>
<td>.2 (7)</td>
<td>1.3 (58)</td>
<td>3.1 (6)</td>
</tr>
<tr>
<td>Teaching</td>
<td>4.0 (14)</td>
<td>13.0 (45)</td>
<td>11.8 (41)</td>
<td>28.75 (58)</td>
</tr>
<tr>
<td>Child Behavior</td>
<td>2.7 (32)</td>
<td>1.6 (21)</td>
<td>3.8 (46)</td>
<td>7.1 (14)</td>
</tr>
<tr>
<td>Child Health</td>
<td>1.8 (70)</td>
<td>.4 (16)</td>
<td>.4 (16)</td>
<td>2.6 (5)</td>
</tr>
<tr>
<td>Personal</td>
<td>2.8 (47)</td>
<td>2.4 (53)</td>
<td>4.6 (9)</td>
<td>9.8 (19)</td>
</tr>
<tr>
<td>Other</td>
<td>1.1 (57)</td>
<td>.8 (43)</td>
<td>1.9 (4)</td>
<td>3.8 (8)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>49.9</strong> (100)</td>
</tr>
</tbody>
</table>
assistant teacher, also in a self-contained classroom. Spodek further suggested that a movement toward differentiated staffing, including the use of teaching teams and teacher aides, would allow for increased flexibility in the utilization of staff potential.

The effects of staffing procedures on children's behavior during transition times were studied by Lelaurin and Risley (1972). Using terms analogous to those in sports, the authors identified two types of staff assignments: supervision by a teacher of a group of children as they moved between and among activities ("man-to-man defense") and supervision by a teacher of a specific area ("zone defense"). Of the two staffing assignments, the authors indicated that the "zone" approach was more effective during transition times, leading to less amount of child time spent on irrelevant behavior.

The effects of staff patterns on staff behavior in British residential nurseries have been described by Tizard et al. (1972). Comparing staff informative talk, social activity, and conversations with children under differing staff-child ratios, the researchers found that the number of staff present, rather than the number of children present, contributed to differences in staff behavior. When no more than one adult was present, there were no significant differences in amount of informative talk, social activity, or teacher-child conversation. But the presence of just one staff member led to increased attention directed to children. Two possible explanations for the differences were offered by the researchers: (1) increased adult-to-adult conversation in the presence of two staff members and
(2) an hierarchical staff structure in which the staff member not in charge interacted less frequently with children contributed to the noted differences.

In addition to the effect of staffing patterns on child and staff behavior, Hill and Robins (1980) identified patterns of staff relations as evidence in teacher planning time. The staff model employed was that of teacher, assistant teacher, and student teacher. The results indicated that leadership for intra-class planning was generally assumed by the head teacher, who also was ultimately responsible for "the ideas and final form of the plan" (p. 5). In addition, recognition of unequal power relationships within the classroom staff led to the incorporation, within the planning session, of a "feedback" time, in which all staff members were encouraged to question classroom practices as well as to share grievances. It was not reported whether the institution of these opportunities did, in fact, equalize the power structure.

Although three disparate approaches to the study of staffing patterns and staff interaction have been reviewed, the common element in the studies was the focus on staff relations and their possible effects on teacher and child behavior. In the following section, the effects of the social environment on the teacher's behavior in the present study is discussed.

The effects of social relations on teaching. Although the literature does not clearly indicate effects of social relations on
teaching behavior, events recorded in the field notes indicated a possible relationship. The researcher recorded the following comments on January 8, 1980:

Today I've seen an almost unbelievable change in Ann's behavior. For the first three days of the observation, she has seemed unusually subdued—quite a different person from the one I had observed before Christmas. First, I wondered if my presence was threatening her, but she had not behaved that way downstairs. Today, I observed a totally different Ann! She was more "alive" than I've seen her yet. I suddenly realized that this is the first time I've observed Ann, by herself, in the afternoon. I wonder if Kate's presence (or absence) has something to do with this. Ann has indicated that their relationship is somewhat strained.

In order to explore more fully the meaning of this phenomenon, the researcher decided to collect pertinent data from three sources: the OSIA, interviews with Ann, and interviews with Sally Grey. The sampling procedures used for encoding and analyzing data, described in Chapter 2, included a procedure for examining differences in teacher behaviors between morning and afternoon period of the day. Using three parts of the daily schedule in which the co-teacher was present in the morning and absent in the afternoon (group, free play, and clean-up times) as the basis for comparison, it was found that there were differences in Ann's behavior. Teaching behavior recorded by the OSIA were clustered into three major categories—indirect, interactive, and appraisal behavior. When independent behavior was contrasted to interactive one, it was found that 59 percent of morning time was spent in independent behavior and 35 percent in interactive behavior, while, in the afternoon, 63 percent of the behavior was interaction and 29 percent was independent (see Table 10). One
Table 10
A Comparison of Teacher Behavior (by Category) During Morning and Afternoon Group, Free Play, and Clean-up Times

<table>
<thead>
<tr>
<th>OSIA Categories of Teacher Behavior</th>
<th>Amount of time in minutes spent in behavior during the morning</th>
<th>Amount of time in minutes spent in behavior during the afternoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinks</td>
<td>4.6 (4%)</td>
<td>1.9 (2%)</td>
</tr>
<tr>
<td>Senses</td>
<td>38.9 (37%)</td>
<td>11.3 (12%)</td>
</tr>
<tr>
<td>Manipulates Artifacts</td>
<td>18.3 (18%)</td>
<td>13.8 (12%)</td>
</tr>
<tr>
<td>Initiates</td>
<td>18.2 (17%)</td>
<td>18.8 (15%)</td>
</tr>
<tr>
<td>Responds</td>
<td>5.2 (5%)</td>
<td>8.3 (9%)</td>
</tr>
<tr>
<td>Solicits Clarification</td>
<td>.6 (1%)</td>
<td>.6 (1%)</td>
</tr>
<tr>
<td>Solicits</td>
<td>18.8 (12%)</td>
<td>19.3 (21%)</td>
</tr>
<tr>
<td>Judges Correctness</td>
<td>.4 (0%)</td>
<td>1.3 (1%)</td>
</tr>
<tr>
<td>Personal Positive Judgment</td>
<td>1.5 (1%)</td>
<td>1.3 (1%)</td>
</tr>
<tr>
<td>Acknowledges</td>
<td>3.6 (3%)</td>
<td>5.0 (5%)</td>
</tr>
<tr>
<td>Judges Incorrectness</td>
<td>.1 (0%)</td>
<td>.1 (0%)</td>
</tr>
<tr>
<td>Personal Negative Judgment</td>
<td>.1 (0%)</td>
<td>0.0 (0%)</td>
</tr>
</tbody>
</table>
possible explanation for these differences was the change in Ann's role during group time. Since the student teacher was responsible for the planning and implementation of the morning group time, Ann's role was that of an on-looker. Ann was, however, responsible for the planning and implementation of the afternoon group, which led to more active participation on her part. When the data, excluding the group times, were examined, the pattern remained consistent. Independent behavior accounted for 53 percent and interaction behavior 40 percent of the morning activity, while interactive behavior accounted for 52 percent and independent behavior 41 percent of the afternoon activity (Table 11).

In addition to support of the investigator's observation of within-day differences in Ann's behavior through systematic observation, the phenomenon was also described in interviews with both Ann and Sally. In discussing her feeling about co-teaching as a staff model, Ann (Interview, 1/23/80) noted that, "... if I'm in the situation where I have to be careful of other people's feelings, where I'm walking on eggs, part of my enthusiasm and creativity is stifled for fear of hurting the other person . . . " (condition that existed with Kate). She further indicated a difference in teaching because "I feel like in the afternoon it is my room finally" (Interview, 1/23/80). Sally was even more direct than Ann in her appraisal of differences in Ann's behavior at different times of the day, as evidenced in the following conversation:

Researcher: Do you notice any differences in the way Ann behaves in the morning and what she does after 3:30 p.m.?
Table 11
A Comparison of Teacher Behaviors (by Category) During Morning and Afternoon Free Play and Clean-up Times

<table>
<thead>
<tr>
<th>OSIA Categories of Teacher Behavior</th>
<th>Amount of time in minutes spent in behavior during the morning</th>
<th>Amount of time in minutes spent in behavior during the afternoon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinks</td>
<td>3.5 (5%)</td>
<td>1.9 (3%)</td>
</tr>
<tr>
<td>Senses</td>
<td>25.6 (36%)</td>
<td>9.2 (16%)</td>
</tr>
<tr>
<td>Manipulates Artifacts</td>
<td>8.4 (12%)</td>
<td>12.3 (22%)</td>
</tr>
<tr>
<td>Initiates</td>
<td>11.7 (16%)</td>
<td>14.1 (23%)</td>
</tr>
<tr>
<td>Responds</td>
<td>4.3 (6%)</td>
<td>6.1 (11%)</td>
</tr>
<tr>
<td>Solicits Clarification</td>
<td>.6 (1%)</td>
<td>0.0 (0%)</td>
</tr>
<tr>
<td>Solicits</td>
<td>12.1 (17%)</td>
<td>9.2 (16%)</td>
</tr>
<tr>
<td>Judges Correctness</td>
<td>.4 (1%)</td>
<td>.1 (0%)</td>
</tr>
<tr>
<td>Personal Positive Judgment</td>
<td>1.2 (2%)</td>
<td>.8 (2%)</td>
</tr>
<tr>
<td>Acknowledges</td>
<td>3.3 (5%)</td>
<td>2.6 (5%)</td>
</tr>
<tr>
<td>Judges Incorrectness</td>
<td>.1 (0%)</td>
<td>0.0 (0%)</td>
</tr>
<tr>
<td>Personal Negative Judgment</td>
<td>.1 (0%)</td>
<td>0.0 (0%)</td>
</tr>
</tbody>
</table>
rewards (p. 165), and functions of leadership include "defining objectives and maintaining goal direction; providing means for goal-attainment; providing and maintaining group structure; facilitating group action and interaction; maintaining group cohesiveness and member satisfaction; and facilitating group task performance (p. 166).

In attempting to understand the nature of leadership in the preschool classroom, one could identify two possible leadership structures: pluralistic leadership in groups and leaderless groups. Pluralistic leadership refers to the conditions in which decision-making rights and obligations are shared among group members, while leaderless groups refer to conditions where no one is granted decision-making rights, although individuals may influence the behavior of others through status, rather than by authority.

The nature of the tasks in which Ann, Kate, and Sally were engaged provides clarification regarding the structure of leadership. One primary task for the group was to provide custodial care for children, and the other primary task was to provide appropriate learning experiences. With regard to custodial care decisions, responsibility was shared by all group members, although Kate's influence was strongly felt. An example of this influence was found in an incident recorded in the researcher's field notes of February 8, 1980:

Ann put the apple slices on the tables for snack. Kate came into the room and told Ann that she had brought the wrong snack tray, but Ann told Kate that she had talked to the cook, who had wanted this class to finish the apples. Kate had brought up a tray of pudding for the children's snacks, but Ann commented that, since they were also having cookies,
it would be better for the children to have apples and cookies rather than pudding and cookies. Kate, however, insisted that the children deserved the pudding, which the children in other rooms had had for lunch. Ann finally said that she would take the apples back, and, as soon as Kate left the room, Ann came over to me and said in a low voice, "That's too much sugar at one time!" and shrugged her shoulders as if to say, "What can I do about it?"

This incident illustrates the decision-making rights granted to Kate, whose authority was based on certain status characteristics. Statuses, according to Nixon (p. 232) are "social characteristics enabling others to identify us, locate us in the social structure of groups or the larger society, predict how we will act, and decide how to interact with us." Status frequently implies evaluation or rankings, and Kate, by the fact of educational background, teaching experience, and prior occupation of the classroom, had the highest status in the group. This constituted the basis for her authority, which however, was only exercised in conflict situations.

The second task of the group was that of planning educational experiences for children. In relation to this task, decisions were made by individual group members under the leaderless condition. Comments by both Ann and Sally are illustrative of this condition. In an interview on January 23, 1980, Ann noted that she did not have very much interchange with Kate and stated, "Part of the success of co-teaching is because the role of the teacher is so clear, so clear that you're secure in knowing this is what I'm responsible for, this is what she's responsible for, and here is where we share. I don't feel that we have that. . . ." Sally, also, noted, "As far as planning
I don't think there is any specific--maybe Kate and Ann try to do it--but they aren't saying anything to me about it. I've never heard them . . . " (Interview, 1/27/80), supporting Ann's contention that there was a lack of leadership in reaching the provision of educational experience task.

It would appear, therefore, that these teachers constituted a leaderless small group except in instances of conflict over custodial care decisions. In this instance, Kate was granted authority on the basis of higher status in the group.

Both the quantity and quality of adult interactions in the classroom have been described and discussed in this section. Although there were no indications of direct effects on the teacher's use of choice strategies, those strategies could have been affected indirectly as indicated by the changes in Ann's general teaching behavior in the absence of her co-teacher.

Summary

The effects of the physical and social environment on a teacher's use of choice strategies has been described in Chapter 3. It was noted that the physical environment both prohibited and provided for giving children choices, while social interactions could indirectly affect the teacher's choice-giving behavior. A description and discussion of the total instructional context in which choice strategies were imbedded will be discussed in Chapter 4.
Chapter 4

THE INSTRUCTIONAL CONTEXT

The purpose of this study was to identify strategies employed by a teacher in giving children choices concerning their educational experiences. These strategies, however, are imbedded within a complex instructional context, the characteristics of which undoubtedly affect the totality of the teacher's behavior. The purpose of this chapter is to focus on the teacher, to describe her behavior in the classroom, and to discuss potential factors contributing to teacher classroom behavior.

Instruction, as was noted previously has been defined as "the process of arranging human, material and temporal resources with the intention of facilitating one's own learning and the learning of others" (Hough, 1980, pp. 1-2). Gordon (1972) has further distinguished between instruction and teaching, noting that instructing, "the activity which takes place during schooling within the classroom setting," ... "encompasses more of the situational elements while teaching refers primarily to the human interaction between teacher and pupil" (p. 3). Gordon, as well as Dunkin and Biddle (1974), delineated components of teaching and instruction in their models of those activities. Gordon's model of instructional theory posited three
components: pupil characteristics, goal characteristics, and instructional situation characteristics, the last including, among others, teacher behavior and personality variables. Dunkin and Biddle (1974) identified four sets of variables that are critical in understanding teaching. Those included presage variables (characteristics of teachers), context variables (pupil, classroom, school, and community characteristics), process variables (teacher and pupil behavior and interaction), and product variables (immediate and long-term effects of teaching on pupil learning and growth). Of the four sets of variables identified by Dunkin and Biddle, teacher variables have been the focus of this study, although selected context variables were discussed in a previous chapter.

Chapter 4 is divided into three parts. One day in the classroom life of the teacher is described in Part One, while an analysis of teacher behavior using the Observational System for Instructional Analysis (Hough, 1980) is presented in Part Two. A discussion of teacher behavior, including a review of relevant research and an analysis of factors contributing to instructional behaviors, is presented in Part Three.

A Teacher’s Day In The Classroom

The following synopsis of Ann’s activities during a typical day in the classroom is based on field notes recorded throughout the observation period, as well as on interviews with Ann.
Ann's day. Ann arrived in the classroom at 9:30 a.m., carrying a tray which held the morning snack of toast strips and apple juice. Continuing to wear her coat, Ann placed a paper plate of toast strips on each table and a paper napkin and paper cup at each place. She placed the tray on the shelf-divider holding the art supplies and walked out the door, down the stairs, and to the playground. Kate and Sally were standing on the playground near the gate. Ann greeted them and teased, "Don't you think it's time to go inside. It's cold out here." Sally smiled and said, "But you just got here!" Ann stood by the other teachers and scanned the playground. "Put your mitten back on," she called to Jeremy; "it's cold out here." She continued to scan the playground, occasionally asking either Kate or Sally about a child.

In about ten minutes, Kate called out to the children, "Come to the gate. It's time to go in for snack," and Ann stood by the gate, watching as children approached. Walking at the end of the line, Ann reminded several children to keep in line and to use "walking feet." When she arrived in the room, Ann took her coat off and hung it up on the coat hook near the phonograph. She walked to the entrance of the block area and began to talk to Kate. She told Kate that she had had a conversation with Libby's mother, who was uncertain whether the teachers at the center could administer medicine to children. Ann relayed to Kate that she had assured Libby's mother that they could.
As Kate instructed the children to get ready to go to the bathroom, Ann picked up the Rubbermaid pitcher holding the apple juice and began to pour the juice into the paper cups she had previously placed at the tables. Eight places were set at the double table near the door, and four places were set at the single table. When Ann finished pouring the juice, she walked to the block area to talk with a parent. She advised the parent of the possibility of Title XX funds being allocated to the center and offered information about the fee scale and referral services in a nearby community. Ann told the mother that she would aid her in any way possible because, "As teachers, we're supposed to help."

As Ann finished talking with the mother, she walked to the door of the room with her and watched Jeremy enter the room. "Ann, you know what Kate called me?" asked Jeremy. "What?" replied Ann. Jeremy sang a funny song, and, when he was finished, Ann laughed and said, "That's silly." After briefly talking to Sally about the snack, Ann looked at Libby and said, "What's the matter, Libby? Can't decide where to sit?

