1-1-1973

The program conceptualization process: a set of procedures for conceptualizing a teacher training program.

Alan Rogers Blackmer

University of Massachusetts Amherst

Follow this and additional works at: http://scholarworks.umass.edu/dissertations_1

Recommended Citation
http://scholarworks.umass.edu/dissertations_1/2649

This Open Access Dissertation is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in Doctoral Dissertations 1896 - February 2014 by an authorized administrator of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.
THE PROGRAM CONCEPTUALIZATION PROCESS:
A SET OF PROCEDURES FOR CONCEPTUALIZING
A TEACHER TRAINING PROGRAM

A Dissertation Presented
By
ALAN ROGERS BLACKMER, JR.

Submitted to the Graduate School of the
University of Massachusetts in partial
fulfillment of the requirements for the degree of
DOCTOR OF EDUCATION

June 1973

Major Subject: Teacher Education
THE PROGRAM CONCEPTUALIZATION PROCESS:
A SET OF PROCEDURES FOR CONCEPTUALIZING
A TEACHER TRAINING PROGRAM

A Dissertation

by

Alan R. Blackmer, Jr.

Approved as to style and content by:

Dr. David S. Flight, Chairman

Dr. Dwight W. Allen, Dean

Dr. Horace Reed, Member

Dr. William P. Gorth, Member

August, 1973
ACKNOWLEDGMENTS

A wise friend, a mathematician, once told me that two and two always make five in every field outside of math. He said that the sum is always greater than the parts. In various ways I have learned that he is right. Particularly in a paper such as this.

So many parts make a project such as this possible: the support, the encouragement, the bits of information, a willingness to talk and work together, and the occasional "Dammit, you've just got to sit there and do it!" I would especially like to thank my Committee members. David Flight gave much of his time, advice, and consistent encouragement in an enterprise we both believed in. Bill Gorth has been invaluable in the original conception of this project and in helping me with the more technical aspects.

No married dissertation writer can possibly hope to succeed without patient understanding from his wife. Iris lived with a strange schedule for months while she taught second graders and made the time possible for this project. Her consistent support kept me going at several crucial points and our joint babysitting arrangements for our six-month baby, Alexis, freed both of us to concentrate on our jobs. Her understanding and encouragement is as much a part of this paper as are any written words.
The Program Conceptualization Process: A Set of Procedures for Conceptualizing a Teacher Training Program (June 1973)

Alan R. Blackmer, Jr., B.A., Harvard College
M.A.T., Harvard Graduate School of Education
Directed by: Dr. David S. Flight

The dissertation presents a methodology which could be used to help develop a teacher training program. The methodology consists of a detailed set of procedures to help planners of teacher training programs conceptualize their programs logically, sequentially, and in considerable detail. A systems point of view guides the conceptualization of the program through a sequence of specifying the program's purpose, detailing program needs, and analyzing each separate program need in detail. The procedures do not include any attempt to operationalize the results of the thinking.

The review of the literature is presented in the two contexts of teacher training and systems theory. Several specific applications of a systems approach to teacher education are described. The procedures of the program conceptualization process are detailed at length and described in a skeletal version (in the Appendix) as a "Handbook of Procedures." The Appendix also includes conceptualizations of two teacher training programs produced during the field work of the study.
The field work of this study consisted of developing and applying the procedures of the program conceptualization process to two teacher training programs. Since the procedures had not been developed prior to the field work, the application and development of the methodology occurred simultaneously. The procedures in their present state of development constitute the major focus and contribution of the study. The experience of applying the procedures to the two programs and the many resulting benefits of the conceptualizations are also reported as substantive data.

Although the study does not include testing of the effectiveness of the procedures, indications are presented that a formal set of procedures is helpful to program developers who are trying to conceptualize their teacher training programs. Prior to the study no formal set of procedures existed. Group cohesiveness benefits are particularly significant as program planners enjoy the opportunity to think and react within a guided context. Behavioral objectives are developed as part of the procedures, yet no attempt is made to apply them to all aspects of program development.

A key to the program conceptualization process is the methodology's success at dividing a complex teacher training program into a series of discrete elements which can be explored individually. Throughout the process, all thinking is done from the point of view of overall program functions and
educational principles rather than from the point of view of preconceived program divisions. Summary documentation of the conceptualizations in chart form is an important product of the work.

With a methodology such as the one developed in this study, persons responsible for planning teacher training programs may be able to conceptualize their programs in more detail and with a greater degree of integration of program components than previously. Staff responsibilities can be clearly seen in relation to each other. Staff and student expectations can be detailed explicitly, and, where appropriate, stated behaviorally. Universities and schools sponsoring teacher training programs should have a clearer understanding of program objectives.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGMENTS</td>
<td>iv</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>v</td>
</tr>
<tr>
<td>LIST OF FIGURES</td>
<td>xii</td>
</tr>
<tr>
<td><strong>Chapter</strong></td>
<td></td>
</tr>
<tr>
<td><strong>I.</strong> INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Statement of the Problem</td>
<td>1</td>
</tr>
<tr>
<td>Purpose of the Study</td>
<td>3</td>
</tr>
<tr>
<td>Background and Methodological Framework of the Study</td>
<td>6</td>
</tr>
<tr>
<td>The Program Conceptualization Process and Systems Theory</td>
<td>10</td>
</tr>
<tr>
<td>Initial Development of the Procedures in the Amherst Elementary Program</td>
<td>11</td>
</tr>
<tr>
<td>Field Application: Further Development of the Procedures with the International Education and the Alternative Learning Environments Programs</td>
<td>12</td>
</tr>
<tr>
<td>Chronology of the Study</td>
<td>14</td>
</tr>
<tr>
<td>Organization of the Dissertation</td>
<td>15</td>
</tr>
<tr>
<td><strong>II.</strong> THE CONTEXTS OF TEACHER EDUCATION AND SYSTEMS ANALYSIS</td>
<td>19</td>
</tr>
<tr>
<td>I. Current Research in Teacher Education</td>
<td>19</td>
</tr>
<tr>
<td>II. Current Models of Instruction and Learning</td>
<td>26</td>
</tr>
<tr>
<td>III. The Theory of a Systems Approach and Some Resistances to It</td>
<td>29</td>
</tr>
<tr>
<td>IV. Current Systems Applications to Teacher Education</td>
<td>36</td>
</tr>
<tr>
<td>V. The Techniques of Instructional Development</td>
<td>45</td>
</tr>
<tr>
<td>VI. Preparing Educational Developers for Working Within a Systems Approach</td>
<td>47</td>
</tr>
<tr>
<td>VII. The Program Conceptualization Process in Relation to a Systems Approach to Program Development</td>
<td>51</td>
</tr>
<tr>
<td>VIII. Summary</td>
<td>54</td>
</tr>
</tbody>
</table>

viii
III. THE PROCEDURES OF THE PROGRAM CONCEPTUALIZATION PROCESS

STEP ONE: The facilitator identifies the type of program to work with and the reward basis for the work.

STEP TWO: The facilitator introduces program developers to the program conceptualization process.

STEP THREE: The facilitator organizes the group and the task of conceptualizing their teacher training program.

STEP FOUR: The facilitator leads the group in writing a temporary purpose for the teacher training program.

STEP FIVE: The facilitator leads the group in performing a needs analysis of the temporary purpose.

STEP SIX: The facilitator leads the group in rewriting the temporary purpose into a working purpose.

STEP SEVEN: The facilitator leads the group in prioritizing the discrete categories of needs.

STEP EIGHT: The facilitator leads the group in performing the first task analysis of an individual program need.

Future Work

IV. DEVELOPMENT AND APPLICATION OF THE PROCEDURES

Part I. Initial practice with the methodology through partial conceptualization of the Amherst Elementary Program.
### Part II. Development of the procedures through applying them to the Alternative Learning Environments Program and to the International Education Program

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. An outline of the procedures</td>
<td>133</td>
</tr>
<tr>
<td>B. Identifying the programs for conceptualization; Step One</td>
<td>134</td>
</tr>
<tr>
<td>C. Developing and applying the introductory and organizational steps of the procedures; Steps Two and Three</td>
<td>137</td>
</tr>
<tr>
<td>The Relationship of the Facilitator and the Program Developers</td>
<td>138</td>
</tr>
<tr>
<td>Benefits of the Program Conceptualization Process</td>
<td>141</td>
</tr>
<tr>
<td>The Types of Thinking and Questioning Involved</td>
<td>144</td>
</tr>
<tr>
<td>The Role of the Facilitator</td>
<td>148</td>
</tr>
<tr>
<td>Scheduled Feedback and Review Periods</td>
<td>149</td>
</tr>
<tr>
<td>The Facilitator as Supporter</td>
<td>151</td>
</tr>
<tr>
<td>Support Through Non-verbal Contact</td>
<td>152</td>
</tr>
<tr>
<td>The Impact of Absences</td>
<td>153</td>
</tr>
<tr>
<td>D. Developing and applying the working units of the procedures; Steps Four, Five, Six, Seven, and Eight</td>
<td>156</td>
</tr>
<tr>
<td>Writing the Temporary Purpose</td>
<td>156</td>
</tr>
<tr>
<td>The Importance of Labels</td>
<td>157</td>
</tr>
<tr>
<td>The Labels and the Needs Analysis</td>
<td>158</td>
</tr>
<tr>
<td>The Task Analysis</td>
<td>159</td>
</tr>
<tr>
<td>Behavioral Objectives</td>
<td>160</td>
</tr>
<tr>
<td>False Starts</td>
<td>162</td>
</tr>
<tr>
<td>Remedies for Problems</td>
<td>163</td>
</tr>
<tr>
<td>Summary</td>
<td>165</td>
</tr>
</tbody>
</table>