Ann walked to the art storage shelf, sat on the edge of it, and began to talk to Sally about songs for Sally's circle time. When she finished her conversation with Sally, Ann began to talk to Jeremy, telling him, "I really like your suspenders. They remind me of Mork." Jeremy told her that they were Mork suspenders and that he had gotten them from his grandmother in Detroit. Peter and Robby walked into the room, and Ann said, "Peter, here are some places." Then, noting that
there were no more places set up for children, Ann picked up a cup, napkin, and a toast strip and placed them at the end of the single table. "Let's make a place for you here," she said to Robby. Robby replied, "I'll get a chair." "Okay," said Ann as she watched Robby go to the far double table and begin to pull out a chair. Robby stopped, walked around the table, stopping at each chair, and finally pulled out the first one he had touched, and took it to the single table.

Ann walked across the room to Kate and told her, "I've got to make some phone calls. I'll go downstairs during snack so I don't have to keep missing circle." Ann left the room and walked down the stairs to the office where she called Dr. Green (pseudonym) (Director of Ann's academic discipline) to make an appointment to talk about thesis and then to Ginny Peterson (pseudonym) at the County Welfare Office to discuss questions regarding Title XX qualifications. The secretary asked Ann to take a message to another teacher, which Ann did on her way back to the classroom.

Ann walked into the room and, as Sally began to lead the circle time activity, Ann told Kate about her call to the Welfare Department. "I don't qualify, Kate. It's a hard and fast rule," said Ann.

Ann moved to the circle area and sat on the floor next to Peter, joining the class in repeating a poem about the days of the week. Jeremy told her that he had gymnastics on Saturdays, and Peter began to ask her a question. While listening to the boys, Ann began
to scan around the group. Noticing that Julia had her hands and feet on the floor and her bottom in the air, Ann called, "Julia!" and walked over to the child. She knelt beside Julia and said, "You need to be sitting on your bottom. That's the way Mork sits, but children need to be sitting on their bottoms." Sitting on the floor next to Julia, Ann joined in a group recitation, repeating the month, day, and year of that particular day. As Sally continued with the circle activities, Ann sat and alternated between watching Sally and looking at various children within the group. Occasionally, Ann would reinforce Sally by repeating directions, answering questions, giving feedback to children, or acknowledging a child's comment.

At 10:15 a.m., Ann stood up, walked to the end of the quiet area shelf, took the planning board off the hook, and placed it on the art storage shelf behind Sally. After making a brief remark to Kate, Ann returned to the circle area, sat down next to Jenny, and continued to scan, give directions, and provide feedback to children.

When the circle time activity ended at 10:40 a.m., Ann stood up, walked to the sand table, and removed the cover. Julia ran out of the room, and Ann followed her, telling her that she had forgotten two things; one thing Julia had forgotten was to use walking feet and the other was that Julia needed to tell a teacher when she wanted to leave the room. Ann walked back into the room, humming softly, and looked at various areas of the room. Beth and Jenny, holding hands, walked into the art area. Ann asked them, "Did you put your shapes on the
board yet? What area did you choose?" When the girls responded with the answer of quiet area, Ann put her hand on Beth's shoulder and gently guided her to the quiet area, saying, "Find something to do." Ann moved to Jill and asked, "What's Jill doing today?" As Jill looked at the sand table, Ann asked, "Would you like to play at the sand table?" Jill silently walked to the sand table and stood, watching other children play.

Ann crossed the quiet area, looked into the block area, and then scanned the quiet, house, and art areas. Juan asked for permission to go to the bathroom, which Ann gave to him, reminding him to use his walking feet. Then she walked to Kate and told her, in a surprised and pleased tone, what Juan had done. Ann continued to talk to Kate, asking where Kate had gotten the poem used in circle time. When Kate responded that the poem was from the Sesame Street magazine, Ann walked to the Teacher's Corner, picked up a pencil and a piece of paper, and walked back to the art storage shelf. Beth walked over to Ann, who said "I'd like to see you make a man." Beth then moved to the art table. Libby asked if she could go to the bathroom, and Ann told her that she could, reminding her to use walking feet. Ann walked to the art table and told Julia that if she tipped the chair the way she was doing, she'd fall down. Ann told her, "Sit down, please. Beth's gonna sit down and make a man."

Ann sat down at the art table and began to copy the address of the magazine Kate had given to her. She asked Kate if she had read the story in the magazine, and they continued to talk about the
magazine as a source for curriculum materials. While Ann continued to look through the magazine, several children came to her to show her products or to ask for assistance. When Jeremy's suspenders fell off, Ann fixed them and asked Jeremy's questions about the magazine and what she was doing. When she had finished writing the address and copying several poems, Ann picked up the paper and pencil and walked to the block area. After putting the materials on the top of the block shelf, she looked around, saw Libby running across the quiet area, and said, "Libby, you're forgetting about walking feet. Find something to do." Libby reminded Ann that she (Libby) had to take medicine after lunch, and Ann told Libby that she had remembered and that she knew where it was. Libby asked her where it was, and Ann said, "In the refrigerator." "In the kitchen?" asked Libby. Ann nodded her head and said, "What are you going to do now?" Libby said, "Play in here [the quiet area]." Ann said, "Sounds like a good idea. Are you going to build a house? What are those?" Libby replied, "Legos." Ann told her, "No, not Legos. What are they? Do you know?" Libby did not respond, and Ann told her, "They're Lincoln Logs." Libby asked Ann to help her build, but Ann said, "I'll watch you." As she knelt by Libby, Ann whistled softly, and scanned various areas in the room. She looked at Libby, and then she looked at the sand table and then the art tables. She reminded Julia to keep her feet on the floor, and then Ann looked back at Libby. She watched Luisa leave the doll area and asked her what she was doing. When Luisa did not
reply, Ann stood up and walked to the art table. Beth walked to Ann and showed her a drawing made with felt-tipped marking pens on orange construction paper. "That's lovely," commented Ann. "Are you going to take it home or hang it up?" Beth said, "For you," and Ann added, "Is that for me? Oh, okay."

Ann hummed softly as she looked at several children. She walked to the construction table, where she picked up two brushes, put them into a plastic container, and placed the container on the floor. Ann spoke to Julia, who had told her, "Jenny doesn't want my picture. She won't be my friend." Ann suggested that Julia find another friend to give the drawing to, and then she reminded another child to keep the scissors on the table and away from her face because they were dangerous.

Beth came up to Ann with the orange construction paper drawing folded like a letter and said, "You have to lick it. It won't stay." Ann said, "Oh, I see that. Can you do that?" Beth replied, "If I lick it, it won't stick," and she told Ann to do it. Ann licked the paper, and said "When I lick it, nothing happens because there is no glue on it. Can you think of another way of closing it?" As Beth thought, Ann looked at the art area and said, "Feet need to be on the floor, Julia." Ann turned back to Beth and asked, "What could you use to close it?" "Lick it," replied Beth. Ann asked her, again, to think of something else, and Beth replied, "Tape." Ann scanned the room as she went to the Teacher's Art Storage cupboard, where she pulled out a roll of masking tape and handed it to Beth.
Ann looked at various parts of the room, spoke to Kate about Jenny’s mother, who was concerned that Jenny wasn’t making any friends, and looked around the room again. Ann continued to look at various parts of the room, accepted the drawing from Beth, and told her that she would take it home and open it there. Sally asked Ann about taking the children on a field trip, and Ann told her that she thought it would be a good idea. Then, as Sally told Ann that she would like to have a “tasting party” someday, Kate joined the group. Ann told Sally to check with the cook to find out what food would be available from the kitchen and what would have to be purchased.

Beth approached Ann, who helped the child decide her next activity. Then Ann looked around the room, moved to the art table, picked up the role of masking tape, and returned it to the Teacher’s Art Storage cupboard. She sat down on the art storage shelf and talked to Sally about lesson plans. While talking with Sally, Ann continued to look around the room, occasionally telling a child to stop a certain behavior.

At 11:10 a.m., Kate, having brought a lunch tray to the room, asked the children to begin to clean-up. Ann picked up the Magic Markers (felt-tipped marking pens) on the art table and began to look for caps. As she put the Magic Markers in the container, she continued to look around the room. She walked to the sand table and reminded Joy that it was time to clean up, and then Ann helped Sally put the top back on the sand table. Looking around the room, Ann told children to go to the quiet area and find a book when they finished
cleaning up. She picked up a wet sponge from the plastic dishtub next to the art storage shelf and began to wipe off the art tables. When she finished cleaning the art tables, Ann looked at the children in the quiet area and then at her watch. She asked Kate if it was time to bring up the remaining trays, but Kate told her to wait for a while. Ann walked to the "Helping Hands" board and said, "I need Peter and Juan to come help set the tables." Then she counted the number of children and adults present, asking a student if she was going to eat lunch with them. Again she asked, "Where are my helpers? No, not Libby. I need Peter and Juan." Ann helped the boys set the table while she talked to Jeremy.


Ann left the room, walked down the stairs to the kitchen, and got the milk trays. She brought the milk upstairs and told Kate that she was getting the rest of the trays. "Thought you ought to know," she said. She went to the kitchen for the rest of the food, brought it upstairs, and began to put it on the table. As she was engaged in this task, Jeremy B.'s babysitter came into the room, and Ann greeted her. When she finished putting the food on the tables, Ann watched as the children went to the lunch tables. She sat down at the double
table nearest the sand table and began to help the children pour cat-
sup on their plates. As the children and Ann ate, she asked them if they liked the hot dogs and reminded Julia to keep her feet on the floor. When Ann finished her lunch, she stood up, walked to Kate, and told her that she couldn't find her car keys that morning "because they were in the car!" She laughed and walked over to the cots, picked one up, and took it to the house area. She and Kate then put the cots into various areas and moved room dividers to separate some of the cots. As they carried cots, Ann told Kate that Jenny's mother was worried about Jenny's relationship to Libby, the mother having thought there was some kind of crisis. Ann looked over at the far table and reminded Julia that she had to take three bites of everything on her plate before she could get dessert. Ann continued to monitor the children at the far table and reminded them to sit while they were eating. A child asked for permission to go to her cot, but Ann told her, "No, you need to be sitting at your table."

Ann went to the block area and picked up the toothbrush tray. She walked to the art area and told the children that everyone needed to be sitting on a chair. "I want to make them all sit down first," she told Sally, as Sally asked if they were ready to brush their teeth. After the children finished cleaning up their places and sat in their chairs, Ann called several by name and told them to push in their chairs and go to the bathroom. Libby said to Ann, "After I brush my teeth, I'll tell you when . . . " "To bring up your medi-
cine?" asked Ann. "Okay. Should I bring it up here or should we go
wait for you then."

Ann walked over to the researcher and began to talk about
Julia. She commented that Julia was an unhappy and angry child and
that she was unable to get along with other children. As the children
began to re-enter the room, Libby went to Ann and together they walked
to the kitchen to get Libby's medicine. After they returned to the
room, Ann helped the children get to their cots and settle down for
nap. When the room was (relatively) quiet, Ann got her coat and left
for her break.

When Ann returned at 1:15, she took off her coat, said, "See
you later," to Kate who was leaving for her break, and greeted Sally.
Ann went to the Teacher's Corner, picked up a pair of scissors and
some glue, and walked to the art area, looking at several areas as she
moved across the room. She put the scissors and glue on the art
table, leaned over, and pulled out a box of construction paper scraps.
She put the box on the table, sat down, and looked around the room.
"Marty, you need to keep your head down and rest," Ann called.
"Robby! Robby Jones! Get back on that cot! Beth, you may either
sleep or rest. You may not play or sing!" commanded Ann. She pulled
out a piece of construction paper and began to cut out a shape. Sally
sat down next to Ann and asked Ann what she was making. "It's gonna
be a color worm," said Ann. As Ann continued to cut and paste sec-
tions of the worm together, she and Sally discussed possible
curriculum activities. Frequently during the conversation, Ann stopped and called out to a child to settle down and rest. When the color worm was finished, Ann returned the materials to the appropriate places, and she then told Sally that she was going to wake the children up in two minutes. She and Sally talked for a minute, and then Ann walked to the windows, raised a shade, and began to sing, "Good morning. Good morning." As children began to get up from their cots, Ann directed them to stay on their cots until they had their socks and shoes on and then to find a book and sit in the circle area. As children got up from their cots, Ann picked up the cots and returned them to the cot storage area. When all the children were seated in the circle area, Sally told them it was time to go to the bathroom. Kate walked into the room carrying the snack tray, and she and Ann put the snack (apple slices) on the tables. Sally brought the children back into the room, and, while the children ate their snack, Ann and Kate stood by the art storage shelf and talked about items in a catalogue that were being sold by the parents to raise money for the center. While she and Kate were talking, Ann would frequently look at the tables and, upon occasion, admonish a child to sit on a chair or to finish the snack. At one point, she told Joy and Julia to stop fighting, to sit down, and to use "their words" to tell each other how they felt. Ann told Kate that she felt Joy was getting assertive and that Joy's mother had asked several weeks earlier if they had noticed Joy's increasing assertiveness. "We should have taken that as a
warning," laughed Ann. She and Kate continued to look at the cata-
logue until Ann noticed that most of the children were finished with
snack. She directed the children to clean up their places and to push
in their chairs. Then she told them to go quietly to the hall, "so we
won't wake up the five-year-olds who are resting," and get ready to go
outside. While the children were getting their coats and boots on,
Ann helped several children who were having difficulty with boots.
She then went into the room to get her coat. Standing by the door,
Ann checked the Door Holders List and announced that Jeremy and Jenny
were the door holders on the way out and Peter and Aaron were the
holders on the way in. Ann and the children walked down the outside
stairs and stopped at the bottom of the steps. "Look to the right.
Look to the left. No cars today. Use walking feet all the way,"
instructed Ann. She led the children to the playground and instructed
them to stay on the black-top because the other part was muddy.

While the children played, Ann and Kate talked about a task
force committee of which Kate was a member, representing the teachers
at the center. The committee was in the process of establishing a
salary scale for the teachers, and Ann questioned Kate as to the deci-
sions made by the committee. Kate, however, was reluctant to talk
about the committee's work and avoided answering Ann's questions.
While talking to Kate, Ann looked at various areas of the playground,
occasionally stopping the conversation to give directions to children.
When Kate and Ann finished talking, Ann walked over to Robby and tied
his hood. She then walked back to the fence and greeted a parent who
had arrived to pick up a child. Then she talked to a student about
the various program models implemented at the center as well as about
the administrative organization of the center. Ann continued to look
around the playground while talking to the student. Sally told the
children that it was time to go inside, and Ann reinforced Sally’s
directions by saying, "Come on. Let's go." She told the children to
find a partner and get in line. At 3:30 p.m., Kate left for the day,
and Sally and Ann led the children indoors. While Sally helped the
children take off their coats and boots, Ann went into the room, put
her coat on the coat hook, and walked to the Teacher's Corner. She
picked up two trays filled with various items, including a contact
paper-covered coffee can, a large red plastic horseshoe with magnets
attached to it, a medium-sized horseshoe with magnets attached, two
mittens, two Borden plastic popsicle sticks, a pin, a thumbtack, two
nickels, two small pieces of styrofoam, a shell, a fork, a plastic
lid, an eye screw, soda pop bottle tops, a piece of iron, a wooden
disc, a screwdriver, a cotton ball, a paperclip, and several pieces of
uncooked spaghetti. As she turned to walk away from the Teacher's
Corner, Andy's mother stopped Ann to talk with her. Ann told Andy's
mother that he had eaten a lot of peanut butter and crackers at lunch
but not much of anything else. They continued to talk about Andy, Ann
questioning his mother about his nap behavior at home. The children
began to walk back into the room, and Ann told them to sit in the
circle area. She carried the trays to the table nearest the sand
table and placed them on the top of the table. She walked back to the
art storage shelf and began to talk to Andy's mother again, telling her that children may bring a stuffed animal for nap time but the animal must stay in the child's locker at all other times. Ann also told the mother that the teachers discouraged children from bringing toys from home. Ann watched the children continue to enter the room and directed them to find a place in the circle area.

Ann sat down on the floor facing the children and asked if anyone remembered what they had been talking about earlier in the day. When no one responded, Ann suggested that the children sing the song that they had learned in the morning. She and the children sang, "Oh, a magnet pulls iron and steel, but it won't pull a wooden wheel. Oh, a magnet pulls iron and steel, but it won't pull a rubber heel."

After Jeremy A. said that they had been talking about magnets, Ann told them a story about losing her key through a grate. She asked the children how she could have gotten her key out. Ann illustrated the story by using a cardboard box in which she had placed a key. When asked how she could have removed the key, several children told her to tear the box. Ann replied that the box was a pretend grate and that she couldn't have torn the real grate. Jeremy suggested that she should have used a "sizzle" to cut the grate, but Ann said that that would have taken too much time and she had been in a hurry to get to school. Ann reminded the children that they key was made of metal and, again, asked them what she could have used. Jeremy said, "Well, why don't you use a magnet?" Ann said, "A magnet? Do you think it will work? Are you sure? I'll try it, but I don't think it will
work." Ann reached on the shelf for a magnet attached to a piece of string and lowered it through a hole in the box. She slowly pulled the key out of the box and said to Jeremy, "You were right, Jeremy." Then she told the children that she would leave the box, key, and magnet on a table for the children to use during free-play.