### Chapter V. CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH AND PRACTICE

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. Review of the Purposes of This Study</td>
<td>167</td>
</tr>
<tr>
<td>II. Conclusions of the Program Conceptualization Process</td>
<td>172</td>
</tr>
<tr>
<td>III. Implications for Further Research and Practice</td>
<td>179</td>
</tr>
</tbody>
</table>
APPENDIX A. A HANDBOOK OF PROCEDURES FOR THE CONCEPTUALIZATION OF A TEACHER TRAINING PROGRAM . . . . . . . . . . . . . . . . . 164

APPENDIX B. A FIRST-RUN CONCEPTUALIZATION OF THE ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM . . . . . . . . . . . . . . . . . . . . . 207

APPENDIX C. A FIRST-RUN CONCEPTUALIZATION OF THE INTERNATIONAL EDUCATION PROGRAM . . . . . 220

BIBLIOGRAPHY AND REFERENCES . . . . . . . . . . . . . . . . . . . . . 235
LIST OF FIGURES

Figure

1. ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM (Task Analysis and Low Level Behavioral Objective - I. Learning Experiences and Their Application ............. 125
CHAPTER I
INTRODUCTION

Building a complex enterprise such as a teacher training program requires careful attention to a variety of problems. The instructional events of the program need to be specified and arranged. Sites for practice teaching experience need to be examined. Students must be recruited. The sequence and relationship of program courses should be clarified. Program objectives and goals need to be examined in the light of available resources. Supervisory staff should be trained to work effectively within the program to meet these goals. Finding solutions to these problems demands a logical and consistent approach to link components into a "program" rather than a discrete series of instructional events, people, and locations.

Statement of the Problem

Despite such complications, and frequently in response to them, an initial flash of enthusiasm and inspired dialogue accompanies the birth of every teacher training program. Following this early excitement the work of addressing the above problems settles into two broad areas: (1) thinking out, or "conceptualizing," the program to the fullest possible extent, i.e., specifying the purpose, instructional
objectives, and the relationships and sequences of the program components; and (2) implementing this conceptual design by arranging instructional and logistical events. The specific area addressed in this study is that of conceptualizing a teacher training program. The study does not concern itself with the second area of implementing the conceptualization.

A "conceptualization" in the sense used in this study follows current dictionary definitions: the result of the "power, function, or process of forming ideas." Implied is the understanding that the conceptualization is the product deriving from an attempt to wrestle with ideas to place them within a framework. As represented by three separate conceptualizations in the Appendix, a "conceptualization" in this study is therefore a document describing the results of applying a carefully developed set of procedures to the problem of thinking out the design of a teacher training program.

The specific problem of the study, then, is twofold. On the one hand the study attempts to cope rigorously and systematically with the entire task of thinking out the design of a teacher training program. On the other hand, in order to attack this conceptual problem intelligently a methodology or set of procedures to guide thinking systematically needed to be created. Available research at the time indicated that such a methodology and set of procedures did not exist. Thus the complete title, "The Program Conceptualization Process: A Set of Procedures . . ." is intended to imply the development,
application, and product of rigorous, conceptual thinking in a teacher education context.

**Purpose of the Study**

In light of the above statement, the central purpose of this study is to create a set of procedures which can be systematically followed by persons responsible for conceptualizing a teacher training program. In the study such persons are referred to as "program developers." These procedures are a step-by-step list of the activities program developers may follow to create a conceptualization of their teacher training program. Divided into major steps and sub-steps of lesser importance, these procedures may be used by program developers themselves or these developers may be guided through the sequence by a facilitator. The working definition of a "facilitator" in this study is a person who guides program developers through the procedures of the program conceptualization process in order to make the task of conceptualizing their teacher training program less difficult. He enhances or enriches the conceptualization. Throughout this study the author acted as the facilitator.

Why is such a set of procedures useful? So often developers of teacher training programs, as with any complex instructional training program, lack a precise framework—or methodological procedures—within which to operate logically and sequentially. In the author's experience,
developers find it difficult to relate the parts of their teacher training program to the whole enterprise and to relate discrete content or actions in their design to a common purpose. Equally difficult is the task of clarifying the relationship between program goals and means of implementing those goals. Conceptualizing the goals, content, expectations, and resources of a teacher training program and visualizing precisely how to relate these components to each other is demanding work. Thus a set of procedures for accomplishing this task is useful to provide a series of sequential steps.

A second purpose of the study is to explore the development of theory out of practice by showing how the procedures actually grew out of the application of systematic thinking to three teacher training programs. At the start of this study only the broadest general framework and a notion of how to proceed existed. The individual steps and sub-steps of the program conceptualization process took shape during the study as the facilitator and program developers worked together in applying highly rigorous thinking to the design of the programs. Such precise, interrelated thinking has seldom been systematically applied to teacher training programs and subsequently reported in the literature. Indeed, precise conceptual thinking is a current weakness of many teacher training activities. By creating the procedures, by expanding on their implications, and by exploring their development, the study should offer a useful methodological framework to
program developers interested in rigorously designing their teacher training programs.

A third significant purpose of this study is to apply a systems analysis approach to the design of teacher training programs. Systems analysis is a useful theoretical framework for developing sequential procedures and for considering program components in relation to each other. In recent years systems approaches have been applied with increasing frequency to teacher education. In its broadest outlines a systems approach helps specify the purpose of an enterprise, alternative means of accomplishing the purpose through precise objectives measured in performance terms, and standards by which planners judge the degree to which the objectives and purpose have been accomplished. A systems approach clarifies the relationships existing among elements of an enterprise and between elements and the purpose. While specifying relationships, a systems approach also provides continuous feedback to alter the ways in which portions of an enterprise such as a teacher training program relate to each other. The attempt to create and apply the procedures of the program conceptualization process within a systems point of view has been a major thrust of the study. (See Banathy and Churchman references.)
During the last ten years the systems approach and point of view has been increasingly applied to education. Acceptance has emerged from a growing understanding of the systems approach and from an awareness of its recent value in business and industry. Systems applications to industrial products are now common, as is increasing emphasis on management techniques such as Management By Objectives and the Program Evaluation and Review Technique. Educational technologists and curriculum planners have also adapted systems approaches to developing materials and curriculum sequences which are judged in terms of their effectiveness in producing measurable student improvement. The Northwest Regional Educational Laboratory is active in this area. Furthermore, recent interest in specifying performance objectives and in competency or performance-based teacher education have added credibility and understanding to the general point of view implied.

Teacher training has become such a complex operation that the design of a program must now be viewed as the inter-relationship of its parts in terms of a definite purpose and of the fairly precise measurement of teacher performance and student gain. Paritla systems have been created to codify teacher-student interactions (Interaction Analysis) and to separate the techniques of teaching into identifiable and
teachable skills (Micro-teaching). Interest is growing in individualizing programs through a systems approach as much as possible so that a student teacher can proceed at his own pace by demonstrating his achievement of specified, measurable teaching competencies. Indeed, teacher certification in some states may soon be linked to a candidate's ability to master specified "teaching competencies" rather than by his ability to complete a generalized training program.

Interest in this specific study grew from the author's work with the Amherst Elementary Program during 1972 and 1973. A teacher training program of approximately one hundred and fifty students preparing for careers in elementary education, the Amherst Elementary Program in its first semester of operation during the fall semester of 1973 was essentially undeveloped as a coherent or conceptualized program. An initial division into phases had been made during the previous spring, but this division was made before program goals and purposes had been clearly specified. Consequently, the staff did not have a clear idea of program expectations within phases or of desired relationships of phases to each other or to the program as a whole. This general lack of program development demanded rigorous conceptualizing by the program staff. Thus the situation provided the staff with a context in which the procedures of the program conceptualization process could be developed. As coordinator of this program, the author's role in the conceptualization process was critical.
One of the curriculum offerings originally planned for Amherst Elementary Program students was practice with curriculum and lesson planning from a systems point of view through learning an Instructional Systems Development approach to curriculum planning. Staff members felt that in addition to their intention of teaching an Instructional Systems Development approach to their students, they could adapt the framework provided by Instructional Systems Development methodology to aid them in conceptualizing their program more coherently. Originally, Instructional Systems Development was created to help curriculum planners conceptualize a unit of study at any level of sophistication. The methodology would be appropriate to curriculum coordinators, superintendents in charge of curriculum, publishing houses, and teachers. (See Allan, R. G., 1972.)