Ann placed a metal board against her knees and picked up a bag of plastic stars with magnets attached to the back. She led the children in a counting exercise in which the children counted each star as Ann placed them on the board. When the children had counted to twenty, Ann asked them which row had the most stars. Peter said, "All of them," and Ann said, "All of them. Right. In each of the five rows, I have four stars." Then she announced that she would leave the board out for someone to play with it. Ann then told the children that all of the areas were open and described the activity for the art area. Sally stood up and handed the planning board to Ann, who called on children to put their shapes on the board in the area in which they chose to play.

While the children moved to the various areas, Ann told a student that the unit for the week was science. She reminded the children in the art area that the crayon iron was hot and not to touch it, greeted a student, and walked over to the circle area to replace the planning board. She talked for a few minutes to Sally and then asked Beth to sit on the chair the "right way." Ann walked to the table with the tray of various items on it, and talked to Jeremy and a student about magnets. Ann walked to the house area, where several
children were playing "hospital." She stood watching this group for about five minutes and then walked over to the file cabinet near the phonograph player. She opened a file drawer, took out some paper-bag hand puppets, walked back to the house area, and placed the puppets on the shelf. On each paper bag was glued a picture of the face of either a doctor or a nurse. Ann waited silently, watching the children. When no one noticed the puppets, she picked one up, put it on her hand, and started turning her hand. Joy and Aaron looked at Ann and asked if they could use the puppets. She handed a puppet to each child and walked to the art area. She helped Jeremy get ready to "paint" with Q-Tips and melted crayons, and then she talked to Libby about the magnets. She reminded Libby that other children were allowed to play with the magnet and key and suggested that Libby go to the art area. At about 4:15 p.m., a student brought Jaimie (Ann's son) to the room, and Ann helped him choose an activity. While Jaimie was playing with small cars, Ann talked to him and scanned the room. She got up from the floor and walked to the art tables where she helped Libby clean up. She picked up a roll of masking tape and taped Jeremy's painting on the wall. She then taped several other paintings on the same wall, looking around the room frequently during this activity. When she was finished, Ann walked to the block area and stopped a fight between Peter and Jeremy A., telling the boys to use their words to work out their differences. Until 4:35 p.m., Ann alternated between visually scanning the area of the room and giving directions and assistance to various children. At that time, she
announced that it was time for the children to clean up and get ready to go to the "late room" (all children remaining in the center after 5:00 p.m. were sent to one room to await their parents). As the children began to put toys away, Ann walked around the room, stopping to help some children and reminding others that they needed to clean up rather than play. When the children were finished with the clean-up task, Ann told them to get their coats and boots from their lockers, picked up her coat and purse, and led the children down the stairs to the late room.

Summary

Ann's day was divided into five basic components: snack, group, independent play, lunch, and nap times (see Appendix D for a copy of the Daily Schedule). A brief synopsis of Ann's activities during a typical day has been presented. In the second part of this chapter, an analysis of instructional behaviors, using the OSIA, is presented.

An Analysis of the Teacher's Classroom Behaviors

For the purpose of this analysis, the behaviors which have been encoded using the Observational System for Instructional Analysis (Hough, 1980) were divided into three basic components: independent behaviors consisted of thinking, sensing, and manipulating artifacts; interactive behaviors were defined as initiating, responding, soliciting clarification, and soliciting; and appraisal behaviors consisted
of judging correctness, personal positive judging, acknowledging, judging incorrectness, and personal negative judging.

**Independent Behaviors**

When the OSIA data were analyzed by means of matrix, subfunction, subscript, and chain and pool analyses, it was found that 46 percent of Ann's classroom time was spent in independent behavior. Of the 155.4 minutes spent by the teacher in independent behavior, 56 percent was spent in sensing, 37 percent in manipulating artifacts, and 7 percent in thinking (see Table 12).

Two of the three categories were subscripted, on the basis of the researcher's observations in the classroom, to provide more detailed information about the teacher's behavior. Scanning, which was a subscript of the sensing category and which was defined as "a behavior involving visual tracking of a child, a small group of children, or between groups of children," accounted for 52 percent of all independent behaviors. The scanning subfunction was further divided into three subscripts, within group, between groups, and child-focused. Of all the scanning behavior, 64 percent of the time was spent in visual tracking within a group, 18 percent on between group tracking, and 17 percent on visual tracking of children (see Table 13).
### Table 12
Teacher Time Spent in Independent Behavior

<table>
<thead>
<tr>
<th>Teacher Behavior</th>
<th>Amount of time in minutes</th>
<th>Amount of time as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Behavior</td>
<td>155.4</td>
<td>46%</td>
</tr>
<tr>
<td>Thinks</td>
<td>10.9</td>
<td>7%</td>
</tr>
<tr>
<td>Senses</td>
<td>86.9</td>
<td>56%</td>
</tr>
<tr>
<td>Manipulates Artifacts</td>
<td>57.6</td>
<td>37%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>155.4</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

### Table 13
Teacher Time Spent in Scanning Behavior by Subcategories

<table>
<thead>
<tr>
<th>Teacher Behavior</th>
<th>Amount of time in minutes</th>
<th>Amount of time as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scans</td>
<td>80.5</td>
<td>52%</td>
</tr>
<tr>
<td>Scans Between Groups</td>
<td>14.2</td>
<td>18%</td>
</tr>
<tr>
<td>Within Groups</td>
<td>52.5</td>
<td>64%</td>
</tr>
<tr>
<td>Child</td>
<td>13.8</td>
<td>17%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>80.5</strong></td>
<td><strong>199%</strong></td>
</tr>
</tbody>
</table>
The second independent category to be subscripted was that of manipulating artifacts. Approximately fifty-seven minutes of the teacher's time was spent in this category, and of that time, 67 percent was spent in handling curriculum materials, 13 percent was spent in handling room equipment, 9 percent was spent in handling papers required by the administration, 8 percent in handling food, and 3 percent were not subscripted (see Table 14).

Table 14
Teacher Time Spent in Manipulating Artifacts by Subcategories

<table>
<thead>
<tr>
<th>Teacher Behavior</th>
<th>Amount of time in minutes</th>
<th>Amount of time as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manipulates Artifacts</td>
<td>57.6</td>
<td>37%</td>
</tr>
<tr>
<td>Manipulates Room Equipment</td>
<td>7.6</td>
<td>13%</td>
</tr>
<tr>
<td>Administrative Work</td>
<td>5.4</td>
<td>9%</td>
</tr>
<tr>
<td>Curriculum Materials</td>
<td>38.5</td>
<td>67%</td>
</tr>
<tr>
<td>Food</td>
<td>4.3</td>
<td>8%</td>
</tr>
<tr>
<td>Other</td>
<td>1.8</td>
<td>3%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>57.6</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

It can be seen, therefore, that independent teacher behavior accounted for nearly one-half of all teachers behavior. In addition, the data indicated that over one-half of the independent behavior was attributable to visual tracking of children.
Interactive Behavior

Interactive behavior has previously been defined as initiating, responding, soliciting clarification, and soliciting. When these types of interactive behavior were added together, they accounted for 48 percent of the teacher's total behavior (see Table 15). Of the 164.3 minutes spent by the teacher in interactive behavior, 72.3 minutes (44 percent) were spent in interaction with children, 55.6 minutes (34 percent) were spent in interaction with other adults, and 36.5 minutes (22 percent) were spent in teacher behavior to which there were no responses by either children or other adults (see Table 16).

On the basis of observations in the classroom, as well as on informant and respondent interviewing, the interactive categories were further divided into four subcategories: admonishes, directs behavior, extends children's thinking, and gives choices to children. Of the time spent in interactive behavior with children, admonishing accounted for 16 percent, directing behavior accounted for 40 percent, extending accounted for 0 percent, and giving choices accounted for 8 percent. The subcategory of giving directions was further subscripted to provide information concerning the teacher's use of previously established rules. Of the directions given, 10 percent were rule related (see Table 17).

In summary, slightly more of Ann's time was spent in the interactive categories than in the independent ones, and almost one-half of that interaction was with children.
Table 15  
Teacher Time Spent in Interactive Behavior

<table>
<thead>
<tr>
<th>Teacher Behavior</th>
<th>Amount of time in minutes</th>
<th>Amount of time as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactive Behavior</td>
<td>164.3</td>
<td>46%</td>
</tr>
<tr>
<td>Initiates</td>
<td>87.5</td>
<td>53%</td>
</tr>
<tr>
<td>Responds</td>
<td>21.8</td>
<td>13%</td>
</tr>
<tr>
<td>Solicits Clarification</td>
<td>2.3</td>
<td>1%</td>
</tr>
<tr>
<td>Solicits</td>
<td>52.7</td>
<td>32%</td>
</tr>
<tr>
<td>Total</td>
<td>164.3</td>
<td>99%</td>
</tr>
</tbody>
</table>

Table 16  
Teacher Time Spent in Interactive Behavior by Categories of Other Persons

<table>
<thead>
<tr>
<th>Teacher-Other Person Interaction</th>
<th>Amount of time in minutes</th>
<th>Amount of time as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interactive Behavior</td>
<td>164.3</td>
<td>48%</td>
</tr>
<tr>
<td>Interaction with Children</td>
<td>72.2</td>
<td>44%</td>
</tr>
<tr>
<td>Interaction with Adults</td>
<td>55.6</td>
<td>34%</td>
</tr>
<tr>
<td>Non-responsive Interaction</td>
<td>36.5</td>
<td>22%</td>
</tr>
<tr>
<td>Total</td>
<td>164.3</td>
<td>100%</td>
</tr>
</tbody>
</table>
### Table 17
Teacher Time Spent in Interactive Behavior by Subcategories

<table>
<thead>
<tr>
<th>Teacher Behavior</th>
<th>Amount of time in minutes</th>
<th>Amount of time as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interaction with Children</td>
<td>72.2</td>
<td>44%</td>
</tr>
<tr>
<td>Admonishes</td>
<td>11.2</td>
<td>16%</td>
</tr>
<tr>
<td>Directs</td>
<td>28.6</td>
<td>40%</td>
</tr>
<tr>
<td>(Rule-related Directions)</td>
<td>(2.8)</td>
<td>(1%)</td>
</tr>
<tr>
<td>Extends</td>
<td>0.0</td>
<td>0%</td>
</tr>
<tr>
<td>Gives Choices</td>
<td>5.5</td>
<td>8%</td>
</tr>
<tr>
<td>Other Forms of Interaction</td>
<td>26.9</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>72.2</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

**Appraisal Behavior**

Appraisal behavior was defined as judging correctness and incorrectness, personal positive and negative judging, and acknowledging. Ann spent 21.6 minutes (6 percent) of her total teaching time in appraisal behavior. Of that time, 4 percent of the time was spent in negative judgments, 36 percent was spent in positive judgments, and 60 percent in acknowledging behaviors. The acknowledgment category was further subscripted to account for teacher verbal repetitions, and the data indicate that, of the acknowledging behavior, 31 percent of the time was spent in teacher repetitions (see Table 18).
### Table 18

Amount and Percent of Teacher Time Spent in Appraisal Behavior

<table>
<thead>
<tr>
<th>Teacher Behavior</th>
<th>Amount of time in minutes</th>
<th>Amount of time as a percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appraisal Behavior</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judges Correctness</td>
<td>2.8</td>
<td>13%</td>
</tr>
<tr>
<td>Personal Positive Judging</td>
<td>4.9</td>
<td>23%</td>
</tr>
<tr>
<td>Acknowledges</td>
<td>13.0</td>
<td>60%</td>
</tr>
<tr>
<td>(Teacher Repetitions)</td>
<td>4.1</td>
<td>(31%)</td>
</tr>
<tr>
<td>Judges Incorrectness</td>
<td>.6</td>
<td>3%</td>
</tr>
<tr>
<td>Personal Negative Judgment</td>
<td>.3</td>
<td>1%</td>
</tr>
<tr>
<td>Total</td>
<td>21.6</td>
<td>100%</td>
</tr>
</tbody>
</table>

### Summary

An analysis of a teacher's behavior has been presented in Part Two of this chapter. Of the approximately five and one-half hours of teacher behavior that was encoded with the use of the OSIA, 46 percent of the teacher time was spent in independent behavior, 48 percent was spent in interactive behavior, and 6 percent was spent in appraisal behavior. The data also indicate that over one-half of the time spent by the teacher in interaction with children was focused on directing and admonishing behavior.
In Part Three of this chapter, a discussion of the teacher's classroom behavior is presented, preceded by a review of the relevant literature.

**Teacher Behavior in the Classroom**

A discussion of a teacher's behavior in the classroom begins with a selected review of relevant literature, which is followed by an analysis of the teacher's behavior from qualitative perspectives.

**Related Literature**

The studies selected for review were chosen to provide a highlight of the literature related to teaching in the preschool and are not to be considered exhaustive. Studies have been selected on the basis of (1) the use of pre-kindergarten grades as a setting and (2) observations in actual classrooms rather than in experimental settings.

**Early studies.** Although systematic observation as a method for analyzing classroom behavior has been utilized primarily during the past two decades (Gordon and Jester, 1973), three earlier studies should be noted. Foster (1930) studied the amount of teacher time spent in contact with children in nursery schools and kindergartens in an attempt to discover the relationship between amount of teacher time and student characteristics of age and sex. Types of teacher behavior were categorized as those relating to physical care and habit training (medical care, serving food, attention at the lunch table, supervising
in the sleeping room, aiding children in dressing, and assisting in the bathroom), play (providing materials, helping in large and small muscle activities, directing play, preventing injurious bodily activity, and redirecting children), social and emotional development (settling difficulties, changing the emotional mood, and giving a child a turn at an activity), and conversation (embodying a positive suggestion, correcting or reproving, and engaging in social discourse). The results of the study indicate that, in the nursery school, "a considerable portion of the teacher's time was spent talking with the children, either in the way of making suggestions as to activity or in social conversation" (p. 174). Periods of the day that were labeled as "time-consuming" included naptime, dressing, and lunch. In all instances, contacts between teacher and children were primarily initiated by the teacher, and, with the exception of lunch, boys required more teacher-initiated time than girls. When the kindergarten was compared to the nursery school, the researcher found difficulties in classifying behaviors as closely, and the data indicate that most activities fell under the heading of "conversation." The results indicate that older children needed less teacher-time than did the younger children. It is interesting to note that the broad categories of teacher behavior--play, social and emotional development, physical care and habit training, and conversation--confounded educational goals with actual teacher behaviors.

A second study found in the early literature, conducted by Landreth et al. (1943), also focused on teacher-child contacts in the
nursery school. These researchers classified teacher behavior into three major categories: types of contacts, methods of contact, and method goals. Types of contacts included physical contacts (with child, child's clothing, or equipment), verbal contacts (declarative, imperative, interrogative, exclamatory, or social phrase), visual contacts (gaze, facial, or body gesture), and spatial contacts (defined as "a change in the spatial relationship of the teacher to the child which does not result in physical, verbal, or visual contact" [p. 67]).

Methods of contacts included physical restraint, compulsion, guidance, assistance, caress or fondling, and chastisement; example, demonstration, illustration or indication; positive and negative suggestions, commands, and requests; and disapproval, questions, giving information, and encouraging, approving, or reassuring. Method goals were defined as physical care, adjustment, and motor, emotional, social, mental, and aesthetic development. The results indicate that verbal contacts were primary followed by physical and spatial, that the type of contact was related to the particular teaching situation, and types of teacher contact as well as method goal differed according to both child age and type of educational institution.

The third study in the early literature to be reviewed was that of Thompson (1944), who examined social and emotional development under two nursery school conditions. Teacher contacts were divided into two major headings, extensive and restrictive. Extensive contacts were those in which "the teacher acts in such a way as to
further, encourage, or promote the observed-child's behavior" (p. 18), while restrictive teacher contacts were defined as situations in which "the teacher acts in such a way as to inhibit, restrict, or discourage the observed-child's behavior" (p. 18). Extensive behavior included giving social and objective information to the child, making structuring suggestions about the observed-child's behavior, asking objective or social leading questions, and being friendly with the child. Restrictive behavior included teacher ascendance to the observed-child to stop behavior, teacher sternness, and teacher ignorality of the observed-child's approach (p. 19). The researcher found significant differences between the two groups under study (custodial care as opposed to guided experience) in terms of extensive teacher behavior, which affected child characteristics of constructiveness, ascendance, social participation, and leadership.

The three studies cited, although differing in terms of conceptualization of teacher behaviors, presented interesting insights into the teaching-learning process. Among relationships that were noted were those not only of teacher effects on children's behavior (Thompson, 1944) but of student characteristics (Foster, 1930; Landreth, et al., 1943) and contextual characteristics (Landreth, et al., 1943) on teacher behavior.

Recent studies. Although the studies cited in the previous section identified potentially rich and complex relationships for
further consideration, systematic classroom observation in prekindergarten classrooms received minimal attention in the ensuing years (Katz, 1970; Shapiro, 1973). Gordon and Jester (1973) reviewed twenty such studies, dividing them according to type of observational system (specimen description, time/signs, time/categories, event sampling, trait rating, and level of cognitive interaction) and by observational setting (home and mother, Head Start and Follow Through Research, experimental preschool, nursery and kindergarten, and day care).

Of the studies reviewed by Gordon and Jester, the earliest was that of Reichenberg-Hackett (1962), who examined the practices, attitudes, and values of teachers in ten different nursery groups, representing diverse socio-economic and racial populations. Categories of teacher behavior identified by the researcher included those of teacher approach, teacher motivating techniques, and a sequence of activities, lessons taught, and values (goals). Approach behaviors were further classified as communicative (verbal and non-verbal) and non-communicative (child-centered, neutral, subjective, and silent supervision of the group), while motivating techniques were labeled as encouraging (the use of positive discipline), managing (verbal or gestural instruction in culturally appropriate behavior), and discouraging (suppression of spontaneity and regimentation). The author reported the following information (p. 160):

Results of the study indicated that nursery groups vary widely in the type of experiences to which children are exposed. They also indicated that neither socio-economic status nor race plays a decisive role in the climate of the
nursery groups under investigation with regard to attitudes transmitted and values stressed. The results point to the personality of the teacher, her outlook and convictions as the most important single factor in the shaping of children's nursery experiences. From the content of the observation records, it seemed that each teacher acted out and transmitted attitudes and social values incorporated in her own personality structure.

In addition to noting that the attitudes and values were transmitted through routines and activities, Reichenberg-Hackett also noted that teacher approaches and management techniques could be used to characterize and differentiate groups. It was also interesting to see that the primary goals or values were related to socio-emotional development and socialization rather than to intellectual development.

A second study reviewed by Gordon and Jester was that of Katz's comparison of different Head Start programs. The reviewers reported that Katz divided teacher behaviors into six major categories: contact, teaching, feedback, control, nurturance, and dominant tone. The contact category was further divided into individual child or group contact, source of initiation (teacher or child), and communication mode (verbal or non-verbal). The teaching dimension included giving directions, setting standards of performance, giving knowledge and information, demonstrating and giving examples, encouraging children's activity, helping with activities, and offering choice of alternative activities. The feedback, control, and nurturance dimensions were also subdivided into six, eight, and six subcategories respectively. Katz, according to Gordon and Jester, discovered a relationship between amount of feedback and children's behavior,
with low frequencies of feedback related to inhibition of children's growth.

A third study reviewed by Gordon and Jester was that of Miller and Dyer (1975), which reported differences among various types of Head Start Planned Variations program models. These researchers reported that teacher characteristics (biographical data, personality, intelligence, and attitudes toward teaching), as well as teaching methods, potentially affect children's activity or performance.

Teaching behavior was divided into three major categories: eliciting, emitting, and reinforcement. These categories were subdivided into specific teaching techniques, the first two also divided into academic and nonacademic categories. Academic emitting behavior included verbal instruction, exemplification, modeling, and manipulation, while nonacademic emitting behavior included helping, structuring and stimulating. Academic eliciting behavior included elaboration, content, language imitation, and non-verbal behavior, and nonacademic eliciting techniques were identified as structuring (giving directions) and conduct control. Reinforcement behavior was divided into knowledge-of-results and contingent reinforcement, each of which having and positive and negative designation. Although differences were found among program models, Miller and Dyer noted that, in all programs, verbalization was more frequent than exemplification, modeling, or manipulation, that reinforcement was more frequently directed to individuals rather than to groups, and that teachers' use of giving opinions,
generalizations, clarification, confirmation and disconfirmation, stimulating, and role playing were low (Miller and Dyer, 1975, pp. 64-66).

A fourth study reviewed by Gordon and Jester was one of teacher behavior in day care centers conducted by Prescott, Jones, and Kritchevsky. The reviewers noted that the study utilized the Reichenberg-Hackett (1962) categories of teacher behavior with some modifications. The subjective non-communicative category was eliminated and a category designating teacher conversations with persons other than children was added. In the communicative category, further distinctions were made between communication contacts (individual versus groups of children), and the encouragement category was divided into supporting-extending, responsive, routine, and approach-nurture. The management category was also subdivided into four categories: teacher direction (suggestion, approval), guidance (direct, indirect, manipulative, and distraction/redirection), restriction (simple, firm, enforcement, and belittling/disparaging), and neutral activities. Among the results of the Prescott, et al. study reported by Gordon and Jester was that about half of teacher time was spent in guidance and encouragement behavior, approximately one-fifth of the time was spent in non-communicative activities, and that the greatest amount of direct teaching was devoted to socio-emotional development, with emphasis on intellectual skills and physical skills next in decreasing order.
Based on reviews of twenty studies, including the four cited, Gordon and Jester concluded that systematic observation of the preschool teaching-learning process is in its infancy and that more attention needs to be paid to a variety of preschool settings, to the relationships among presage, process, and product variables, and to the development of common instrumentation.

Summary. Both early and more recent studies of teacher behavior have focused on multiple aspects of the teaching-learning process. The effects of presage characteristics of both teachers and children, contextual characteristics, and process and product variables have been noted, as has the need for continued study based upon shared conceptualizations and common instrumentation. The literature revealed conceptual discrepancies and, in some instances, confusion with regard to teaching behavior. Although many different types of behavior have been noted, most researchers appeared to differentiate between instructional and management behaviors, a distinction proposed by Gordon (1972). The basis for this distinction, however, remained unclear. It would appear that, although the importance of teaching behavior in the preschool classroom has been acknowledged for nearly fifty years, little systematic observation of such behavior has been undertaken.

Teaching Behaviors From a Qualitative Perspective

Although a quantitative analysis of Ann’s classroom behavior has been presented in a previous section of this chapter, a discussion
of her behavior in the classroom from a qualitative perspective is needed here to understand more clearly the complexity underlying teaching behavior. Among the factors that emerged from interviews and documents as sources for understanding Ann's classroom behavior, three were identified as potentially potent contributors to that behavior: role perception, attitudes, and developmental stages of teaching.

**Role perception.** Role, as defined by Katz (1970, p. 43) refers to "the duties, responsibilities, and functions expected of the teacher by her clients and her herself," and can be used as "a fairly simple way of examining and thinking about many different kinds of social positions and the expectations of behavior that surround these positions" (Katz, 1970, p. 43). Ann's primary perception of her role as a teacher was that of classroom manager:

> I think that I'm a classroom manager, and when I say classroom, I mean the physical sense. My job is to keep the place clean, keep the materials available, set up materials for interaction, for discovery, for experimentation. And certainly the health and welfare of the children. But I like to think I'm behind the scenes, not manipulating the children, but manipulating the environment . . . that it's there for them to use, for them to discover (Interview, 1/7/81).

Although Ann's stated role was that of classroom manager, further distinctions of teacher behavior within that role were made by Ann. As was noted in the interview just quoted, Ann felt that a primary teacher task was that of designing and manipulating the environment to facilitate children's learning. Quantitative analysis of the data indicate that Ann spent 17 percent of her total classroom
time in the category designated "manipulating artifacts." Ann noted, however, two additional facets to her role, those of "fleeting teaching" and disciplining. Ann described "fleeting teaching" in the following way:

"It's like "fleeting teaching." If they are involved in a project—playing, learning, whatever—and if they're content and happy, then I stay back. But if I see them losing interest, then I go for another material or [say], "That looks really nice. What else can you do with that kind of thing?"" (Interview, 1/7/80).

Ann's concept of "fleeting teaching" can be described as teacher elaborations or extensions, behaviors intended by the teacher to elicit horizontal elaboration or vertical extensions of children's thinking or activities. Although the quantitative analysis of the data indicate a complete absence of elaborations/extensions, an example of such behavior was recorded in the researcher's field notes (Field notes, 1/15/80). Ann had placed two trays of items, including magnets, on the table nearest the sand table. Peter was sitting at the table, manipulating the objects, when Ann went over to kneel beside him. Ann described the incident later (Interview, 1/23/80):

An example would be for a child experimenting with some magnets and things, and if I see him stay in a certain level, and I think by a little bit of input or just an innocent question like, "Will it stick to my shoe?", he'll tell me "No," and he'll realize a little bit later that, no, leather won't stick. I think of one case I did that... Peter, maybe... He realized he was not only restricted to that tray of things, but he went around the whole room, testing. He found out that some metals did stick to it and some metals are different. Which was pointed out in what I was singing about in the song—iron and steel—but there were some aluminum and other things. So that kind of brought it a step further. I think he was understanding because we were
talking about it, and he was testing the whole room. So he got beyond the wood, leather, cotton and different things. I didn't really inhibit him, and I didn't really lecture him but just like being a catalyst—maybe another question or me verbalizing an observation—maybe another step further that he would pick up on and carry on to another direction . . . or different use of material.

Ann's role as a catalyst was reinforced by Sally, who noted, "She just kind of led in a question or a statement that just sparks somethings in the child that he or she could so. . . ." When asked, however, if this behavior was frequently exhibited by Ann, Sally seemed uncertain, stating, "Yeah, I think so. I think I've noticed that a lot" (Interview, 1/27/80).

In addition to facilitating children's learning and development through preparation of the environment and functioning as a catalyst, Ann mentioned a third aspect of classroom behavior, that of the teacher as a disciplinarian. In this aspect, Ann saw herself as rule-enforcer, rule-giver, and monitor of children's behavior. When asked how much of the day she spent in disciplinary behavior, Ann was hesitant to answer. She stated, "Oh, I hate to think it is like 25 percent but . . . but I would think it is at least that much and probably more, but I don't want to say more" (Interview, 1/23/80). When Sally was asked to comment on the amount of time Ann spent in disciplining, she estimated that 95 percent of Ann's time was spent in socialization or disciplining. The quantitative analysis of the data indicated that disciplining accounted for approximately 12 percent of the total behavior; however, it must be noted that the disciplining behaviors accounted for 56 percent of all teacher-child interaction.
Teacher roles have been posited in the literature to include maternal, therapeutic, and instructional models (Katz, 1970) and the facilitator model (Spodek, 1972), and it has been suggested that none of these models exist in a pure form. Ann’s definition of her role as that of classroom manager incorporates features of each of the models mentioned. More important, perhaps, was the congruence, to some degree, between Ann's perceptions of her role as teacher and her actual classroom behavior.

**Teacher attitudes.** Attitudes, value, or beliefs have been used interchangeably in the literature to refer to a second factor with the potential to affect a teacher’s behavior in the classroom. The importance of attitudes, values, and beliefs—essentially subsets of what Zais (1976) has defined as philosophical assumptions—has been found in prior research (Reichenberg-Hackett, 1962; Harvey, et al., 1966). Although the previous section has indicated the importance of a teacher's beliefs about the role of the teacher, equally important are the teacher's beliefs about children.

Ann’s beliefs about the nature of the learner led her to view children from two perspectives: one, from the perspective of the child within the context of the larger society and two, from the perspective of the child as a learner.

In terms of the former perspective, that of the child within the context of the larger society, Ann viewed children as "unsocialized little human beings" (Interview, 1/7/80), and defined one of the
functions of the teacher as helping the children learn appropriate societal behavior. This perspective appeared to be congruent with Ann's perception of herself as disciplinarian, which, she noted, represented one of two types of interaction she had with children (Interview, 1/23/80). The importance of socialization in the classroom was also noted by Sally, who indicated some frustration with the amount of time spent by the teachers in the business of socializing the children:

I was just talking to Ann about this last week because I was feeling really frustrated because when I think of teaching, all I could think of really was, I thought the main thing was like lesson plans and things. And you know, to a three-, four-, and five-year-old, half the time they could care less what the theme is, you know, they could care less. And I was thinking, all my time is spent on "You need to sit down; use your walking feet, your listening ears." It goes on just constantly. It is more discipline, and I was feeling like, gosh, I'm just more like a baby-sitter. But that's where it's at, especially at this age" (Interview, 1/27/80).

The preschool teacher's preoccupation with socialization is not peculiar to Ann (or Sally). The literature reviewed in a previous section of this discussion indicated that concern for the socialization of child has been a predominant theme in preschool education from early to more recent times.

Ann's beliefs about children from within the second perspective, that of the child as a learner, also affected her teaching behavior. Ann's major premise was that children learn in a variety of ways and from a variety of sources:

I think they learn from anything and everything they do, from the minute they wake up 'til the minute they go to sleep,
and maybe even that time, too, depending upon what their subconscious level is involved in—dreaming and that sort of thing. I think you learn from everything—anything you observe, anything you hear, anything that ever is done to you, anything you ever do, because for every action there's a reaction. If you say something nasty, someone pokes you, and you learn maybe it's not such a good idea to be nasty to someone. If you play with blocks, and they fall over, then you learn something about building. So I think they learn in everything and in every way (Interview, 1/7/80).

Implicit within Ann's description of children's learning is the assumptions that the child is an active participant in his or her learning, especially through encounters with the physical and social environment. This assumption influenced Ann's teaching behavior as was reflected in the amount of time spent in independent behaviors. Quantitative analysis of the data indicate that Ann spent 24 percent of her time in scanning that is, watching individual children or groups of children as they worked in the classroom. Two possible explanations for this behavior emerged from the interviews. In the first place, Ann believed that, since children learned from their interaction with the environment, a teacher should give children time to engage in that interaction without teacher intervention. For Ann, the time for children to engage in independent learning activities was the free play time, which occurred twice during the day. "For me to take over their precious time is, to me, just a crime," noted Ann (Interview, 1/7/80). Secondly, since Ann viewed her function as a teacher in relation to children learning, in part, as one of extension, visual control of the classroom provided Ann the means for identifying appropriate occasions for teacher extensions.
And I can only do it [extend] when I observe a place to do it. . . . I just observe the whole room and try to keep a history of each little situation that is happening. If I think I can cut in to enhance a situation, of course I do it (Interview, 1/23/80).

An excerpt from Ann's statement of educational philosophy (see Appendix B) summarizes her attitude to both teaching and learning in the preschool classroom:

In the preschool setting all learning processes are new and available but, it appears to be the best time and setting for patterning the child's self directed discovery and experimentation. Surely guidance is needed and, if certain skills (social or otherwise) and the knack of self discipline are to be learned, a certain amount of "showing" the child exactly what you mean will be necessary. But, children carry on their learning process throughout their total experience. They learn through socialization with the teacher, other children, significant adults, strangers, language, observation, mimicry, play, television, and through abstract concepts. I can compare a child with a little sponge—anything that comes near it is taken up and processed.

**Developmental stages in teaching.** The third factor affecting teacher behavior was that of preservice training and developmental stages in teaching. With regard to the former, it has already been noted that Ann was trained as a secondary school teacher. This training, she felt, had an influence on her teaching:

... I try to be sensitive to the fact that my major's secondary ed. But I know that it's structuring my thinking. I know that I can't let loose because I'm thinking in a structured manner. And I think I'll get past that, if I work on it. But I still think it's affecting me (Interview, 2/4/80).

Ann, more specifically, was referring to what she conceived to be a more teacher-oriented emphasis in secondary education as contrasted to the child-oriented emphasis more prevalent in early
childhood education. She asked the researcher, on several different occasions, to state somewhere in the dissertation the need for retraining when re-cycling teachers into teaching in the lower grades.

Perhaps more important than pre-service training in understanding teacher behavior, however, is the concept of developmental stages in both pre-service and in-service education. The hierarchical stages of student concerns and needs in pre-service programs—concern for self, survival, situation, and children's needs—have been discussed by Fuller and her associates (Fuller, 1969, 1970; Fuller and Bown, 1975). Katz (1972), however, has suggested that in-service teachers progress through similar, though somewhat differently defined, stages. Katz's four stages included survival (daily survival in the classroom), consolidation (shifting emphasis to individual problem children and problem situations accompanied by a need for learning to use a wider range of resources), renewal (the need to seek innovative teaching practices through encounters with colleagues away from the classroom setting, and maturity (acceptance of self as teacher and development of a rationale for teaching practices).

In terms of developmental stages, Ann appeared to be in a transition between the first and second stages, those of survival and consolidation. Both Ann and Sally attested to the fact that survival needs played a predominant part in the first quarter of the academic year. Ann stated, "... my first quarter teaching, I was so conservative and accepted so many things. And worked on creating a bibliography of books, finger plays, music, art—you know, those files
that I was working with today—that exclusively is what I focused on" (Interview, 1/4/80).

Throughout the observation, however, the researcher noted that Ann frequently spoke of the problems of children and problem situations. In addition to speaking often about Julia and her adjustment to the room, Ann also spoke about Jeremy A.'s difficulties with social relationships, Robby's life with a single parent mother whose expectations were very high, and Beth's withdrawal and unhappiness (Interview, 2/4/80). This concern for children leads one to believe that Ann was moving from the survival to the consolidation stage. This contention was supported by her desire for on-site in-service training (a need designated by Katz as marking the earlier stages of teaching) and by her recognition that she was still in the beginning stages of teaching: "I have a lot to learn. The more I realize how much I have to learn, the more it frightens me. . . . It seems exhaustive, the things I need to learn about preschool and teaching" (Interview, 1/4/80).

Although no direct relationship between developmental stages and teaching behavior can be drawn, indirect relations can also be supported by examination of the quantitative data. If a teacher were in transition between the survival and consolidation stages, one would expect behavior in the manipulating curriculum materials, admonishing and directing, and talking to other adults about individual children categories to occur more frequently. The quantitative analysis of the data, which indicated that 67 percent of the manipulating artifacts
category was accounted for by handling of curriculum materials, that 56 percent of the teacher's interaction with children was comprised of directing and admonishing, and 22 percent of the teacher-adult interaction involved discussion of child behavior or health, appeared to support the concept of developmental stages in teacher behavior.