The methodology consists of seven broad steps, the first four of which provide a foundation for the highly detailed, step-by-step procedures of the program conceptualization process. These initial four steps provide a sequential framework for specifying the purpose and content of a curriculum unit. Through systematic analysis these steps lead to behavioral objectives and criterion-referenced test items. The focus of this study is on the initial four methodological steps (excluding step 4A), which constitute the conceptualizing process and provide a base for the remaining three implementation steps. Each step requires constant feedback and
attention to resulting internal change, which is characteristic of the systems approach.

1. The first step calls for specifying the overall purpose of the program. As used in this study, the one-sentence "purpose" presents one or more broad reasons for operating the teacher training program and broadly defines both its constituents and activities.

2. The second step is to perform a needs analysis to determine what needs exist (from learners, organizers, institutions, etc.) for that purpose to be fulfilled. The "needs analysis" separates a complex enterprise such as a teacher training program into manageable, discrete components (or "needs"). These are broad level divisions into fairly general, although recognizably distinct categories.

3. The third step is to task analyze the needs to determine what the program or the people in the program must "know," "do," or "be like" to satisfy the needs. The "task analysis" of each need provides a series of "breakdowns," each of which identifies the elements of the need being analyzed with increasing specificity. Eventually these breakdowns actually delineate certain program "tasks" which must be accomplished to fulfill the particular need being analyzed.

4. Once the purpose, the needs, and the elements of the needs are clearer, the fourth step is to write the elements of behavioral objectives. These may be written with increasing specificity to any level the conceptualizer wishes to deal with. In this study behavioral objectives are not formally written as highly prescriptive activities which can be precisely measured in performance terms. Rather, they are broadly cast to serve the purpose of requiring further thought about where and how students will demonstrate certain behaviors and what standards will judge the performance of program personnel. The traditional elements of behavioral objectives, the conditions, behavior, and standards, are included.

4A. These objectives should be supported by criterion-referenced test items which will provide a means to determine whether the objectives are being met.
Such test items measure a student's performance in terms of precise objectives rather than in relation to the abilities of other students.

The remaining three steps are designed to put into effect the specific objectives and provide feedback and assessment of the conceptualizing process. This study does not focus on these steps as the author does not include them as part of the conceptualization process.

5. The fifth step in the methodology is to determine which characteristics (attitudes, capacities, energies) exist among the learners in the program and specify the relationship of those characteristics to program goals and objectives.

6. The sixth step is to specify the learning environment(s) the program should have, the specific instructional materials to accompany that learning environment, and alternative methods of using environments and materials to accomplish program goals.

7. The final step concerns validation and evaluation, a process of determining whether the objectives are satisfying the changing needs of the program, whether the environment and materials are suited to the learners, etc.

**The Program Conceptualization Process and Systems Theory**

Since the program conceptualization process developed from Instructional Systems Development methodology focuses on the conceptualization rather than the operation of a teacher training program, it is not in itself an example of a total system applied to teacher education. A total system would be based on a logical merger of a conceptual segment and an operational segment, the implementation would be
specified, and materials and feedback would be built into the system. Rather, the program conceptualization process exemplifies a systems point of view applied to the conceptual design of a teacher training program by providing a purpose, performance objectives, a consideration of alternative strategies, and an orderly framework for thinking out the relationship of program components to each other and to the purpose.

Briefly stated, the program conceptualization process is a logical, self-adjusting set of procedures for conceptualizing, or designing, the instructional foci and events in a teacher training program. Based on the broad steps previously identified in Instructional Systems Development methodology, these procedures constitute an orderly, logical approach and are thus characteristic of a systems approach. Other systems characteristics are their attempt to define the limits of the environment, to include input from all available points of view, to develop instructional events pre-selected to satisfy needs addressing a specific purpose, to show the relationship of program elements to each other, and to analyze the needs to create a precise conceptual network prior to implementation.

Initial Development of the Procedures in the Amherst Elementary Program

As explained above, the staff of the Amherst Elementary Program performed a series of conceptualizations on phases
of their program. Procedures at that point were unspecified beyond the broad categories of purpose, needs, and task analyses derived from the Instructional Systems Development methodology described above. Consequently, the conceptualizations suffered from a lack of clear procedural development. Furthermore, rather than being considered from the overall program point of view essential to an accurate, comprehensive conceptualization, these phase conceptualizations were limited by forcing the staff to deal with pre-conceived, perhaps arbitrary program divisions. Nevertheless, these early conceptualizations provided the framework for later creating a program conceptualization process through field work with two additional teacher training programs.

Field Application: Further Development of the Procedures with the International Education and the Alternative Learning Environments Programs

The first field application of the emerging procedures was to the current Teacher Preparation Programs Council program in International Education for University of Massachusetts college undergraduates. These students undergo unusually varied experiences as their initial training occurs at the School of Education and their classroom experience and internship takes place both in this country and abroad. Staff members of this program were unclear about their goals and priorities and viewed the conceptualization
process as an opportunity to clarify their directions as well as possibly the courses they offered.

The second field application of the procedures was to the Alternative Learning Environments program, offered for the first time in 1973-1974 to University of Massachusetts undergraduates as a teacher training program operated in the Boston area by three faculty members at Simmons College. The program was only partially thought out at the time of the study and, of course, had no prior experience to guide or inhibit development. Since staff members were experiencing difficulty in moulding their ideas into a teacher training framework, they viewed the program conceptualization process as a means of finding direction, coherence, and relationships among their ideas. Furthermore, staff members were interested in learning the process as a technique of thinking.

By applying the roughly developed procedures of the program conceptualization process to these two teacher training programs, this study has several purposes. One is to further develop and refine the procedures to the point of being able to present them in Handbook form. Starting from the initial framework developed through conceptualizing the Amherst Elementary Program phases, the application to two field programs may indicate that certain steps should be dropped, combined, or added to create a thorough sequence of procedures.
A second purpose is to help staff members rigorously conceptualize their two programs and create written documents showing the results of the conceptualizations (See Appendices "B" and "C"). This study is fully intended to provide practical benefits to the three programs involved as well as to add the program conceptualization process to research literature in teacher education.

A third significant purpose of the field application was to assess the degree to which the procedures originally developed for Instructional Systems Development curriculum methodology appear to be useful in conceptualizing teacher training programs, especially a variety of programs in different contexts. The two field programs vary considerably in their basic approaches to learning, they are sponsored by different universities, the training locations are separate, and the program developers working with the facilitator differed in number and sex. In short, do such differences influence the operation of the program conceptualization process or is the methodology sufficiently flexible to generalize to different teacher training contexts?

Chronology of the Study

The initial conceptualizing work with the Amherst Elementary Program occurred throughout the fall semester, 1972, at the University of Massachusetts. The field conceptualizing work with the International Education and the Alternative
Learning Environments programs occurred between January 16 and February 17, 1973, at the University of Massachusetts and Simmons College in Boston. In each case the field work involved seven meetings of the facilitator (the author of this study) and program developers, each of which averaged about three hours in length. The facilitator took extensive notes throughout these sessions, especially during regular feedback periods at each working session which were designed to collect and assess data for this study as well as to improve the group's working relationships. Most of these sessions were tape-recorded. The facilitator's notes and recorded comments from the working sessions regarding the development and application of the procedures constitute the substantive data of the study. The writer has organized these data into an orderly set of procedures which are the focus of this study. Appropriate tape-recorded comments by program developers are included as supporting data in Chapter IV.

**Organization of the Dissertation**

Chapter II examines the dual contexts of teacher education and systems analysis which jointly provide the background and framework for this study. Current research in teacher training, current models of instruction and learning, and the theory of a systems approach are briefly considered. The chapter attempts to document the growing influence of systems
thinking in teacher education and describe specific examples of current systems applications to teacher education and instructional development. The chapter also considers the necessary preparation of educational developers who wish to work within a systems approach. The final section of Chapter II discusses the program conceptualization process itself in relation to a systems approach to program development.

A formal description and explication of the procedures of the program conceptualization process is presented in Chapter III. The procedures are described in the improved state of development reached after work with the three teacher training programs involved in this study. Examined in the specific order in which they are intended to be applied, these procedures as described in this chapter constitute this study's major contribution. Chapter III includes suggestions about using the procedures as well as a detailed analysis of their implications, benefits, and potential problems.

Chapter IV examines the actual development of the procedures of the program conceptualization process as they were applied by the facilitator to the International Education and the Alternative Learning Environments teacher training programs. Since the development and application of the procedures occurred simultaneously, this chapter attempts to highlight some of the more significant processes, relationships, and work produced by the facilitator and program
developers. Certain essential characteristics of performing the program conceptualization process, such as the role of the facilitator and the types of thinking and questioning necessary to the procedures, are examined. The focus of this chapter is on these characteristics rather than on the operation or sequence of individual procedural steps. The intention of Chapter IV is not to re-examine all steps from a developmental point of view, but rather to explore the nuances of applying procedures such as these to an unfamiliar program while at the same time examining the gradual growth of theory out of practice.