Although teacher behavior can, and should be, quantified in order to understand the teaching-learning process, more subtle presage variables need to be identified in order to assess their effects of the teacher's classroom behavior. In this section of Part Three, teacher role perceptions, teacher attitudes toward children, and teacher developmental stages in teaching have been identified as potentially important variables for the study of teaching. The list is by no means exhaustive, but the fact that they have been identified from multiple perspectives lends credence to their importance.

Summary

The recognition that any teaching behavior—including the use of choice by a preschool teacher—should be examined within the total context of the teaching-learning process, led to the examination of the instructional context in which choice behavior is imbedded. Chapter 4 began with a description of a typical day in the classroom life of Ann White and was followed by a quantitative analysis of instructional behavior based on a modified version of the OSIA. A brief review of the relevant literature was presented in the third
part of the chapter, and a discussion of teaching behavior from a qualitative perspective, including delineation of factors affecting teaching, completed the chapter.

The report of the physical, social, and instructional contexts provides the framework for a description and discussion of a teacher's use of choice in a preschool classroom, which will be presented in Chapter 5.
CHOICES IN THE CLASSROOM

The teacher's use of choice—the sharing of decision-making responsibility with children—is described in this chapter. A description of one classroom routine which embodied choice, as well as a quantitative analysis of the frequency of occurrence of choice behaviors, constitutes the first part of the chapter. The second part contains a presentation of related literature and a discussion of choice from qualitative perspectives.

A Description and Analysis of A Teacher's Use of Choice

By viewing an educational phenomenon from multiple perspectives, one can gain a richer insight into the nature of that phenomenon. The descriptive example of a classroom activity that illustrates the instructional use of choice provides one such perspective. This perspective allows for a detailed examination of a teacher's behavior in one particular classroom activity or ritual. The other perspective, that of quantitative analysis, allows for an examination of teacher behavior across a longer period of time. Both perspectives are presented in this section.

161
An Example of a Choice Activity

Although choices were given to children throughout the day, one planned activity exemplified the teacher's use of choice. Twice within the daily routine, a transition between teacher-directed group activity and independent, child-initiated play occurred. Ann consciously structured this transition to allow for children's involvement in the selection of play areas or play materials. The transition involving choice was symbolized by a small board that represented a map of the classroom. The activities surrounding the use of the "map board" illustrate the ways in which choice strategies were deliberately used by the teacher. The following description of the "map board" activity was based on field notes and interviews with Ann White.

The map board. Ann knelt in the circle area, facing the children who were sitting in a semi-circle. As they finished singing a song, Ann reached around and picked up the map board, which was leaning against the art storage shelf. The map board was a green felt-covered board, approximately 18 inches by 24 inches, on which were glued strips of yellow felt, which represented the divisions between room areas. Ann also picked up a stack of multiple-colored felt shapes, each shape bearing a child's name. She placed the stack on the floor next to her and announced, "All areas are open today. In the art area, we will have squirt painting. And at the back table, Brooke (a university student) has a special project for you to do."
Ann picked up an orange felt triangle. "Whose is this?" she asked the group; "Who has the orange triangle?" "It's Libby's," called out Jeremy A. Libby stood up and walked to Ann. She took the orange triangle and looked at the map board. Without saying anything, Libby placed the felt shape in the space representing the doll area. "Oh, you're going to play in the doll area," noted Ann. Libby left the circle, whispering to Beth, "You choose the doll area, too." Jeremy asked, "Can I have my turn now? I want to go with Brooke." Ann told him that he would have to wait until she came to his shape as she held up a red circle. "Whose name starts with an A?" she asked. Aaron stood up and said, "It's mine." He walked to Ann and placed the felt shape on the map board saying, "I want to do the squirt painting." "Okay," said Ann, "but you'd better get a smock on first." Ann continued the routine, holding up a felt shape and emphasizing either the color, shape, or the child's name, until all children had chosen either a play location or a play activity.

Rationale for the map board. The map board represented one instance in which the teacher deliberately shared her decision-making responsibility with the children. The decision to use the map board was, according to Ann, the result of children's behavior. She explained it in the following manner:

Well, there was an awfully nice felt board that wasn't being used for anything else. And the worst time of day was going . . . the transition from group time to free play. Because it was like they started to interrupt the group time, especially in the beginning of the year. We had to, say,
close off the doll area or limit it to two people. You know, for various and sundry reasons. So they were almost . . . stop, start . . . interrupting group time to let me know what area they wanted to play in. You know, it just started to get really out of hand. And they'd be all screaming and jumping up and down, lost control. So I just decided that, really my first thought was for me, and it's just classroom control . . . to make the transition easier . . . So I just, it was sitting there. And I thought, well they really ought to know the lay­out of our room. I thought it might help new people when they come in. And reinforce different areas. You know, "Who wants to play in the doll area? Who wants to sit?" Then at my con­venience, I could say, "Now in the art area, we're going to do such and such. Or there will be some things out for you to work with." You know, that kind of thing. Just give them an idea of choices (Interview, 2/4/80).

In addition to the managerial aspect of the map board routine, Ann also suggested that the routine provided for substantive learning and social awareness. By using the felt shapes with the children's names, Ann believed that she was reinforcing color and shape concepts as well as name recognition. "I got a bunch of felt scraps and made as many different shapes as I could. And just started to put a name on it. Because we reinforce, um, their names, the letter it starts with. And the colors," noted Ann (Interview, 2/4/80).

The aspect of social awareness was also emphasized by Ann:

And I find them planning too, like they might negotiate with someone else where they're going to play. You know, Beth might turn to Libby and say, "What are you going to do?" . . . They'll watch the map intently—like I was worried, what are the others going to do while the other one's choosing a space— but it seems very important to them. And they may choose a space depending on who's playing there. You know, they may not even verbalize it, but they may go follow so-and-so. Or they may not choose to play in that area because they aren't happy with that person that day. So they watch pretty intently who's going to play where (Inter­view, 2/4/80).
Summary. Ann's deliberate use of the map board as a means of giving choices to children resulted from children's negative behavior during the circle time activities. Although its primary purpose was managerial, the teacher imbedded substantive learning and opportunities for social interaction within the managerial activity.

An example of the use of choice has been presented in this section of Part One. A quantitative analysis of the types of choices given to children throughout the day is presented in the following section.

Quantitative Analysis of Types of Choice

A modified version of the Observational System for Instructional Analysis (Hough, 1980) was used to analyze the types of choices given to children in terms of frequency of occurrence. Although it was noted in Chapter 4 that 3 percent of the teacher's time was spent in choice behaviors, the data further indicate that this behavior occurred 2 percent of the time. The choices, however, differed in terms of the latitude given to children in the decision-making process. Four types of choices were identified: pseudo-choice, forced-format, restricted choice, and unrestricted choice.

Pseudo-choice. Psuedo-choice is defined as a teacher direction followed by the tab, "Okay." Examples of this type of choice, such as "We're going to eat snack now, okay," or "We're going to sing a song first, okay," indicated that the children were essentially
given no choice at all. The teacher appeared to ameliorate the direc-
tion by the use of the tag. The data indicate that pseudo-choice
accounted for 3 percent of the total number of choices given to chil-
dren (see Table 19).

**Forced-format choice.** Forced-format choices were defined as a
choice to which the answer can be either yes or no. Examples of this
type of choice included such utterances as, "Would you like to play in
the block area?" or "Would you like to use the yellow paint now?"
Forced-format choices accounted for more than half (54 percent) of the
total number of choices given (see Table 19).

**Restricted choice.** A third type of choice was identified and
defined as a choice involving a finite number of stated alternatives.
The alternatives generally ranged from two to four and were presented
in questions such as, "Would you rather color with Magic Markers or
color crayons?" or "Would you rather hang your painting on the wall or
put it in your cubby?" Restricted choices accounted for 8 percent of
all teacher choice behavior (see Table 19).

**Unrestricted choice.** Unrestricted choice was defined as one
involving an infinite number of alternatives (within the constraints
of the environment). This type of choice accounted for 34 percent of
all teacher choice behavior and included such questions as "What
would you like to play with?" "Where would you like to play?" or "What
would you like to do today?" (see Table 19).
### Table 19

The Number and Percent of Occurrences of Types of Teacher Choice Behavior

<table>
<thead>
<tr>
<th>Type of Choice</th>
<th>Number of Occurrences</th>
<th>Percent of Occurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pseudo-choice</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Forced-format choice</td>
<td>33</td>
<td>54</td>
</tr>
<tr>
<td>Restricted choice</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>Unrestricted choice</td>
<td>21</td>
<td>34</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>61</strong></td>
<td><strong>99</strong></td>
</tr>
</tbody>
</table>

**Summary**

A description of one choice activity used by the teacher for purposes of classroom control, reinforcement of substantive learning, and opportunities for social awareness and interaction, has been presented. In addition, types of choices have been identified, and a quantitative analysis of the data indicate that the predominant type of choice given to children was one in which the teacher stated the choice in such a way that the children's responses were limited to acquiescence or non-acquiescence to the teacher's statement. The second most frequently occurring type of choice was one in which the alternatives were unrestricted.
The second part of Chapter 5 is devoted to a discussion of the teacher use of choice, beginning with a review of related literature and concluding with a discussion of choice as an instructional phenomenon from a qualitative perspective.

**Choice As An Instructional Strategy**

A discussion of choice as an instructional strategy is presented in this section of Chapter 5. A review of related literature precedes the discussion of choice in which a three-dimensional model, based on a qualitative analysis, is presented.

**Review of Related Literature**

The paucity of research related to a teacher's use of choice was noted in Chapter 2. In reviewing the literature concerning teaching behavior, however, several studies were discovered that seemed to be indirectly, but implicitly, related to choice. Those studies, including one concerning classroom structure, teacher constraints, and teacher influences on decision-making, are presented in the following section of this chapter.

**Classroom structure.** Although differential terminology characterized much of the literature concerning classroom structure, conceptual similarities are apparent. Structure refers to the degree to which adults direct classroom activities and is related to choice in
that a greater degree of teacher direction potentially diminishes the amount of choice given to children.

An early attempt to assess teacher directiveness was reported by Anderson (1943), who identified dominative and integrative behaviors. Dominative teacher behaviors were characterized by rigidity of behavior and decision-making on the part of the teacher, while integrative behaviors were characterized by flexibility and openness to the "thinking and judgment of others" (Anderson, 1943, p. 460). The effects of dominative and integrative behaviors were studied in relation to spontaneity and initiative in children. Results indicate that "the more the teacher worked with the child in an integrative way, the higher his scores in spontaneity and initiative tended to be" (Anderson, 1943, pp. 482-83).

Soar and Soar (1972) further delineated the concept of classroom structure by identifying two factors, one related to teacher behavior and the other based on the instructional setting: teacher-directed activity versus pupil-selected activity and free choice versus structured learning groups. These two factors were utilized as process variables and were related to student outcome variables of simple and complex learning. The results indicate that greater freedom leads to greater growth in terms of complex-abstract thinking. The researchers stated, "... moderately high levels of freedom ... seemed to be most functional for complex growth, and ... that simple learning is increased by greater teacher direction, but at the expense of complex-abstract growth" (Soar and Soar, 1972, p. 251).
Soar and Soar also distinguished between teacher structuring behavior and teacher controlling behavior (1972, p. 247):

... structure represents a set of standard operating procedures which the teacher and the pupils understand in common. The sequence of activities which is followed daily and the limits of behavior which pupils understand and accept would be examples. In contrast, control would be made up of the moment-to-moment, face-to-face contacts between teacher and pupils intended to modify the behavior of the pupil.

The results of this study indicate that greater amounts of control, as well as structure, had adverse effects on complex-abstract growth. In addition, Fagot (1973) noted that greater degrees of structure and control affected children's task-oriented behaviors, and Huston-Stein, et al. (1977) reported that greater amounts of adult-directed activity led to less prosocial behavior, imaginative play, and aggression and also led to conformity in the presence of adults and less independent and task-oriented behaviors.

A third approach to the problem of classroom structure, as suggested in the Soar and Soar study, is that of the nature of the setting, that is, free-play as contrasted to teacher-directed group situations. Doke and Risley (1975) studied the difference between "formal" (structured group activities) settings and "informal" settings (settings in which children had access to a variety of materials and were allowed freedom in the use of the materials). Formal and informal settings were related to the degree of child participation in activities, and the results indicate that informal activities led to higher levels of participation than did formal settings. Emmerich
(1977), in addition, studied personal-social behavior under two conditions similar to the ones reported by Doke and Risley: a free-play context and a structured, teacher-directed small group context. The results indicate that "free-play elicited more cooperation, compliance, and affiliation with peers than did the small group setting . . . " (Emmerich, 1977, p. 1408).

The literature regarding classroom structure, whether it was referred to as dominative/integrative behavior, structure/control behavior, or free play/structured group activities, indicates that the structure of the classroom affects children's behavior. It appeared that less structured and teacher-controlled classrooms led to greater amounts of complex-abstract growth, autonomy, and prosocial behavior. But, the warning of Soar and Soar (1972, p. 254) must be heeded:

On the other hand, the curve suggests that limits exist with respect to the amounts of pupil freedom, initiation, and self-direction. . . . The frequency with which curves like these have been found suggests the usefulness of optimal levels of particular classroom behaviors. These are in contrast to the usual prescriptions that teachers should provide a warm, accepting classroom atmosphere and give pupils freedom, which seems to imply a "more is better" relationship between teacher behavior and pupil growth. In general this is true, but there is a point beyond which more is not better, but worse.

Constraints on children's behavior. The concept of constraints was introduced in Chapter 2, in which studies of environmental and institutional constraints were reported. The studies (Berk, 1971; Jackson and Wolfson, 1968) also reported teachers as a source of constraint, constraint being defined as interference in
children's "natural pursuit of their desires" (Jackson and Wolfson, 1968, p. 359). Two types of teacher constraints were identified by the researchers. One was defined as teacher expectation, in which a child was either directly or indirectly requested to discontinue an activity, and the other was defined as teacher overlook, in which the teacher "does not respond to the child's request for help or attention" (Jackson and Wolfson, 1968, p. 361). Together, teacher expectations and teacher overlook accounted for slightly more than a third of the constraints on children. Berk (1971), using Jackson and Wolfson's classification scheme, found a similar amount of total teacher constraints, although the subcategories differed slightly.

Although indirectly related to choice, constraints on children's behavior are indicative of the absence of choice. According to the studies reported, teacher expectations and overlook accounted for more than a third of the total constraints on children's behavior.

**Teacher influences on children's decision-making.** In order to study the effects of teacher influence on the decision-making skills of children, Stevenson (1973) developed the Categories of Decision Making Elements (CODE) system on the basis of a taxonomy of child and teacher behavior derived from naturalistic observations in preschool classrooms. Reciprocal categories were defined as attending, focusing on a problem, assisting, informing, extending, prescribing and describing, predicting, intending-choosing, appraisal, and mystifying.
The results of the study indicate that teachers scored highest in categories of informing, prescribing and describing, and appraising. Children, on the other hand, scored highest in attending, informing, and intending-choosing. The major purpose of this study was to develop an instrument for collecting data on child and teacher behavior. Therefore, although frequencies of behaviors were reported, no relationships between teacher and child behavior were discussed.

Murphy (1974) used Stevenson's CODE system to study directly the influence of teachers on children's decision-making skills. The researcher reported that teachers could not only influence the decision-making skills of identification of alternatives and of predictions but could also learn techniques to elicit such behavior from children.

**Summary.** A review of literature implicitly, but not directly, related to choice has been presented. Sources included studies of classroom structure and teacher constraints and influences on children's behaviors. The classroom structure studies indicate a relationship between less structured and teacher-controlled behaviors and more positive child behaviors, both cognitively and socially. Teacher constraints were reported as constituting more than one-third of all constraints on children's behavior, and teacher's use of specified strategies elicited two decision-making skills in young children.

It must be noted that none of the studies reviewed studied choice from an instructional perspective. The next section of this
chapter, therefore, contains an instructional model of choice based on an ethnographic study of a teacher's behavior in a preschool classroom.

An Instructional Model of Choice

Models are conceptual representations of the reality of a phenomenon, and the model presented in this chapter represents a teacher's use of choice from an instructional perspective that is, in terms of the teacher's arrangement of material, temporal, and human resources for the facilitation of learning. The model of choice, derived from both etic and emic analysis, is multi-dimensional and includes not only the scope or type of choice that was presented in the quantitative analysis but also elements and modes of expression of choice (see Figure 5). The model is not intended to be explanatory but, rather, is descriptive of choices given by one teacher.

Modes of expression. The first dimension to be discussed, that of modes of expression, consists of two facets, explicit and implicit choice. Explicit choice refers to a mode of expression in which alternatives or choices are verbally stated: "Where would you like to play?" and "What would you like to play with?" are but two examples of explicit choice. The quantitative analysis presented in an earlier section of this chapter, recorded instances of explicit choice behaviors that, it should be recalled, constituted 2 percent of the teacher's classroom behavior. Explicit choice was primarily
Modes of Expression

Explicit
Implicit

Choice Scope
Pseudo-choice
Forced format choice
Restricted choice
Unrestricted choice

Task Temporal Material Space
Order

Elements of Choice

Figure 5
An Instructional Model of Choice
utilized in the map board ritual; Ann, however, described other uses of explicit choice:

I think there’s little choices, you, if you see a child finishing and not having anything to do, well kind of running around the room, you might ask them what they are, "What are you going to do now?" Or if they’re at the art table, you know, and you happen to pop in the picture, you can ask, "Are you going to use paint or are you going to use the felt tips?" I try to give them a choice in discipline. "Are you going to say you’re sorry for hitting so-and-so or are you going to sit in that chair?" And even when I can’t give that choice, I tell them, "Now you sit on that chair until you decide you’re ready to do such-and-such or to say such-and-such or to let me know that you understand something else" (Interview, 2/4/80).