Chapter V presents conclusions and recommendations derived from the study. The chapter attempts to answer some of the questions and assumptions raised in this introductory chapter. To what extent are the procedures of the program conceptualization process operational or in need of further alteration? To what extent are the procedures helpful as a methodology for conceptualizing a teacher training program? Can the procedures be taught to program personnel who will continue the process? The chapter also suggests areas for further research regarding the implementation and use of the procedures.

The Appendix contains a "Handbook of Procedures" which is intended to be a skeletal framework of the procedures of the program conceptualization process. The Handbook could be extracted and used separately from the study as a practical
guide to performing this process. Indeed, an objective of the study is to produce and encourage the use of this Handbook. The Appendix also contains examples of two program conceptualizations: (1) the first-run conceptualization of the International Education program; and (2) the first-run conceptualization of the Alternative Learning Environments program. These two conceptualizations are examples of the products resulting from applying the procedures and are intended to be a further guide to a facilitator performing the process on a teacher training program.
CHAPTER II
THE CONTEXTS OF TEACHER EDUCATION
AND SYSTEMS ANALYSIS

Chapter II examines the dual contexts of teacher education and systems analysis which together provide the background and framework for this study. Sections I, II, and III consider current research in teacher training, some current models of instruction and learning, and the theory of a systems approach respectively. Section IV documents the growing influence of systems thinking in teacher education and describes several specific examples of recent systems applications to teacher education and instructional development. Section V touches on recent techniques in instructional development, while Section VI considers the necessary preparation of educational developers who wish to work within a systems approach. The final section of Chapter II discusses the program conceptualization process itself in relation to a systems approach to program development.

I. Current Research in Teacher Education

Most present research in teaching naturally explores the teaching process itself, i.e., techniques used by teachers in classrooms to instruct children. Historically, research on the process of training teachers seems to have been
concentrated in relatively few institutions. Although many individual studies have been done over the past forty to fifty years in the great teacher education institutions (perhaps as many as 3,000), these tend to be isolated and difficult to place within an organized, systematic body of research. More recently, between 1963 and 1966, a small number of institutions has benefited from substantial federal grants focusing techniques and brainpower on teacher education. Research efforts since the late Sixties have again diminished somewhat as federal grants have evaporated.

Although The First Handbook of Research on Teaching, published in 1963 (Gage, ed., 1963), does not include a separate chapter on research in teacher education, many reports of studies of teacher effectiveness are scattered throughout the volume. By 1973, however, The Second Handbook of Research on Teaching (Travers, ed., 1973) has separate and substantial chapters on research in both teacher education and teacher competence or effectiveness. During and partially as a result of the teacher shortage during the early and middle Sixties, these fields clearly emerged as distinctive, even vital areas for research in teaching. The Second Handbook identifies the following seven "conceptual themes" of current research.

1. The largest block of current and recent research in teacher education concerns "systems approaches" to curriculum planning, teaching, and teacher training. Taken
together, such work is frequently referred to as "instructional design" or "instructional systems development."
Flanders Interaction Analysis, Micro-teaching, Performance-Based Teacher Education, the technology of educational product development are examples of systems applications in this rapidly growing field. The remaining sections of this chapter will expand the systems application theme and relate the program conceptualization process to this approach.

2. The second conceptual theme identified by the Second Handbook concerns research in more effective education. The thrust of the studies is that sound teacher education does, indeed, make a difference and that teaching skills, when identified, can be taught effectively. Unguided experience is likely to be dangerous since teachers, like everybody else in the world, will teach as they were taught themselves. Effective training, however, especially fostered by good supervisors and cooperating teachers, greatly improves performance and growth of prospective teachers.

3. A third area of current research concerns the effects of involving prospective teachers in the teaching process early and directly. The thrust of the studies reviewed indicates that student teachers should be placed immediately in actual teaching-learning situations, such as in a pre-practicum, rather than being lectured about the theory of teaching before their practice. Simulations and films projected life-size are also helpful in promoting behavioral
changes, which is the point of training. Some studies explore the generally beneficial effect of sensitivity training, human relations workshops, modeling, and other specific aspects of affective interaction.

4. A fourth theme of current research in teacher education identifies the importance of promoting self-directed, self-initiated learning in prospective teachers in order to develop that type of learning in children later taught by those teachers. A version of "practice what you preach." The ultimate purpose of such instruction is to encourage an inquiring and independent style of learning in pupils if that value is one held by the teacher training program. The specific skills of Interaction Analysis and Micro-teaching, for example, demand in prospective teachers self-starting learning which is self-correcting through feedback. Transmitted to pupils through their practice teachers, such self-initiating ideals are a common focus of the "teaching laboratories" recently developed in many universities as well as the primary objective of many Teacher Preparation Program Council programs at the University of Massachusetts.

5. Another theme of current research has to do with the desired and undesired effects of traditional methods of training teachers. As expected, a large number of studies stress the importance of student teaching—even with no early classroom involvement—as the most practical part of teacher training in the eyes of prospective teachers and their
professors. Poorly defined student teaching, however, may be a dangerous, discouraging experience. Many studies reviewed by the Second Handbook show that by the end of traditional student teaching, which commonly involves no pre-practicum, prospective teachers almost universally suffer a decline in attitude and teaching behavior along the dimensions of motivation of pupils, control, discipline, interest and ability in questioning, etc. Studies also note that the general frustration of poor student teaching experiences repeatedly forces interns into forsaking a "humanistic" approach for a "custodial" one relying on order and control.

6. A sixth area of current work in teacher education involves the "triple-T" approach, the training of teachers of teachers. Curiously, absolutely no current research is available in this area, although the U.S. Office of Education has sponsored many recent projects, among them ones at Harvard, Stanford, and the Texas Research and Development Center. Although these programs are very new and difficult to organize, the present research void is not expected to continue.

7. The final theme of current research identified by the Second Handbook concerns studies of pupil gain as a criterion of teacher training effectiveness. The complexity, time, and expense of longitudinal studies had prevented researchers from assessing the long-term relationship of teacher training methods to the effects of that training as measured
through student change. Until federal money became available in the Sixties, and until performance accountability became accepted, relatively few studies were made of the consequences of teaching behavior in terms of pupil gains; teacher training operated, and still operates, on a lot of assumptions. Along with increased interest in behavioral objectives and a systems approach, the research now indicates an accelerating trend toward directly relating teacher education to specific performance consequences in cognitive, affective, and behavioral learning.

These seven areas, briefly stated, appear to be the identifiable and converging lines of present research work in teacher education. As the Second Handbook points out, however, these research areas amount to only about ten percent of the total teacher education factors which need to be considered! Generalizing from the research, it seems clear that the various operational skills of teachers will soon become better defined and measured than ever before, leading to the hope that a much more effective job can be done of developing training specifically for those skills. Judging from both the quality and systematic thrust of teacher education, a real change toward precision, measurement, and performance does seem to be occurring in teacher education.

As a further comment on research in teacher education, N. L. Gage in his recent book, Teacher Effectiveness and Teacher Education (Gage, 1972), offers a series of interesting
comparisons to help answer the question he poses in his initial chapter: "Can science contribute to the art of teaching?" He feels the answer is strongly positive, that "the search for a scientific basis for teacher education and the improvement of teacher effectiveness is reaching solid ground" (p. 205) for several reasons paraphrased in the following comparisons (pp. 205 and 206):

1. Whereas early research consisted of broad and hopeful predictions based on a few test scores, recent research "studies the effectiveness of specific skills on the basis of intensive and validated training procedures."

2. Whereas global ratings typified early research, recent researchers are demanding more reliable counts of specific behaviors.

3. Whereas early research featured generalized "overall comparisons" of complex, "vaguely defined" teaching methods, recent research stressed smaller, more thoroughly controlled "sequences of instructional acts." "Sharp evaluation is being called for regarding specific and reliable measured effects on students."

4. Early research tended to be somewhat awkward since independent and dependent variables could not easily be transposed from situation to situation. Recent research uses packages and products which are similar, perhaps even identical, thus promoting consistency in measurement.

5. Finally, whereas early research made relatively little attempt to differentiate among teaching roles, types of students, or varieties of educational objectives, recent research offers more modest work recognizing the need for greater specificity in these respects.

In short, Gage feels, as do many current writers, that research in teacher education has advanced greatly during the
past fifty years and that the more systematic approaches being stressed currently are bringing new precision and insight to the research.

II. Current Models of Instruction and Learning

Through the research run two threads which concern this study. One is the nature of teaching-learning, the assumptions about how prospective teachers (or anyone) actually learns and who decides what they need to know. The other thread, which is central to the procedures of the program conceptualization process, concerns the organization and delivery of information and/or learning experiences. Teacher education involves a tremendously complex set of operations, each of which consists of many discrete, complicated steps. Most of the steps and procedures still need to be identified in the research before the measurement process can even begin. The procedures developed in this study are an attempt to isolate a portion of this complexity and deal with it from a systems perspective based on certain behavioral principles of learning-teaching.

By way of linking learning assumptions with the organization of information, we need to understand a fundamental difference between instruction and learning. "Instruction" concerns the procedures of delivering information and techniques to learners. It describes the manner in which these factors are conceived, organized, and presented. Thus the
term "instructional system" implies a coordinated assessment of procedures necessary to develop and present instruction. Learning, on the other hand, concerns the process by which a student, or learner, absorbs or accepts information, skills, and techniques. He may, for instance, hear or see something presented to him and absorb the experience; or he may, by discovering things for himself, thereby learn them. The crux of the difference lies in the distinction between the instructor-oriented delivery focus of instruction and the student-oriented absorption focus of learning. (See Travers, 1973, Chapt. 8.)

The program conceptualization process is a method of planning and organizing instruction since it identifies procedures program developers can use to determine their purpose, specifies broad needs to fulfill that purpose, and analyzes more specific tasks identifying dimensions of those program needs. Because the process does not include a way to deliver the instruction, it is a subsystem rather than a complete system. Furthermore, for prospective teachers it is not designed as a process for learning. The program conceptualization process is a learning experience only to the extent that those program developers who perform it may benefit by absorbing the techniques of thinking and conceptualizing involved.

The program conceptualization process, as does a systems approach, necessarily assumes a behavioralist approach
to teaching and instruction. Fundamentally, this approach considers instruction as a management procedure which arranges conditions and experiences to enhance learning. Vague and unmeasurable instructional goals such as "understanding," "awareness," and "appreciation" are replaced by an interrelated network of goals specified behaviorally in terms of what the learner is to do. Thus the problem of presenting instruction or of conceptualizing a teacher training program is seen as a design problem. Once the goal of the learning experience is stated, a series of steps occurs: student needs are matched with the entering capabilities of those students; the instructional context must be specified; and the result of instruction should be examined in light of the stated goal. The process is, to the pure behavioralist, rather precise and hopefully infallible. (See Travers, 1973, Chapt. 8.)

The distinction between instruction and learning, however, allows us to use a behavioralist approach where it is most appropriate, that is in planning instruction, and at the same time conceptualize in our planning a style of learning which may be a combination of learning models. The behavioralist approach is best for some learning, whereas the discovery-learning approach is best for other learning. In many subject areas student exploration and problem solving may be the best methods of learning general principles; indeed, for this reason colleges press students into early
field experiences. On the other hand, a behavioralist approach to learning, as exemplified by its extreme form of programmed texts, may be the best method for rote memorization. For program planning a highly specified, interrelated behavioralist approach is most efficient to link the instructional design to measurement of the characteristics and capabilities of the learner and to feedback in terms of the attainment of measurable goals. The design should, however, promote those models of student learning which best fulfill the needs and purpose of the program; the approaches to learning should vary according to their efficiency in fulfilling program functions.

III. The Theory of a Systems Approach and Some Resistances to It

Current research in teacher education and the behavioralist underpinning of the systems approach to instructional planning provide a background for an overview of the systems framework itself. A systems framework should answer a series of questions fundamental to the planning of any enterprise, including a teacher training program. Is there a clearly stated purpose? Is the enterprise analyzed from the point of view of functions or principles rather than pre-determined components? Is the implementation specified? Is there a clear conceptual relationship between the principles and the means of implementing them? Do performance measures exist?
Systems thinking is an approach which deliberately provides answers to such questions. Definitions are manifold, some simple, some complex. For Churchman, "systems are made up of sets of components that work together for the overall objective of the whole" (Churchman, 1968, p. 11). Each component is interrelated and justified in terms of the overall objective. Banathy identifies a series of systems elements most commonly mentioned:

Briefly, the systems approach is common sense by design. A self-correcting and logical method of decision-making to be used for the design and development of man-made entities. Component strategies of this methodology include the formulation of performance objectives, the analysis of functions and components, the distribution of functions among components, then scheduling, the training and testing of the system, installation, and quality control. (Banathy, 1968, p. 91)

The three elements of purpose, content, and operation are crucial. All writers describing systems thinking insist that it starts with a detailed, specific definition of purpose, or objective, which is an answer to the primary question, "What is the enterprise for?" Once the purpose is clear, systems developers can think in terms of functions (what has to be done) and components (who or what can do it). Thus the content of the system is the distribution of functions and components. The manner in which these elements blend to form the program constitute the operation of the system, which is working to accomplish the purpose. Every system is based on the logical merger of a conceptual segment and an operational segment.
A crucial concept is that system objectives must describe in observable and measurable terms the expected output performance of the system's products. The environment, or fixed constraints, and the resources of the system are the other prime ingredients. Taken together, all these factors offer a decision-making framework that is logical and self-correcting through feedback returned to the system. The framework allows procedures to be developed which analyze the purpose to identify and ensure the interdependence of the most appropriate components to fulfill the purpose. From Lehmann's point of view, the value of a systems approach is that it "does provide an orderly process for developing a solution, a process which is structured to minimize prejudicial preconceived notions and maximizes the objectivity required to arrive at a scientifically correct answer (Lehmann, 1968).

Leslie Briggs (Briggs, 1970) has succinctly put the differences between systems and non-systems models in instruction. A systems model, or "approach," deals largely with pre-designed components which are prepared and packaged in advance, such as objectives, media, and materials to meet the objectives. A characteristic order or "flow" occurs among the three major components: (1) specify the instructional objectives; (2) develop tests measuring the attainment of objectives; (3) select media and design the materials.
To Briggs, the non-systems model or "approach" emphasizes spontaneous design of instruction. Goals and procedures are developed "on the spot" for each learner, who controls both the objectives and the methods for learning. Proponents of the non-systems model feel that goals cannot be predetermined. The teacher provides an environment consisting of equipment, natural objects, physical materials, print, etc. The learner is invited to decide what he would like to do with these resources" (Briggs, 1970, p. 6).

To move beyond Briggs's comments, many people experience broader philosophical and emotional resistances to a systems approach to educational planning. Some planners, for example, vaguely fear that "systematic" thinking or a "systems approach" will necessarily limit their options, that what they perceive to be a narrow framework will constrict their thinking to a narrow point of view. Nothing inherent in the theoretical design or application of a systems approach limits thinking; on the contrary, the experience of planners in this study is that thinking tends to focus to such an extent that unanticipated implications frequently carry planning well beyond initial expectations. As Churchman comments (Churchman, 1968), "logic is essentially a process of checking and rechecking one's reasoning" (p. 29). "... These problems are interconnected and overlapping. The solution of one clearly has a great deal to do with the
solution of another" (p. 4). A systems approach tends to help planners see these interrelationships more clearly.

Another resistance felt by some planners is that a systems approach must in some way be dehumanizing because everything should somehow be totally predictable. While such predictability may be true for machines in situations where the data are precisely regulated, for people engaged in educational planning spontaneous thoughts occur constantly. The advantage of a systems framework is that planners know precisely where to locate such spontaneous thoughts and can more easily see them in relation to other concerns. In the program conceptualization process, for example, one of the facilitator's responsibilities is to encourage spontaneous as well as more formal, systematic thinking generated by specific questions. The overall approach exemplifies a systems point of view, which tends to produce convergent, terminal thinking. Yet in the detailed, focused thinking typical of a systems approach, new program directions frequently emerge and directions previously identified may take on unexpected richness. This potential for the interplay and development of ideas among a group of program planners is far from dehumanizing.

Another area of resistance to a systems approach is simply that "this isn't the way we've done it before." The point of view and type of thinking required for working in a systems framework is new to many program planners. Thinking
systematically turns out to be very hard work, although rewarding. Generating the task analysis breakdowns in the program conceptualization process is far more difficult than speculating in customarily vague terms about what a teacher education program hopes to accomplish.

A fourth area of resistance lies in the fact that systems thinking implies measurability of program objectives, which in turn implies accountability for those objectives. A systems framework greatly increases a program's precision in planning, specifying program objectives, and evaluating the extent to which objectives are achieved. Although such precision should enhance the quality of the program, it also makes it easier to assess the program's effectiveness as measured by its own standards. This assessment and the implied accountability may be construed as threatening to some program planners.

These and other resistances to working within a systems framework are explored in the literature (see Kibler, Barker, and Miles, 1970, and C. W. Churchman, 1968) and were encountered in this study. The experience of this study is that resistance tends to diminish considerably and may vanish when program planners gain familiarity with the systems approach being used and when they realize the potential for focused, detailed, sequential thinking. The resistances are significant, however, and constitute a factor to be reckoned with seriously when promoting a systems approach.
A summary of the key elements of a theoretical systems approach agreed upon by most writers may be helpful:

1. A clearly defined purpose accompanied by performance objectives and criterion measures of attainment;
2. An examination of the characteristics of the input;
3. A consideration of alternative strategies for what has to be done and who will do it;
4. An operational process of implementing and testing the system;
5. An identification of needed adjustments to the system, followed by further testing.