Implicit mode of expression, however, was one in which the choice or alternative was not verbally stated. Although choice of play area during free play time, for example, was explicit, choice of materials within play areas was implicit. Other examples of implicit choice included allowing the children to sit at any table during snack and lunch periods, to decide with whom to play, and to decide the order of play in which they were to engage. The choices offered to children, according to Ann, allowed them to make the following kinds of decisions:

Are they or are they not going to eat. Are they or are they not going to follow rules. Were they or were they not going to play with so-and-so. Are they or are they not going to play in what area. Are they or are they not going to ride bikes or climb or . . . . it just seems to me that the whole day is spent in decision-making (Interview, 2/4/80).

Implicit choice, which is at best difficult to quantify, expands the teacher’s use of choice strategies. The question that arises, however, concerns the degree to which implicit choice
contributes to children's awareness of decision-making skills. Murphy's research (1974) indicates that children could be taught to be more explicit in their decision-making. One can speculate, therefore, that a greater degree of explicitness in teacher choice behavior may lead to a greater degree of explicitness in children's decision-making behaviors, thus allowing children to develop an awareness of the planning process—a process identified as meta-cognition.

Choice scope. A second dimension of an instructional model of choice refers to the type or scope of choice alternatives. Four levels of choice scope were identified in a previous section of this chapter: pseudo-choice was defined as a direction, followed by the tag, "Okay?" This type of choice, in essence, offers the child no alternatives. The tag, it appeared, was a social convention utilized to enable the child to believe that he or she did have a choice when, in fact, there was no choice. The forced-format choice was one in which the child was limited to one alternative. The degree of choice was slightly greater than in the pseudo-choice, as the child was allowed to decide whether or not he or she would acquiesce to the single alternative. Restricted choice, the specification of two or more alternatives, increased the degree of decision-making, while unrestricted choice gave the greatest scope for the child's participation in decision-making behavior.

Although varying degrees of choice were present throughout the day, the qualitative data suggested that the scope of alternatives varied according to the activity periods within the daily schedule.
Free play time offered the greatest degree of choice, usually implicit and unrestricted. Lunch time provided a setting in which various degrees of choice were available. Children, although restricted to sitting at one of three tables (restricted choice), were allowed to sit with whomever they pleased (unrestricted choice). They did not have to eat all their food, but they did have to eat three bites of all food in order to eat dessert. "Are you going to take your three bites," (forced-format choice) was an example of the implicit choice regarding dessert. Group, bathroom, nap, and outdoor times offered no alternatives with respect to the children's physical presence in a specified location; however, within each activity period, children were offered varying degrees of choice. During group time, for example, children could refrain from active participation in the activities by sitting quietly in the circle, while during nap time children could decide between sleeping or resting quietly on their cots. Although all children were required to be on the playground at a specified time, they were allowed to engage in freely selected activities, subject to the limitations described in the discussion of the physical environment presented in Chapter 3. It would appear, therefore, that the relationship between structure and purpose of activity periods and degree of choice existed.

**Elements of choice.** The term "elements of choice" refers to the substance of the choices offered and includes task, order, materials, and space. The term "element of task" refers to choices given
to children regarding the behavior in which they intended to engage, while the term "element of order" refers to the temporal arrangements of tasks. Generally these last two elements were implicitly expressed and, at least during the free-play period, were unrestricted. Choices about materials (objects for play use) were occasionally explicit, while choices regarding space (the location of play) were generally explicit. Both material and space choices fell into the categories of forced-format, restricted, and unrestricted choice.

The following excerpts from interviews with two children underscore both the scope and elements of choice offered to the children:

Researcher: What goes on all day long? What do you guys do?

Jeremy A.: We draw pictures whenever we want, and we ... play in the quiet area, block area, and the doll area.

Researcher: You can play in the quiet area or the block area or the doll area?

Jeremy A.: When it's not ... if it's not closed.

Researcher: Now, do you play all day long or are there other things that you do too?

Jeremy A.: We do other things that, uh, teacher plans for us to do.

Researcher: Like what? Can you tell me some of those things?

Jeremy A.: We paint. Like I did that painting, right there, with colors. (Interview, 1/25/80)

* * * *

Researcher: You said that sometimes you plan what you want to do, right?
Jeremy A.: Yeah, like those shapes I brought down from the late room. I was planning something to do with those. I was tracing shapes.

Researcher: Do you decide what to do or does the teacher decide what you're going to do more often?

Jeremy A.: Um, um, I tell the teacher what I'm going to do.

Researcher: You tell the teacher what you're going to do. So you feel pretty much that the teachers let you do what you want to do?

Jeremy A.: Yeah. (Interview, 1/25/80)

Researcher: Marty, does Ann ever tell you what you have to do during free play time? Does she have to tell you that you have to go someplace or that you have to play with something?

Marty: I put my name right on that yellow square pointing to the map board, my name, and so I get in here pointing to the sand table.

Researcher: Marty, when you put your square on the board, does Ann tell you where to put it? Does she tell you that you have to go to the sand table?

Marty: She holds it up and says, "Whose name is this one?" And then you tell her where you want to go. (Interview, 1/17/80)

Summary. An instructional model of choice, based on multiple perspectives, has been presented. Dimensions of the model included modes of expression, scope of choice, and elements of choice. The diagrammatic representation of the model was intended to indicate the multidimensional aspects of a teacher's choice-giving behavior rather than to imply relationships among the dimensions. The data suggest that, although all dimensions were present throughout the day,
choices differed somewhat according to the activity periods of the daily schedule.

Summary

The purpose of this chapter was to describe the ways in which a classroom teacher offered choices to children within the context of that classroom. A description of one daily ritual (the map board) was presented as an example of the conscious use of choice and was followed by a quantitative analysis of the scope of choices offered to children. This analysis indicated that children were most frequently given choices that involved the statement of one alternative or an unrestricted number of alternatives. A review of related literature, including literature concerning classroom structure, constraints on children's behavior, and teacher influences on children's decision-making behavior, was presented. An instructional model of choice, with dimensions of modes of expression (implicit and explicit), scope of choice), and elements of choice (task, order, materials, and space) constituted the last section of the chapter.

A summary of the findings of this study, together with a discussion of a conceptual framework that integrates and allows for a broad interpretation of the data, as well as a discussion of the implication of the study, will be presented in Chapter 6.
Chapter 6

SUMMARY, CONCEPTUAL INTEGRATION, AND IMPLICATIONS

The design and implementation of a research study, the focus of which was the teaching behavior of the utilization of choice as an instructional strategy, was predicated on the belief that the observation of an educational phenomenon from multiple perspectives would lead to a more complete description of selected aspects of the teaching-learning process. This chapter, the purpose of which is to summarize the findings and place them within an integrative context, is divided into three parts. A brief summary of the study and its findings is presented in the first part. A conceptual integration of the findings, including the relationship between the physical and social environment, as well as the instructional context, and the nature of choice as an instructional strategy is presented in the second part of the chapter. The implications of the study for further research and teaching are discussed in the third part.

Summary

A field study approach was used to investigate a preschool teacher's use of choice as an instructional strategy in a daycare setting. Multiple sources of information about the use of the
strategy provided information concerning the physical, social, and instructional milieu in which the strategy was employed, as well as the nature of the strategy itself. These sources included participant observation on the part of the researcher, tape-recorded transcriptions of classroom interactions, informant and respondent interviews, and documents.

The conceptualization of choice as an instructional strategy led to the analysis of the data from the perspective of the teacher, although supporting evidence for interpretation was contributed by a student teacher and children in the classroom. Specific analyses included content analysis from both etic and emic perspectives, comparative analysis, and analysis of events encoded through the use of the Observational System for Instructional Analysis (Hough, 1980).

The analyses of the data and the interpretations of the results led to the identification of potential influences on a teacher's use of choice as well as the structure of choice as an instructional strategy.

Findings about the Environment

The first aspect of the research problem addressed the nature of the environment and its effects on the teacher's use of choice strategies. Environmental factors were identified as both physical and social. The physical settings, defined as the classroom (including educational materials and equipment), the building in which the classroom was located, and an adjacent playground, were found both
to inhibit and to promote the utilization of choice. Structural characteristics of the building and classroom, as well as teacher limitations upon the children's use of space and materials, provided examples of inhibiting factors, while the arrangement of the room and the availability of many materials promoted the use of choice.

The second environmental factor, that of the social world of the classroom, was found to be indirectly related to the teacher's use of choice strategies. Both qualitative and quantitative analyses indicate that the absence of clearly defined leadership among the members of the team affected the quality of the subject's relationship with children. A more powerful factor, however, may have been the accord of high status, which was implicitly given to the member of the team with the greatest number of years of teaching experience. It was argued that, if the interactive behaviors of the teacher were directly influenced by the social environment, choice behavior—one type of interaction—would also be indirectly affected.

**Findings about the Instructional Context**

The teacher's classroom behavior, as well as factors affecting that behavior, constituted the second aspect of the research problem and were identified as another source of influence on a teacher's use of choice. Most of the teacher's classroom time was spent in either independent or interactive behavior, with the subsets of scanning and directing-admonishing accounting, more specifically, for these behaviors. A qualitative analysis of the data indicated three factors may have
Influenced the teacher's classroom behaviors. The teacher's perceptions of her primary role, her attitudes and beliefs about children, and the developmental stage of teaching in which the teacher was found appeared to be potential presage variables that could affect the use of choice as an instructional strategy.

Findings about the Nature of Choice

In order to meet the demands of the third aspect of the research problem—to provide a description of the nature of the choices offered by a preschool teacher—an instructional model of choice was presented. Dimensions of the model, which were developed from multiple sources of information, included modes of expression (explicit and implicit), scope of choice (pseudo-choice, forced format, restricted, and unrestricted choice), and elements of choice (task, temporal order, materials, and space). A quantitative analysis, focused on the dimension of scope, indicated that the teacher generally offered one alternative (forced format choice) or an infinite number of alternatives (unrestricted choice) when using choice as an instructional strategy.

In summarizing the findings, it can be said that a teacher's use of a specific instructional strategy, such as choice, can be more fully understood when it is viewed from within a perspective that recognizes the complexity of any aspect of the teaching-learning process. The physical and social environment of the classroom, as well as the teacher's classroom behavior, have been identified and
described as a part of the complexity in which choice, as an instructional strategy, is imbedded. The diversity of influential factors, however, calls for an integrated understanding of choice as an instructional strategy.

A Conceptual Integration of the Findings

The summary of the research study and its findings presented in the previous section of this chapter presented several diverse elements that impinge upon a teacher's use of any instructional strategy. Although identification of such factors is necessary, it is not sufficient for a more complete understanding of the teaching-learning process. The relationships among presage, process, and products constructs have previously been discussed as one way in which the teaching-learning process can be conceptualized. An elaboration of these constructs, based on the present study, provides a framework for a statement of the relationships among the factors identified.

A Model for Conceptual Integration

Although presage-process-product models of instruction have been present in the literature (Gordon, 1972; Dunkin and Biddle, 1974) the present study provided information for the modification and elaboration of these models (see Figure 6).

Presage variables. The construct of presage variables, or variables that have potential predictive power, have been modified to encompass teacher and child variables as well as context
Figure 6
A Model for Conceptual Integration of the Research Findings
characteristics. On the basis of the current study, teacher variables have been identified as role perception, attitudes and beliefs, and training experiences and developmental stage in teaching. Although all but the last characteristic have previously been identified by others as presage variables, the inclusion of developmental stages provides another possible predictive source. The relative lack of experience on the part of the teacher in this study may have led, in part, to a preoccupation with survival and situational concerns. The survival concerns, in turn, may have led to the use of choice as a means of classroom control.

Context variables, usually regarded as classroom, school, and community variables, were elaborated to include social interaction between and among adults within the classroom setting. Although age characteristics of children in a preschool classroom generally necessitate the presence of more than one adult and the effect of other adults may seem pertinent only to teaching younger children, one can speculate that the presence of team teachers, educational specialists, and administrative/supervisory personnel in other educational settings might also influence an elementary or secondary teacher's behavior. In the present study, the presence or absence of other adults was seen to affect teacher behavior that led to differences in teacher/child interaction.

In addition to the sociological impact of the presence of co-teachers in the classroom as a factor influencing teacher behavior, a second factor was noted, especially during the period of gaining
entry. The socio-political forces within the broader context of the child care center and the academic unit to which the center was attached potentially affected the teacher's classroom behavior. Although no attempt was made in this study to assess the impact of these broader socio-political factors, they are ones to which future research should be addressed.

Although previous studies have indicated the importance of child characteristics, no attempt to describe or interpret the characteristics of children in relation to the teaching-learning process was made in this study.

**Process and product variables.** Process variables, including teacher and child behaviors and teacher/child interactions, are generally placed within a single unit. Modifications of that unit, based on the present research study, resulted in the division of the variables into three separate categories. Teacher or child behaviors may or may not lead to teacher/child interactions. In the case of choice, for example, the child behavior of disruption during a group time led to a teacher development of choice as a structuring strategem that, in turn, led to the teacher/child interaction (teacher questions, child responds) at specific times within the day. In contrast, the teacher behavior of scanning, a form of visual control, frequently did not lead to a teacher/child interaction, which may be indicative of indirect teacher influences on product variables. Product variables, the final construct in the integrative model, was not addressed in this study.
Summary. A model was developed for the purpose of integrating the diverse findings of the study and establishing relationships among the various influences on the use of choice as an instructional strategy. Relationships among the factors—teacher, child, and context variables, teacher and child behavior, teacher/child interaction, and learning/developmental outcomes—were delineated. The potential significance of the model is elaborated in the third part of this chapter.

Implications

The significance of this study is founded in its ability to describe complex classroom phenomena and to generate empirically grounded information leading to further research. The implications of the study—its findings and interpretations—include concerns about generalizability, methodology, and conceptualizations.

Generalizability

Although the descriptive findings of this study of a teacher's use of choice and other instructional behaviors appear to be congruent with other findings reported in the literature and may reflect common teacher behaviors, it would be inappropriate to generalize the findings and interpretations to other settings and teachers. The study has described the classroom behavior of one teacher and does not, in any way, purport descriptive capability for all teachers.
Methodological Implications

All too often educational research reduces the complexity of the educational process to simplistic variables derived from the theoretical formulations of other social science disciplines. The use of multiple methodologies to gain empirically derived information could lead to the development of pedagogical theory.

Both ethnographic techniques and systematic observation were used in this study. This researcher recommends that these two methodologies be utilized for the specific purpose of developing a common instrument for the study of teaching in preschool settings. Conceptual categories should be developed on the basis of participant-observation in various early childhood settings, and the Observational System for Instructional Analysis (Hough, 1980) could provide the means for consolidation of the categories. Such an instrument, the need for which was cited earlier, would allow for dialogue among early childhood scholars and teachers.

Conceptual Implications

The conceptual factors that emerged from this study included choice as an instructional strategy, as well as environmental and instructional influences on the use of choice.

Choice. The structure of the choice strategy was examined from the perspective of the teacher. Although continued research on the teacher's use of choice in other early childhood settings (nursery schools, Head Start centers, and kindergarten) is necessary,
the instructional use of choice should also be studied from the perspective of the children. Such studies should focus both on children's responses to choices offered by teachers and on the processes involved in decision-making.

In addition, three other relationships involved in choice need to be examined. The first relationship is that between child characteristics and child behavior. Questions concerning the effects of age, sex, and cognitive style on children's responses to choice need to be addressed. The second relationship, that between child behavior and the teacher's use of choice, needs to be more carefully examined. And the third relationship—teacher/child choice interaction and children's learning and development—should be studied. Implicit within the last relationship is the need for identification of meaningful product variables through the use of the field study approach.

Environmental implications. The importance of physical and social environmental factors was described in this study. Recommendations for further research include (1) the effects of the physical environment on the behavior of teachers and (2) the study of multiple staffing arrangements and staff interaction. With regard to the former, questions concerning optimal room size, density, availability of materials and the teacher's use of choice need to be addressed. In addition, the elements of various staff models (teacher-teacher aide, teacher-assistant teacher, co-teachers, and team teachers) need to be
examined; the degree to which each model produces effective instructional strategies needs to be described; and the effects of staffing models on teacher behavior needs to be studied. Of particular interest is the question related to the emergence of group leadership in multiple staffing situations.

**Instructional implications.** Further research on instruction in the preschool classroom should address issues related to presage, process, and product variables. Of primary importance, however, is the continued study of actual classroom teaching. It is recommended, therefore, that further research be addressed to the study of teacher behavior, including delineation of substantive and managerial aspects, structuring and control behavior, and elaboration and extension behavior. In addition, patterns of teacher/child interaction need to be examined, and the effects of those patterns on teacher and child behavior, as well as on children's learning/developmental outcomes, need to be established.