In terms of an educational enterprise such as a teacher training program, those key theoretical elements of a system may be described as follows (taken from Banathy, 1968, p. 22):

1. State the purpose;
2. Form goals for the program;
3. Formulate behavioral objectives related directly to the purpose of the program;
4. Develop tests to measure the degree of attainment of those objectives;
5. Examine the characteristics and capabilities of the students in the program;
6. Identify the tasks by analyzing the objectives of the program;
7. Consider alternative resources and media to accomplish program tasks;
8. Operate the program and collect information from performance testing and systems evaluation;
9. Maintain and adjust the program through responding to feedback.
IV. Current Systems Applications to Teacher Education

As indicated earlier, teacher education seems now to be actively applying systems procedures to its business. Much current research involves the importance of determining observable and trainable teaching behaviors, of recording teaching behavior objectively, of the effects of performance feedback on prospective teachers, etc. For example, a cluster of studies explores the difference between feedback from a supervisor regarding an intern's performance as opposed to self-examination or even studying videotape replays alone. Precisely how and why is this feedback from another person essential; what further motivation does it provide? Why is a good supervisor better able to relate performance to teaching objectives? The answers to these questions require more precise definition of teaching skills in terms of student performance than ever before.

Certain systems for conceptualizing effective teaching already are gaining considerable influence and have generated much current research. In the future it would seem that comparable instructional systems, carefully constructed from the principles outlined in the previous section, will achieve the most interest as fruitful lines of research in teacher education. This section of Chapter II explores the following examples of systems currently being developed: interaction analysis, micro-teaching, behavior modification, The
Personalized Teacher Education Program, and performance-based teacher education.

Developed throughout the Sixties by Ned Flanders (see Flanders, 1970), interaction analysis is designed as a system including a precise set of dimensions which describe in affective and cognitive terms a variety of ways a teacher could interact verbally with his students. "The system has a very explicit set of objectives when used as a training device to give feedback to teachers about their observable patterns of [verbal] behavior" (Travers, 1973, p. 947). As used by supervisors in training teachers, the purpose of the system is to increase the frequency with which student teachers encourage more "self-starting," self-directed, actively inquiring patterns of learning behavior in their pupils. This objective is achieved by adopting more "indirect" methods of reacting to pupils, such as less lecturing in favor of more questioning, deliberate positive reinforcement as opposed to negative comments, etc. Thus the system contains several of the key theoretical elements identified in the previous section as being typical of a systems approach: specified objectives for student gain, an explicit set of teaching strategies, and performance measures in the Interaction Analysis Matrix to assess the amount of gain. Further, it uses feedback from supervisors and pupils to correct teaching behavior, thus regulating performance.
Interaction analysis, the most complete and widespread systems application currently in use in teacher education, has initiated many research studies. New systems of analyzing interaction have in turn been developed, such as The Teacher-Child Dyadic Interaction Analysis System, which measures a highly specific pattern of interaction between a teacher and each separate child in her class (Good and Brophy, 1970). In both systems the large number of studies with similar results all demonstrate in performance terms that student teachers are more indirect and effective at the end of their training by this method than they were at the beginning.

Interestingly, the research samples in most of these studies are quite small, which indicates how much time, energy, and money are required to frame and assess objective measures on relatively few behavioral dimensions. Although growing evidence of the effectiveness of this system and of a systems approach in general is encouraging, the authors of the Second Handbook offer a useful afterthought:

It is much, much easier to talk about the steps than to put them into practice, as many educators have discovered. Only in the past few years has this process [a systems approach] been rigorously applied to the education of teachers, even in relatively small segments. Nonetheless, where it has been applied, the research reports testify almost unanimously to its superiority to older, more diffusely focused kinds of instruction. (Travers, 1973, p. 943)

Micro-teaching is a second specific example of an attempt to apply a systems approach to the training of teachers.
Developed by Allen and others at Stanford during the early Sixties (see Allen, 1969), micro-teaching has by now generated a more substantial body of research studies than have any other systems. Micro-teaching employs most of the key elements of a systems approach identified in the list derived from Banathy which is presented in the previous section. The system has a definite purpose and states program goals. It includes clear objectives specifying the attempt to train beginning teachers to use precisely identified teaching skills which can be measured in performance terms through the use of videotape feedback to assess skill development. Criterion tests are developed in these feedback sessions, as are opportunities for a teacher to alter his approach based on feedback data. The system includes conceptual and operational elements.

Micro-teaching seems a good example of a need examined from a systems point of view. The identified need was to teach certain highly specific teaching skills efficiently: motivating students, evaluating student responses, clarifying objectives, using student ideas, questioning, prompting, etc. Each skill in this subsystem of an entire teacher training program can be isolated, objectives written, and performance measured through student and videotape feedback following five-minute lessons. The system is much less cumbersome to manage than conventional techniques and takes about one-fifth as long. The results of many studies show
that although risks occur through the shortness of exposure in micro-teaching, most students make measurable gains in developing a specific repertoire of identifiable skills. Compared to an unfocused student teaching "experience" with imprecise objectives, the advantages are obvious.

A third, less developed, example of systems thinking applied to teacher education is the recent work being done in behavior-modification, sometimes called behavioral intervention (see Travers, 1973, Chapt. 8). These studies are quite new, all during the past six years; the research to date is almost exclusively with experienced teachers who are working with children who have special needs. Some limited pre-service training is now starting. Apparently no research to date has specifically studied the effects of behavioral-modification principles on normal children. The intervention techniques stress careful specification of behavioral objectives, usually with the behavior precisely agreed upon in a teacher-student contract. Reinforcement of appropriate behavior on varying reward schedules is the essential strategy used, followed by immediate feedback of the effects of reinforcement. The feedback results in altering the system, which in this case refers to varying the reinforcement schedule.

Behavioral-modification is a highly mechanistic application of Skinnerian principles enmeshed in a system for a clear purpose, that of replacing "undesirable" behavior with
"appropriate" behavior. The system, which is only partially developed at present in terms of the key theoretical elements earlier mentioned, consists chiefly of a definite purpose, fairly specific behavioral objectives, criterion tests to measure the degree of attainment of those objectives, and a careful examination of the characteristics of the students participating in behavior-modification programs. Nevertheless, the system seems to be working with many children who respond at this level. Interestingly, studies have found that teachers being trained in behavior-modification techniques themselves need unusually heavy positive reinforcement while they are reinforcing the children involved. Teachers can be trained to use this system, but since elements of it defy common sense and ingrained habits a high percentage of teachers tend to abandon the techniques after training ends or whenever they themselves receive less reinforcement.

In the late Sixties at the Texas Research and Development Center in Austin a fourth interesting example of systems thinking specifically applied to teacher education emerged. The Personalized Teacher Education Program, described by Peck and Turner who have created this system at the University of Texas, consists of

an integrated assemblage of a number of different instructional strategies. . . . This is an instructionally designed system, modularized as far as possible. Many of the learning experiences consist of self-study units with carefully stated objectives, a complete set of learning materials, and exit measures of mastery. In a larger sense, all of the
instructional operations are moving toward the state where their objectives are precisely identified, the procedures and processes are spelled out in detail, and appropriate evaluative measures are provided for both the student and the instructor to gauge individual progress. (Travers, 1973, p. 962)

Obviously, the Personalized Teacher Education Program is a highly complex system in terms of the key theoretical elements identified earlier, including formal assessment procedures, a self-paced instructional program proctored by older students, videotapes, films, conferences, learning modules, and subsystem modules. Students may take tests at any time to determine specified competencies. The developers feel that the major present shortcoming of their system is that student decision-making is limited, which is a danger in a highly prescribed set of procedures such as this. Most decisions are apparently built into the materials as they are developed or are in faculty hands. If student representation is included at the needs assessment level and if students are helping to develop program materials it would seem that sufficient student input could be included in the system's design, especially if self-controlled, self-initiated learning is a program objective.

A fifth and final example of systems thinking applied to teacher training involves the "competency movement," or Performance-Based Teacher Education. This is presently a somewhat confused movement, still unsure even of its name, but one which is solidly linked to systems thinking and
rapidly gathering momentum. Performance-Based Teacher Education has gradually grown out of the more than two hundred observational category systems which have been developed for guiding the observation of teachers and teachers and pupils interacting. Flanders' Interaction Analysis, mentioned earlier, is the best known and best developed of these systems; probably fewer than ten of the observational category systems have specifically related observational variables to measures of student gain. *Mirrors for Behavior* (Simon, 1970) collects seventy-nine such observational instruments, many of which are conceived even if not fully developed from a systems point of view. In most of these systems the chain from clear objectives to performance measures of achievement is not clear or organized as part of a total system. Other sources of impetus to the competency movement have been the interest and financial support of the U.S. Office of Education and increasing interest by several state certification offices. The latter are suggesting that in the future performance objectives could provide minimal specifications for the development of teacher competence.