In summary, what is needed in education is a pedagogical theory derived from empirical observations, as well as from descriptions, analyses, and interpretations of classroom life. Such an inductively derived theory will be of value only to the degree that it encompasses the complexity of the teaching-learning process. The study of the instructional use of choice in a prekindergarten classroom is but a small part of the totality of the educational process. This study serves, however, as a preliminary model for and a source of continued examination of educational phenomena.
Chapter 7

REFLECTIONS OF THE RESEARCHER:
A POSTSCRIPT

As the research effort draws near to completion, questions concerning the worth of the researcher's efforts begin to emerge. In view of the time, energy, and intellectual endeavor devoted to the design and implementation of a research study, one begins to question whether such efforts were of any importance personally, to the educational community, and to society in general. During the conceptualization stage of the research act, the possible significance of the research problem was developed. At the completion of the act, that significance must be assessed. The process of assessment, however, has two foci: one is concerned with the substantive concept of choice and the other, the methodological issue.

The Importance of Choice

The purpose of the study was to examine the phenomenon of choice as it exists within the context of the preschool classroom. The right of and responsibility to make decisions is a critical aspect of human life, and one of the goals of the educational process is to foster the development of decision-making ability in children. The
importance of decision-making led to the conceptualization of the study, which examined the ways in which a preschool teacher offered choices, or opportunities for decision-making, to young children. The findings of the study are significant to classroom teachers, to educational researchers, teacher educators, and society as a whole.

**Importance to the Classroom Teacher**

One of the most frequently stated educational goals in many early childhood educational programs is that of helping children develop a sense of autonomy, independence, and responsibility in their behavior. But, classroom teachers are seldom instructed in strategies that lead children to those goals. The findings of the present study, especially those that contributed to the development of the model of choice as an instructional strategy, can help teachers not only in demonstrating the importance of providing opportunities for decision-making but also by presenting a framework of choices against which the teacher can assess his or her own classroom behavior. The model, thus, can enable the teacher to assess personal use of choice strategies as well as facilitate linkage between instructional strategies and educational goals.

**Importance to Educational Researchers**

Although one can assume that any research study is important in that the findings contribute to the general knowledge of the teaching-learning process, there is, perhaps, a more subtle point to
be understood in light of this particular study. A national educational honorary society (Phi Delta Kappa, Practical Applications of Research, Vol. 3, No., 1, September 1980) recently devoted its research bulletin to the topic of children's thinking, a cognitive process closely related to decision-making. That publication stressed the importance of the processes involved in thinking, especially in relation to children of ages ranging from nine to twelve years. In addition, attention to a related topic, that of children's planning, was evidenced in a recent NIE Request for Proposals, stressing the importance of planning as a cognitive process. Guidelines for the proposal specified observations of children in grades K-12 and experimental research with children in the intermediate grades only.

The findings of the current study indicate that the foundations of children's planning or decision-making can be laid in the years before entry into formal schooling. Researchers (and federal agencies) interested in the etiology of children's decision-making skills, as well as in individual differences in the utilization of such skills, might well begin their studies with the pre-kindergarten child.

Importance to Teacher Education

Teaching has been defined as both an art and as a science, the truth being that teaching is probably both. Persons involved in the preservice and inservice education of preschool teachers, however, continually search for those aspects of teaching that can be taught—
and learned. The use of the choice model derived from this descriptive study can add to the repertoire of teaching skills introduced by teacher educators at both the preservice and inservice levels of teaching. More importantly, teacher educators can help students and teachers alike recognize the differences between explicit and implicit choice and can facilitate the development of skills leading to explicit modes of expression. Teaching will never become, it is hoped, totally a science, but the degree to which it is a science rests upon findings such as were reported in this study.

**Importance for Society**

The democratic society in which we live is predicated on the belief that the members of the society collectively make decisions for the society as a whole as well as on the assumption that the individual members of society have the right to make decisions for themselves within the collective framework. The ability of an individual to make responsible decisions is not, however, an innate capability. The identification of potential alternatives, the selection of one alternative, and the evaluation of the alternatives selected are skills that are developed through practice. This study has shown that teachers can provide opportunities for the practice of these skills for children from a very young age. Through the continual provision of opportunities for decision-making, educators are preparing children for their role as responsible members of a democratic society.
Methodological Importance

Of importance in the study of various, and frequently complex, factors of an educational phenomenon is the method (or methods) by which the phenomenon is examined. The use of the field study approach, with its multiple methodologies and multiple sources of information, is important both for educational research and for the researcher who undertook the study.

Importance to Educational Research

To say that human behavior, of which teaching and learning are a part, is characterized by the utmost complexity is to repeat what is generally regarded as a truism. But the complexity of teaching frequently has been ignored in educational research, as investigators continue to search for the "pot of gold," while blind to the form, symmetry, and beauty of the rainbow. The importance of the study in terms of research methodology is that it exemplifies a method in which researchers can remove the blinders and see, in broader terms, the scope of the teaching act. This was important because it demonstrates the capability of research to identify qualities of teaching from the perspectives of the teacher as well as the researcher, and it enables the researcher to describe the qualitative as well as quantitative nature of the phenomenon.

Importance to the Researcher

When one begins to engage in the research act as part of the requirements for a graduate degree, one is warned that the completed
dissertation will probably be of little importance to the total body of educational research. The process, however, which is similar to that of the artisan developing the skills of that craft, seldom leads to instant fame or recognition. Furthermore, as in much of education, it is the process rather than the product that is of importance.

For this researcher, the process has been the single most challenging experience in over twenty years of schooling, schooling that primarily emphasized *logico-deductive* thinking. The utilization of the field study approach, characterized by the multiplicity of methods and perspectives, forced the researcher to use *logico-inductive* reasoning, thus allowing for the continued development of cognitive processes as well as the attainment of scholarly skills.

In addition, the research process enabled this researcher to attain self-determined goals. The educational "hoops" through which students are expected to jump were constructed collaboratively, with the majority of the effort contributed by the student/researcher. This research study, thus, provided an opportunity for cognitive as well as affective development which contributed to the researcher's sense of worth as a scholar and as a person. The researcher recalls asking for many years about the point at which the educational process becomes truly challenging. The answer that emerged from this research study became apparent: one is challenged when the self is the source of challenge.


______, *Personalized Education for Teachers*. Austin, Texas: The Research and Development Center for Teacher Education, The University of Texas at Austin, 1970.


Hill, J., and D. Robins. "Planning for Integrative Play in the Pre-
school." Paper delivered at the annual meeting of The National
Association of Early Childhood Teacher Educators, San Francisco,
November, 1980.

Hough, J. B. "An Observation System for the Analysis of Classroom
Instruction." In E. J. Amidon and J. B. Hough (Eds.), Inter-
action Analysis: Theory, Research, and Application. Reading,

______. The Ohio State University, The Faculty of Educational
Foundations and Research, Columbus, Ohio. Personal communication,
October, 1979.

______ (Ed.). Concepts and Categories for the Study of Instruction:
The Observational System for Instructional Analysis, Volume One.
Columbus, Ohio: The Ohio State University, 1980(a).

______ (Ed.). Data Displays and Their Interpretation for the Study
of Instruction: The Observational System for Instructional
Analysis, Volume Two. Columbus, Ohio: The Ohio State University,
1980(b).

______, and J. K. Duncan with J. Belland. "The Observational System
for Instructional Analysis." Draft Papers No. 1 to 7. Columbus,
Ohio: The Ohio State University, 1975.

Hunt, J. McV. "Reflections on a Decade of Early Childhood Education."

Huston-Stein, A., L. Friederich-Coffer, and E. J. Sussman. "The
Relation of Classroom Structure to Social Behavior, Imaginative
Play, and Self-Regulation of Economically Disadvantaged Children."

Hyman, R. T. (Ed.). Teaching: Vantage Points for Study, Second

Iannaccone, L. "The Field Study in Educational Policy Research."

Jackson, R. W., and B. J. Wolfson. "Varieties of Constraint in a


APPENDICES
APPENDIX A

HUMAN SUBJECTS MATERIALS
Mr. and Mrs. John Doe
000 Any Street
A Town, Ohio 00000

Dear Mr. and Mrs. Doe:

I am a doctoral student in Early and Middle Childhood Education at the Ohio State University and am currently preparing to begin my doctoral research project.

As both an educator and a parent, I am interested in the methods that a teacher uses in a classroom to utilize the strengths of different children in facilitating children's learning. In the study I am proposing to conduct, I will be describing the actions of the teacher and the responses of the children to her. Ann White has agreed to be the teacher in this study, which will be conducted during the winter quarter of 1980.

I will be using a method of systematic classroom observation and will keep field notes on what I see and hear. Ann will be wearing a wireless microphone, and I will tape-record all that she says in her interactions in the classroom. Occasionally, I may be talking informally with the children regarding their activities in the class. There will be no formal testing of the children. All the information that I receive will remain confidential, as I plan to code names for everyone involved in the study, and I will not identify the Center by name or specific geographical location.

This study has been reviewed and approved by the Human Subjects Committees of The Ohio State University and the College of Health and Human Services of ___________ University. In addition, the director of the Center has given her approval.

I am asking for your permission to talk informally with your child for the purpose of the study. If you agree to his or her participation, please sign the attached consent form and return it to me in
the enclosed envelope or to Ann White in the classroom. If you wish to speak to me personally, I can be reached at 593-7354. Of course, when the study is completed, you may have access to the written report.

Thank you for your consideration in this matter.

Sincerely,

Marion R. McNairy
I consent to participation in (or my child's participation in) a study entitled A DESCRIPTIVE STUDY OF A TEACHER'S USE OF CHOICE IN A PREKINDERGARTEN CLASSROOM.

Marion R. McNairy, (Investigator/Project Director or his/her authorized representative) has explained the purpose of the study and procedures to be followed. Possible benefits of the study have been described as have alternative procedures, if such procedures are applicable and available.

I acknowledge that I have had the opportunity to obtain additional information regarding the study and that any questions I have raised have been answered to my fullest satisfaction. Further, I understand that I am (my child is) free to withdraw consent at any time and to discontinue participation in the study without prejudice to me (my child). The information obtained from me (my child) will remain confidential and anonymous unless I specifically agree otherwise.

Finally, I acknowledge that I have read and fully understand the consent form. I have signed it freely and voluntarily and understand a copy is available upon request.

Date: ______________________   Signed: ______________________

(Participant) (Participant)

(Investigator/Project Director of Authorized Representative (Person Authorized to Consent for Participation - If Required)
APPENDIX B

TEACHER DOCUMENTS
EDUCATIONAL PHILOSOPHY
Ann White

I believe people to be generally good in nature and not in need of vigorous control or self-repression. My views regarding personality development represent a broadly based composite of Kurt Lewin, Adler, and Carl Rogers. People are basically a composite of all their experiences, environment, genetic inheritance as well as their physical and psychological makeup. My perceptions lean strongly toward field theory in which all factors within the environment bear their influence on the personality.

Children are not little adults but instead, very special young people whose needs and wants reflect their own form of cognition and physical development, as well as their response to their own particular social space and time. Youngster's energy potentials, nutritional needs and conceptualization are very different from those of an adult. Most importantly it is a very precious period of one's life in which all is possible but much is unknown. Childhood can never be relived only reminisced. Therefore, an adult can often learn from a child as much as or more than he teaches him.

Children learn through a variety of patterns. The mind boggles to realize the amount of information that is sifted through the mind of a child. There is so much to learn, so many skills to master in just a span of a few years. Therefore, I believe that learning must
be provided in an exciting, enriching environment and the pitfalls of boredom and tedium avoided at all costs.

In the preschool settings all learning processes are new and available but, it appears to be the test time and setting for patterning the child's self-directed discovery and experimentation. Surely guidance is needed and if certain skills (social or otherwise) and the knack of self-discipline are to be learned a certain amount of "showing" the child exactly what you mean will be necessary. But, children carry on their learning process throughout their total experience. They learn through socialization with the teacher, other children, significant adults, strangers, language, observation, mimicry, play television, and through abstract concepts. I can compare a child with a little sponge—anything that comes near it is taken up and processed.

My short term goals for my children's learning this year are individualistic to each of my children. These goals are based on observation, parent conference and assessments. For example, if one child has trouble with self discipline, using scissors but has his numbers down pat would be very different from another child who is an "artist" but is unfamiliar with any kind of math or numerology.

My long range goals are simply to expose my class to as many learning situations as possible, to be able to express themselves to the fullest, and to feel secure and loved. I believe my approach to be a composite of High/Scope and traditional. My goals certainly include the key experiences of active learning, language, representing
experience and idea, and developing logical reasoning as well as
developing socialization processes and self discipline. But to be
summarized, I want my children to become the best they can be and
have fun.
EDUCATIONAL LIFE HISTORY

Ann White

My educational life history includes the typical elementary school experiences of grades 1-6, a junior high period of seventh and eighth grade and finally a high school term of four years, grades 9-12. I attended a junior college for two years and received an A.A. degree in general studies. I transferred to a university and attained a B.A. degree in education with a double major in history and English. I am now involved in a masters program in child development and family ecology.

I remember elementary school with very fond memories. I made my mark in elementary school by being a very well behaved child and a straight A student. This made up for the fact that my family was not well off, in the PTA, or active in girl scouts. Being the oldest of three children I was a manager. I was always picked to take care of the art cabinet or a playground monitor for the younger children (a very prestigious position). In the fifth grade I received my first blow to my ego. My teacher, Miss Jones, would threaten me daily with, "You'll have to do better than that to get an A in my class." That year was quite a trauma for me because I was working my hardest but being told it wasn't good enough. However, at the end of the year she apologized to me because she admitted she had expected too much of me. It was very perplexing, but she had still managed to keep me off the honor role for one report card period.
Sixth grade was glorious for me. I had achieved the prestige of a "senior" but was also appreciated and trusted by every teacher - I was a boss (a very comfortable and familiar position for me). Mr. Belia was my teacher and he was both kind and appreciative in identifying me as one of his brighter students. He was a very strong father figure for me and I embarrassed myself several times by calling him Dad.

The next summer my family moved to a new home in a different county. I started Junior High School in a new district and in a bigger school. I was miserable. This district had sectioned its students into tracts according to academic ability. I was put into the highest group composed of haughty, unfriendly, extremely competitive young people. The effect was paralyzing. I spent days, crying, begging to stay home from school and finally wound up in the counselor's office. Their solution was to keep me in only a few of the honors classes but transfer me into the next lowest group for the rest of the day. The result was somewhat liveable. I was able to make friends and began to feel relatively comfortable.

High school was no better. I was a good student of course, but a little over weight and by no means in the "in" crowd. None of the teachers impressed me too greatly. Most of them seemed uninterested or suffered from their own egotistical mania. Most of my extra time was spent fulfilling family obligations. I was not athletic or very social. I always had a few friends I could count on and that seemed enough for me.
College was my heyday. I revelled in my independence and my scholastic ability. The peer pressure was lessened and on the crowded campus I could drop my identity and become anything or anyone. New worlds were opened to me and I met people albeit with ideas and reactions far different from my own. Adulthood has provided more comfortable periods for my liberal and sometimes nonconformist tendencies.
CLASSROOM MATERIALS ACCESSIBLE TO CHILDREN

I. Doll Area

A. Furniture

1. child-size wooden stove (Community Play Things) 24"x7½"x12½"
2. child-size wooden yellow sink 24"x23½"x12½"
3. child-size wooden refrigerator 36 3/4"x18"x11 3/4"
4. child-size wooden cupboard 37"x23 3/4"x11½"
5. natural wood storage chest (3 drawer) 24"x19"x12"
6. natural wood storage chest (3 drawer) 26 3/4"x14½"x11"
7. blue wood storage chest (4 drawer) 29½"x15 3/4"x9½"
8. dark brown wood chest 18½"x17½"x10"
9. green wood chairs 22½"x12"x10½"
10. doll-size high chair 26"x10½"x8½"
11. child size ironing board (with wood iron) 22"x29"x6 3/4"
12. wall mirror 13½"x49"
13. orange wood cradle 27½"x17"x12"
14. green wood cradle 16½"x16½"x16½"

B. Kitchen Materials

1. child size broom (1 plastic, 1 straw)
2. child size dustmop
3. child size brush mop
4. plastic cannisters (seriated), green with white tops
5. plastic cups
6. medium plastic dishes
7. saucer
8. large plastic dishes
9. plastic oval platter
10. bread pan
11. cookie cutter

Plastic "food":
1. cucumber
2. tomato
3. bell pepper
4. lemon
5. banana
6. egg and 1 egg carton
7. carrot
8. milk carton
9. plastic ice cube tray
10. measuring cups
11. cookie cutter
12. soup ladle
13. shallow soup ladle
14. plastic, divided silverware holder
1 green teakettle
1 liquid soap container
10" WearEver metal frypan
1 stainless steel measuring cup (1/2 cup)
3 "copper" measuring cups (1/4 cup, 1/3 cup, 1/2 cup)
2 tablecloth
2 pot holders
2 pillow
7 placemats (non-matching)
1 cotton dish towel
1 black (real) telephone

C. Dress-up Clothes

7 dresses
2 skirts
4 blouses/tops
6 aprons
1 sweater
1 sweatshirt
3 gloves
1 belt
1 vest
1 bikini pants
1 sock
1 scarves
3 purses: black patent leather, brown, beige print
4 prs. women's shoes: bright pink cloth, pal pink cloth,
  black suede, white