In 1972 The American Association of Colleges for Teacher Education created a Committee on Performance-Based Teacher Education to explore the present situation. Their reports, sponsored by the U.S. Office of Education, consist of ten publications exploring present theory, examples of seventeen programs, and implications of Performance-Based Teacher
In the eyes of the Committee, a competency-based (or performance-based) teacher education program is a program in which the competencies to be acquired by the student and the criteria to be applied in assessing the competency of the student are made explicit and the student is held accountable for meeting those criteria. Three types of criteria are used: (1) knowledge criteria which are used to assess the cognitive understandings; (2) performance criteria which are used to assess the teaching behaviors; and (3) product criteria which are used to assess the student's ability to teach by examining the achievement of pupils. (Elfenbein, 1972, p. 4)

Clearly, some important theoretical elements of a systems framework are operating in these specifications. Most competency-based programs state a clear purpose, formulate behavioral objectives to teach the competencies, develop ways of evaluating whether the competencies have been demonstrated, and in general attempt to maintain and adjust their program through responding to feedback regarding the effectiveness of their instruction.

In many cases, however, Elfenbein's review of current Performance-Based Teacher Education programs suggests that the competency movement tends to concentrate narrowly on developing competencies alone rather than on relating the function of these competencies to a total system for teacher training. Nevertheless, the thinking involved is oriented toward developing total systems. As considered in this study, the A.A.C.T.E. Committee also visualizes the Performance-Based Teacher Education programs as supra-systems consisting of two interrelated blocks—the development block and the...
implementation block. Each has as one dimension the conceptualization, the specific purposes or goals for which the system was designed; a second dimension, systems, consists of the inter-dependent parts which combine with the third dimension, process. Interlocked, they form an organized, cohesive whole. (Elfenbein, 1972, p. 5)

These five examples of current efforts in teacher education are evidence that a significant attempt is now being made to train teachers within the framework of a theoretical systems approach. As mentioned earlier, this attempt constitutes the largest block of current and recent research and practice in teacher education. Micro-teaching, interaction analysis, and the Personalized Teacher Education Program are probably the best developed systems applications at the moment, but the competency-based movement promises in the near future to pull many of these threads together into a significant and comprehensive effort.

V. The Techniques of Instructional Development

Concurrent with program development in a systems framework has been a product-oriented technology based on systems thinking for the purpose of developing curricular and instructional materials. Considerable recent research has specified procedures to prescribe steps for the development of instructional materials. The conscious use of prescriptive specifications comes from systems analysis, learning psychology, and engineering. Instructional materials developers need system objectives clearly expressed in terms of performance
measures so that the effectiveness of their materials and their systems may be evaluated. They need feedback to increase the efficiency of their instruction and sharpen their products.

Such developers describe the intended accomplishments of their product in terms of the learner's measurable behavior. They describe expected responses, the content to which responses should generalize, standards for determining adequate performance, prerequisite experiences for learners, and social and psychological characteristics of learners. In short, instructional materials developers include most of the key theoretical elements identified in Section III of this chapter.

Since both the technology of instructional development and instructional program development are examples of systems thinking, a brief look at research in both fields will show similar procedures and steps. Schutz identifies six stages: (1) formulation, (2) prototype, (3) component, (4) product, (5) installation, (6) program (Schutz, 1970, pp. 39-64). The Northwest Regional Educational Laboratory includes thirty-seven steps in product development and installation, thirty-one of which are related to development. Major stages are: (1) concept, (2) feasibility, (3) operational planning, (4) development, (5) installation. Borg and Hood at the Far West Regional Educational Laboratory propose twenty-seven steps (Borg and Hood, 1968), Gilbert a more
general scheme with three divisions (Gilbert, 1962), and
Popham and Baker in *Rules for the Development of Instructional
Products* suggest seven comparable major steps (Popham and
Baker, 1971). The techniques of instructional product de-
velopment are clearly parallel to the instructional program
planning work now in progress. In many instances the tech-
nologists are more advanced since their product-oriented
materials and goals are clearer, more easily measured. Fur-
thermore, their systems applications have originated in the
more receptive industrial climate rather than in the educa-
tional world.

VI. Preparing Educational Developers for Working Within
a Systems Approach

Since a systems point of view is increasingly apparent
in developing educational materials and programs, the availa-
bility of skilled manpower is an important consideration.
How are such people to be trained and what qualities should
they have? Some current research explores these questions.
Gagné, for example (1969), mentions three attributes essen-
tial to instructional technologists: values, knowledge, and
methodologies. Work such as the program conceptualization
process described in this study also prescribes steps which
may be followed.

Relatively few present professionals seem to be pri-
marily identified with educational program development. Most
of these have been trained as educational researchers and now
act in both research and development capacities. A 1969 Indiana report of "Educational Research, Development, and Diffusion Manpower" during the 1964-1974 period anticipated extensive shortages of such personnel based on 1964 data on research and manpower estimates (Clark and Hopkins, 1969). A relatively small number of universities are maintaining graduate programs in instructional development, probably because government sponsorship of such programs and research was strong only briefly during the 1963-1966 period.

Although he is writing specifically for the nuclear power industry, Kuhn's ideas (Kuhn, 1966) about the intellectual qualities needed for operating within a systems framework are instructive. He feels that three fundamentally different types of personnel will function effectively from a systems point of view and can be trained to work within that framework. The first type of person has special ability to draw from a widely divergent background of theories or experience to design solutions to problems he is specifically assigned. The second type of person specializes in an assigned function (such as developing alternative strategies, writing objectives, analyzing feedback, etc.) and operates effectively in a wide variety of problem situations. Thirdly, even more valuable than this second "functions specialist" is a flexible person able to shift the focus of his job as the emphasis in development moves through the stages of a systems approach. This person is effective at conceptualizing a
program or product, at planning and operationalizing the interrelated systems components, and at revising the system based on performance feedback. Kuhn terms this third quality "parallel flexibility"; such a person's competence at each stage of development makes him extremely valuable.

Leslie Briggs (1970) published a book entitled *Handbook of Procedures for the Design of Instruction*, a clear "how to do it" guide for developing curriculum. Increasingly, handbooks such as his and the "Handbook of Procedures" in the Appendix of this study will show materials and program developers the step-by-step process of building a program, curriculum, or product. Briggs describes his Handbook as "a comprehensive document on the training of developers." He offers a systems model with a complete flow chart for designing instruction. The Handbook consists of specific procedures for developing course behavioral objectives, constructing tests, identifying highly specific competencies, selecting media, individualizing instruction, and writing and evaluating materials. He includes self tests at several stages of his Handbook as well as provisions for feedback and altering the design.

Briggs's procedures clearly employ an entire systems approach employing the key theoretical systems elements identified earlier. Goals of instruction are precise, as are the standards identified in terms of learner performance. He includes measurement steps to assess attainment of goals. He
designs specific procedures to consider alternative sets of strategies for selecting the most appropriate material and methods. Finally, the procedures attempt to make certain that design decisions conform to the input (entering competencies) of the learners and to the boundary conditions of human and other system resources. "The materials are selected to comprise a total strategy of instruction; they are 'programmed' to supply specific instructional events needed to implement the instructional strategy" (Briggs, 1970, p. 4).

As a final comment on preparing educational developers for working within a systems approach, and as a preface to the program conceptualization process, reference should be made to an interesting chapter by Dale Hamreus (Hamreus, 1970). Like Briggs, Hamreus has developed a clear flow chart of twenty-two individual steps to be used in developing instruction. The steps fall into the usual three major categories of (1) systems definition and management, (2) design analysis, and (3) development and assessment. These interlocking steps start with "defining the instructional problem" and continue through selecting staff, identifying learners, materials, objectives, instructional events, evaluation, and system modification through feedback. In light of the program conceptualization process, which is from a systems point of view despite the fact that it is not in itself an entire system, it is staggering to think that the lengthy procedures for the program conceptualization process are merely a
comprehensive development of Hamreus' first step, defining the instructional problem, plus the beginnings of setting standards for measurement. Creating a total systems design with complete accompanying procedures is an immense task!

VII. The Program Conceptualization Process in Relation to a Systems Approach to Program Development

The program conceptualization process described in this dissertation is not in itself an example of a total systems approach to program development. It does exemplify a systems point of view, however. As mentioned above, it constitutes a comprehensive first step at defining the nature and limits of an instructional problem which in this case is designing a teacher training program.

Briefly stated, the program conceptualization process is a logical, self-adjusting set of procedures for thinking out, or designing, the instructional foci and events in a teacher training program. The procedures begin by stating a purpose, or overall objective, for the program. Secondly, a series of program needs are identified which specify the major areas of concern; in order to fulfill the stated purpose the teacher training program must address these specific needs. Details of those needs are developed through many task analysis breakdowns which clarify the needs by stating increasingly specific components and instructional events. Behavioral objectives are developed at the upper levels of each task analysis breakdown; further objectives may, of
course, be developed at increasingly specific levels. The objectives, particularly the standards, are an attempt to provide minimal guidance and information as well as deliberately broad measures of behavior in performance terms.

The procedures include many of the specific theoretical elements of a systems approach which are identified in Section III of this chapter. A purpose is clearly stated for the teacher training program. Goals are specified through the needs analysis process. Broad level behavioral objectives are created to help specify performance expectations within the program. Alternative resources and ways of accomplishing the objectives are also considered during the task analyses breakdowns.