Hats:
1 circus hat
1 white plastic cowboy hat
1 plastic baseball hat
1 plastic "straw" hat
3 fireman hats
1 red felt cowboy hat
2 plastic construction worker hats
1 rain hat
1 safari hat
1 plastic homburg hat
1 artificial fur cap

D. Dolls and Doll Accessories

2 Caucasian dolls (one with hair, one without hair)
1 small Caucasian baby doll
1 black doll
2 doll dresses
9 doll pants
2 doll coveralls
1 doll cap/hats
6 doll sacques
2 doll diapers
2 doll pinafore
6 doll tops/blouses/shirts
1 doll nightgown
1 doll slip
1 doll apron
1 doll bib
1 doll coat
1 doll sheet
3 doll blankets

II. Quiet/Circle Area

Legos
stringing blocks
stringing cubes
giant Legos
vinyl people
2 boxes wooden wedge play figures
wooden alphabet letters (upper case and lower case)
tray of colored wooden letters
Lotto cards
small box of colored wooden letters
plastic zoo animals
plastic farm animals
two containers bean bags
Sesame Street number match-ups
Lincoln logs
Rig-a-ma-jigs
giant dominoes
two containers - Bristle Blocks
junior circus
wooden shapes
puzzle box
20 wooden puzzles
1 body puzzle
22 children's books
bookshelf
2 storage shelves

III. Block Area

Unit Blocks
3 cylinders
12 small wedges
2 long wedges
14 small triangles
4 large triangles
6 arches
33 unit blocks
22 half unit blocks
4 quarter unit blocks

**Hollow/Building Blocks**
95 long flat boards
63 half long flat boards
13 hollow blocks
1 half hollow block
4 ramps

**Block Representations**
Stacking Board "Boat"
1 5 5 4 4

"Boat" block with 3 cylinders

**Transportation Vehicles**
Wooden train:
- black engine
- blue oil tank
- red car with sliding doors
- green flat bed
- orange open car
- red caboose
Wooden boat
Large Metal Vehicles
- Mobil tank truck
- car carrier (no cab)
- metal truck with figured pattern
- bottom of white Tonka vehicle
Medium metal vehicles:
- 7 dump trucks including cement mixer, crane
- 1 helicopter
Small metal vehicles:
- 7 small trucks, fire engines, ambulances
- 1 plastic car
Miniature vehicles:
- 8 metal trucks

Miscellaneous:
2 plastic ladders
3 plastic parts (unidentified)
IV. Art Area

scissor rack with scissors
2 cardboard boxes with construction paper scraps
small box containing pieces of color crayons
2 coffee cans containing felt-tip marking pens
3 cans paper scraps
1 roll masking tape
1 fabric sample book
2 boxes containing magazines
tray
pink dish tub
paper towels
paper napkins
1 easel
14 paint smocks
construction paper
construction bench
1 hammer
1 sand table
cardboard box containing variety of sand boys
APPENDIX D

THE DAILY SCHEDULE
<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Self-Selected Activity</td>
</tr>
<tr>
<td></td>
<td>(Planned Art)</td>
</tr>
<tr>
<td>8:45</td>
<td>Clean Up, Bathroom</td>
</tr>
<tr>
<td>9:00</td>
<td>Outside Play</td>
</tr>
<tr>
<td>9:45</td>
<td>Bathroom</td>
</tr>
<tr>
<td>10:00</td>
<td>Snack</td>
</tr>
<tr>
<td>10:15</td>
<td>Group Time</td>
</tr>
<tr>
<td>10:45</td>
<td>Free Play</td>
</tr>
<tr>
<td>11:15</td>
<td>Clean Up, Bathroom</td>
</tr>
<tr>
<td>11:30</td>
<td>Lunch, Bathroom</td>
</tr>
<tr>
<td>12:15</td>
<td>Nap, Snack (Bathroom)</td>
</tr>
<tr>
<td>2:15</td>
<td></td>
</tr>
<tr>
<td>2:15</td>
<td></td>
</tr>
<tr>
<td>2:30</td>
<td>Outside Play</td>
</tr>
<tr>
<td>3:30</td>
<td></td>
</tr>
<tr>
<td>3:30</td>
<td>Bathroom</td>
</tr>
<tr>
<td>3:40</td>
<td>Group Time</td>
</tr>
<tr>
<td>4:00</td>
<td>Self-selected Activity</td>
</tr>
</tbody>
</table>
APPENDIX E

AN EXAMPLE OF OSIA MATRIX ANALYSIS
APPENDIX F

AN EXAMPLE OF OSIA SUBFUNCTION ANALYSIS
### Subfunction Analysis

#### Actual Frequencies

<table>
<thead>
<tr>
<th>T1</th>
<th>T2</th>
<th>T3</th>
<th>T4</th>
<th>T5</th>
<th>T6</th>
<th>T7</th>
<th>T8</th>
<th>T9</th>
<th>T10</th>
<th>T11</th>
<th>T12</th>
<th>T13</th>
<th>T14</th>
<th>T15</th>
</tr>
</thead>
<tbody>
<tr>
<td>131</td>
<td>401</td>
<td>691</td>
<td>616</td>
<td>231</td>
<td>37</td>
<td>632</td>
<td>34</td>
<td>94</td>
<td>895</td>
<td>7</td>
<td>6</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

### Notes

- V
- AV
- R
- N
- M
- N
- MA
- UA
- U
- UN
- UN
- UN
- UN
- UN
- UN
- UN
- UN
- UN
- UN

---

<table>
<thead>
<tr>
<th>H1</th>
<th>B1</th>
<th>H3</th>
<th>B4</th>
<th>H5</th>
<th>B6</th>
<th>H7</th>
<th>B8</th>
<th>H9</th>
<th>B10</th>
<th>H11</th>
<th>B11</th>
<th>H12</th>
<th>B12</th>
<th>H13</th>
</tr>
</thead>
<tbody>
<tr>
<td>81</td>
<td>82</td>
<td>83</td>
<td>84</td>
<td>85</td>
<td>86</td>
<td>87</td>
<td>88</td>
<td>89</td>
<td>90</td>
<td>91</td>
<td>92</td>
<td>93</td>
<td>94</td>
<td>95</td>
</tr>
</tbody>
</table>

### Additional Notes

- T16: 6
- T17: 4
- T18: 8
- T19: 9
- T20: 10
- T21: 11
- T22: 12
- T23: 13
- T24: 14
- T25: 15
- T26: 16
- T27: 17
- T28: 18
- T29: 19
- T30: 20
- T31: 21
- T32: 22
- T33: 23
- T34: 24
- T35: 25
- T36: 26
- T37: 27
- T38: 28
- T39: 29
- T40: 30

---

<table>
<thead>
<tr>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>G4</th>
<th>G5</th>
<th>G6</th>
<th>G7</th>
<th>G8</th>
<th>G9</th>
<th>G10</th>
<th>G11</th>
<th>G12</th>
<th>G13</th>
<th>G14</th>
<th>G15</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>73</td>
<td>74</td>
<td>75</td>
<td>76</td>
<td>77</td>
<td>78</td>
<td>79</td>
<td>80</td>
<td>81</td>
<td>82</td>
<td>83</td>
<td>84</td>
<td>85</td>
<td>86</td>
</tr>
</tbody>
</table>

### Additional Frequencies

- V: 263
- AV: 263
- R: 263
- N: 263
- M: 263
- MA: 263
- UA: 263
- U: 263
- UN: 263

---

223
### SUBFUNCTION ANALYSIS

#### PERCENTAGES

|     | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | T9 | T10 | T11 | T12 | T13 | T14 | T15 | T16 | T17 | TX | X  | Y  | Z  |
|-----|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
|     | 100| 100| 90 | 96 | 86 | 100| 100| 97 | 100| 100 | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |
| V   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |
| AV  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |
| M   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |
| HA  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |
| U   | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |
| U A | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |
| UH  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0  | 0  | 0  | 0  |

<table>
<thead>
<tr>
<th></th>
<th>51</th>
<th>52</th>
<th>53</th>
<th>54</th>
<th>55</th>
<th>56</th>
<th>57</th>
<th>58</th>
<th>59</th>
<th>60</th>
<th>61</th>
<th>62</th>
<th>63</th>
<th>64</th>
<th>65</th>
<th>66</th>
<th>67</th>
<th>68</th>
<th>69</th>
<th>70</th>
<th>71</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>AV</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>U A</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>UH</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>702</th>
<th>71</th>
<th>72</th>
<th>73</th>
<th>74</th>
<th>75</th>
<th>76</th>
<th>77</th>
<th>78</th>
<th>79</th>
<th>80</th>
<th>81</th>
<th>82</th>
<th>83</th>
<th>84</th>
<th>85</th>
<th>86</th>
<th>87</th>
<th>88</th>
<th>89</th>
<th>90</th>
<th>91</th>
</tr>
</thead>
<tbody>
<tr>
<td>V</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>AV</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HA</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>U</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>U A</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>UH</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

294
APPENDIX G

AN EXAMPLE OF OSIA SUBSCRIPT ANALYSIS
### Subscript Analysis

#### Actual Frequencies

|   | T1  | T2  | T3  | T4  | T5  | T6  | T7  | T8  | T9  | T10 | T11 | T12 | T13 | T14 | T15 | T16 | T17 | T18 | T19 | T20 | T21 | T22 | T23 | T24 | T25 | T26 | T27 | T28 | T29 | T30 | T31 | T32 | T33 | T34 | T35 | T36 | T37 | T38 | T39 | T40 | T41 | T42 | T43 | T44 | T45 | T46 | T47 | T48 | T49 | T50 | T51 | T52 | T53 | T54 | T55 | T56 | T57 | T58 | T59 | T60 | T61 | T62 | T63 | T64 | T65 | T66 | T67 | T68 | T69 | T70 | T71 | T72 | T73 | T74 | T75 | T76 | T77 | T78 | T79 | T80 | T81 | T82 | T83 | T84 | T85 | T86 | T87 | T88 | T89 | T90 | T91 | T92 | T93 | T94 | T95 | T96 | T97 | T98 | T99 | T100 |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----- |
## Subscript Analysis

### Percentages

|   | T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 | T9 | T10 | T11 | T12 | T13 | T14 | T15 | T16 | T17 | T18 | T19 | T20 | TX | K | Y | Z |
|---|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|----|----|
| 1 | 100|    | 3  | 57 | 160| 67 | 100| 100| 7   | 64  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 2 | 65 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 3 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| 4 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |

### Referee's Notes

- A: 100%
- B: 100%
- C: 100%
- D: 100%

### Author's Comments

- E: 100%
- F: 100%
- G: 100%
- H: 100%

### Editor's Notes

- I: 100%
- J: 100%
- K: 100%
- L: 100%

### Publisher's Remarks

- M: 100%
- N: 100%
- O: 100%
- P: 100%

---

237
APPENDIX H

SELECTED CHAIN AND POOL VARIABLES
Table 20
Selected Chain and Pool Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Frequency of occurrence</th>
<th>Amount of time spent in behavior (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>T4S4</td>
<td>85</td>
<td>8.8</td>
</tr>
<tr>
<td>T4S5</td>
<td>26</td>
<td>2.25</td>
</tr>
<tr>
<td>T4S6</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>T4S7</td>
<td>32</td>
<td>3.3</td>
</tr>
<tr>
<td>T5S4</td>
<td>17</td>
<td>1.3</td>
</tr>
<tr>
<td>T5S6</td>
<td>4</td>
<td>.3</td>
</tr>
<tr>
<td>T5S7</td>
<td>10</td>
<td>.8</td>
</tr>
<tr>
<td>T6S4</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>T6S5</td>
<td>6</td>
<td>.7</td>
</tr>
<tr>
<td>T6S7</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>T7S4</td>
<td>28</td>
<td>2.4</td>
</tr>
<tr>
<td>T7S5</td>
<td>174</td>
<td>15.0</td>
</tr>
<tr>
<td>T7S7</td>
<td>24</td>
<td>2.4</td>
</tr>
<tr>
<td>S4T4</td>
<td>43</td>
<td>5.3</td>
</tr>
<tr>
<td>S4T5</td>
<td>57</td>
<td>4.3</td>
</tr>
<tr>
<td>S4T6</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>S4T7</td>
<td>66</td>
<td>5.7</td>
</tr>
<tr>
<td>S5T4</td>
<td>43</td>
<td>4.3</td>
</tr>
<tr>
<td>S5T5</td>
<td>3</td>
<td>.3</td>
</tr>
<tr>
<td>S5T6</td>
<td>14</td>
<td>1.0</td>
</tr>
<tr>
<td>S5T7</td>
<td>48</td>
<td>4.0</td>
</tr>
<tr>
<td>S6T4</td>
<td>34</td>
<td>.3</td>
</tr>
<tr>
<td>S6T5</td>
<td>5</td>
<td>.4</td>
</tr>
<tr>
<td>S6T7</td>
<td>3</td>
<td>.3</td>
</tr>
<tr>
<td>S7T4</td>
<td>3</td>
<td>.3</td>
</tr>
<tr>
<td>S7T5</td>
<td>14</td>
<td>1.7</td>
</tr>
<tr>
<td>S7T6</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>Q1VQ4</td>
<td>19</td>
<td>1.9</td>
</tr>
<tr>
<td>Q1VQ5</td>
<td>24</td>
<td>2.3</td>
</tr>
<tr>
<td>Q1VQ7</td>
<td>23</td>
<td>2.0</td>
</tr>
<tr>
<td>Q1AQ4</td>
<td>10</td>
<td>1.0</td>
</tr>
<tr>
<td>Q1AQ5</td>
<td>15</td>
<td>1.8</td>
</tr>
<tr>
<td>Q1AQ7</td>
<td>7</td>
<td>.4</td>
</tr>
<tr>
<td>Q1UQ4</td>
<td>10</td>
<td>1.8</td>
</tr>
<tr>
<td>Q1UQ5</td>
<td>21</td>
<td>1.9</td>
</tr>
<tr>
<td>Q1UQ6</td>
<td>4</td>
<td>.1</td>
</tr>
<tr>
<td>Q1UQ7</td>
<td>6</td>
<td>.8</td>
</tr>
<tr>
<td>Variable</td>
<td>Frequency of occurrence</td>
<td>Amount of time spent in behavior (minutes)</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Q1MQ4</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>Q1MQ5</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>Q1MQ6</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>Q1MQ7</td>
<td>3</td>
<td>.4</td>
</tr>
<tr>
<td>Q1MUQ4</td>
<td>3</td>
<td>.5</td>
</tr>
<tr>
<td>Q1MUQ5</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>Q1MUQ7</td>
<td>4</td>
<td>.5</td>
</tr>
<tr>
<td>T4Q1A</td>
<td>28</td>
<td>5.4</td>
</tr>
<tr>
<td>T5Q1A</td>
<td>8</td>
<td>1.3</td>
</tr>
<tr>
<td>T6Q1A</td>
<td>3</td>
<td>.3</td>
</tr>
<tr>
<td>T7Q1A</td>
<td>32</td>
<td>2.8</td>
</tr>
<tr>
<td>T4Q1V</td>
<td>50</td>
<td>6.6</td>
</tr>
<tr>
<td>T5Q1V</td>
<td>39</td>
<td>3.1</td>
</tr>
<tr>
<td>T7Q1V</td>
<td>33</td>
<td>2.5</td>
</tr>
<tr>
<td>T4Q1U</td>
<td>40</td>
<td>3.8</td>
</tr>
<tr>
<td>T5Q1U</td>
<td>17</td>
<td>1.4</td>
</tr>
<tr>
<td>T7Q1U</td>
<td>29</td>
<td>2.3</td>
</tr>
<tr>
<td>T4Q1M</td>
<td>9</td>
<td>.9</td>
</tr>
<tr>
<td>T5Q1M</td>
<td>7</td>
<td>.6</td>
</tr>
<tr>
<td>T7Q1M</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>T4Q1MU</td>
<td>6</td>
<td>.6</td>
</tr>
<tr>
<td>T5Q1MU</td>
<td>8</td>
<td>.8</td>
</tr>
<tr>
<td>T7Q1MU</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>T2MVA$1</td>
<td></td>
<td>19.0</td>
</tr>
<tr>
<td>T2MVA$2</td>
<td></td>
<td>47.4</td>
</tr>
<tr>
<td>T2MVA$3</td>
<td></td>
<td>13.5</td>
</tr>
<tr>
<td>T4AM$1</td>
<td></td>
<td>4.8</td>
</tr>
<tr>
<td>T4AVU</td>
<td>5</td>
<td>.5</td>
</tr>
<tr>
<td>T7AVU</td>
<td>56</td>
<td>4.7</td>
</tr>
<tr>
<td>T4AVU$1</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>T4AVU$2</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>T7AVU$2</td>
<td>33</td>
<td>2.8</td>
</tr>
<tr>
<td>T4AVU$3</td>
<td>2</td>
<td>.2</td>
</tr>
<tr>
<td>T7AVU$3</td>
<td>3</td>
<td>.3</td>
</tr>
<tr>
<td>T4AVU$4</td>
<td>1</td>
<td>.1</td>
</tr>
<tr>
<td>T7AVU$4</td>
<td>20</td>
<td>2.3</td>
</tr>
</tbody>
</table>