In relation to the research cited earlier, these procedures are characteristic of a systems approach to instructional planning through their orderly, logical approach to conceptualizing a teacher training program. They represent, for example, Shutz's step one, "formulation," or the "concept" stage, the first of the Northwest Regional Educational Laboratory's series of five major stages. The task analysis breakdowns are similar to Banathy's description of "functions," the network of what must be done to operate the program. Banathy's "components," or who should do what, are an aspect of some task analysis breakdowns.

Program and system evaluation, mentioned by all authors writing on systems characteristics of educational planning,
should be built into the conceptualization as an identified need during the needs analysis. Such evaluation promotes continuing feedback which may be used to adjust the conceptualization regularly. Other systems characteristics include the attempt to gather input from all points of view in the program through a complete needs analysis; the pre-designed nature of the conceptualization; and the development of instructional events pre-selected to satisfy needs addressing a specific purpose.

Because the program conceptualization process is designed to aid the conceptualization rather than the operation of a teacher training program, it is not in itself a complete system. It could be a subsystem of a larger system. Many systems characteristics frequently mentioned, such as media and materials, criterion-referenced tests, specific measurements, performance, and operation through responsive maintenance of the system, are not included in the process. If, as several writers suggest, it is logical to visualize a system in terms of a conceptualization segment, an operational segment, and a set of operational strategies linking the two, the program conceptualization process is an example of a systems point of view applied to the conceptualizing segment of the enterprise.
VIII. Summary

This chapter has attempted to explore the contexts of teacher education and systems analysis, with particular reference to systems applications to teacher training. Current research in teacher education and the technology of instructional development indicates rather decisively that the virtues of a systems approach can be applied creatively to education and in particular to pre-service teacher training. Although based on a behavioralist point of view, the systems approach is essentially an organizing device and as such has room for individualized instruction, a discovery-learning model, or for any teaching-learning model. The point is that the systems device of considering alternative strategies allows program developers to select the instruction, materials, and approach best suited to fulfilling specified objectives. Such a style of thinking is now crucial when information and techniques are so plentiful. As Peck and Turner write in the Second Handbook,

Teacher education can no longer remain in a happily ignorant, ineffectual state consisting of romanticized lectures on the one hand, and fuzzy or unplanned "practical experience" on the other. We are genuinely in sight of the theoretical principles, the operational measures, and even the developmental technology for moving onto a performance-based method of appraising teaching. (Travers, 1973, p. 971)

The following chapter is a detailed description of the procedures as they presently exist. Chapter IV describes an attempt to develop the program conceptualization process through
work with three different teacher training programs. The Appendix contains a Handbook of Procedures, which is a skeletal version, as well as examples of two teacher training conceptualizations produced with this methodology.
CHAPTER III
THE PROCEDURES OF THE PROGRAM
CONCEPTUALIZATION PROCESS

The purpose of Chapter III is to present a formal description and explication of the procedures of the program conceptualization process. These procedures are described in the improved state of development reached after work with the three teacher training programs involved in the study: (1) The Amherst Elementary Program, (2) The International Education Program, and (3) The Alternative Learning Environments Program. The description will follow the sequence of steps outlined in the Handbook of Procedures in the Appendix; this is the specific order in which the steps are intended to be applied. The Handbook itself is offered as a skeletal framework for the conceptualization process. It could be extracted and used as a guide for a facilitator or program developer in performing the conceptualization process on a teacher training program.

The detailed consideration in Chapter III of the implications, the problems, and benefits associated with the steps is necessary to prepare anyone planning to implement the procedures outlined in the Handbook. Process observations are based on the writer's experience as the facilitator of three groups of program developers. "Program developers" are those
persons responsible for conceptualizing a teacher training program. The "facilitator" is a person who guides program developers through the procedures of the program conceptualization process in order to make their task less difficult.
STEP ONE: The facilitator identifies the type of program to work with and the reward basis for the work. (time: variable)

1.1 Select the type of program to work with.
1.2 Locate a program.
1.3 Establish the reward basis for the work.

Step One concerns the process of identifying the teacher training program the facilitator wishes to work with. Whether or not the program is on-campus makes little difference to the methodology itself. The logistics of meeting conveniently with program developers, however, will be complicated by an off-campus program. The facilitator must be prepared to travel frequently or, if he plans to exchange visits with the program developers, he must accept the disadvantages of working in two or more environments. Both the facilitator and program developers in this study felt that the more environments which are involved in the working sessions the less productive they tend to be. Although the methodology does not rely on the environments of the working sessions, the effectiveness, productivity, and morale of the group may be affected by exchanging visits with developers of an off-campus program.

The conceptualization procedures may be applied effectively to a new program being planned or to an already existing program. An existing program has an advantage in that the purposes, needs, and general operation of the program tend to be clearer; consequently the work may flow more easily.
On the other hand, program developers planning an entirely new program may find it easier to think in overall program terms instead of preconceived phases or courses. Those involved in the study felt that the methodology is successful in demanding thinking in overall program terms on the part of those who may be using it; indeed, developers of an already existing program tend to view this technique of thinking as a freeing process after feeling restricted by their traditional course framework.

After selecting the type of program he wishes to work with, the facilitator contacts a teacher training program to develop initial interest in performing the conceptualization process. Being recommended to aid a teacher training program with this methodology and cooperating with the program developers on a voluntary basis is probably the ideal context. In this study no work was performed for financial pay, although the methodology does not preclude such a contractual arrangement. Another possibility is presenting the process to a seminar or workshop of program developers as a service they may enjoy voluntarily for a variety of excellent reasons. The many benefits of performing this conceptualization process are explored in the Step Two commentary. Some of the reasons why the university itself may wish to require all teacher training programs to perform this conceptualization process are also explored.
Finally, the reward basis, or payoff, for all people involved in the conceptualization process should be clear as early as possible. People appear to work best and relate most successfully to each other when they fully realize why the various parties involved are doing the work. A clear understanding of everyone's motives seems desirable. A wide variety of arrangements are possible, ranging from financial payment to a complex exchange of services. Whatever the arrangement, it should be clearly specified by all parties before the organizational process is started.
STEP TWO: The facilitator introduces program developers to the program conceptualization process. (time: about two hours)

2.1 Describe the benefits of the conceptualization process.

2.2 Outline the parameters of the conceptualization process.

2.3 Present an overview of the conceptualization process.

2.4 Describe a typical working session.

2.5 Clarify mutual agendas.

2.6 Gain commitment to starting and completing the process.

2.7 Outline the agenda for Step Three.

2.8 Set a time and place for the next session, if necessary.

Sub-step 2.1: Describe the benefits of the conceptualization process.

The purpose of Step Two is to introduce program developers to the conceptualization process and through doing so motivate them to participate. Briefly describing some of the many benefits of the process is a useful way to begin. At this point in the procedures a facilitator would normally highlight a few of these benefits as a way of increasing motivation for the conceptualization process. Presenting the entire list at once would take too much time and create expectations of magic. Examples of these benefits will occur repeatedly during the process and a few of the benefits, such as the type of thinking required, will need to be stressed and explored more thoroughly at other points in the procedures.
I. Benefits to the teacher training program itself:
   (a) the type of thinking practiced;
   (b) the organizational framework;
   (c) the group context;
   (d) present and future staff planning;
   (e) the results of the process.

II. Benefits to program developers as persons.

III. Benefits to the university and to cooperating school systems.

The particular type of thinking practiced in the conceptualization process tends to free program developers from planning in terms of pre-conceived courses, phases, program personnel, or special techniques such as Microteaching. Being forced to think continually in terms of program goals and functions sometimes frees program developers to consider entirely new ways of reaching those goals rather than methods to improve their old ways. This type of thinking helps exploit unrealized subtlety in the program by relating issues and concepts which may not have been seen as related. It is an enriching rather than refining process in that it shapes bare ideas instead of extracting the essentials from a developed conceptualization.

The organizational framework helps divide the huge task of conceptualizing an entire teacher training program into its component parts. The conceptualization process continually practices breaking ideas down, reclassifying them, and
regrouping them in new ways within the organizational framework. Free enough so that ideas can float within it, the framework shows the relationships of parts of the enterprise to the whole. This is one of the methodology's greatest strengths.

By working through the conceptualization process together, a program staff tends to unify itself. Such unity would be less likely if the program developers were working independently. The very process of performing the methodology in the group context it provides is one of the greatest benefits to the program. Through performing the process together staff insecurity tends to be reduced by not allowing ideas and operations to be left vague. Greater precision may have the added side effect of increasing student confidence in the program.

As the conceptualization process takes place staff members tend to divide future tasks among themselves. The analysis points to areas and even specific tasks which can be assigned readily. In so doing the process clarifies staff roles and responsibilities while creating a series of staff meeting agendas. The conceptualization also creates a basis for specific contracts and competencies.

This is a synergistic process in that what emerges from the working sessions in terms of program coherence is considerably stronger than the sum of the parts. The value of having a written planning document with visual representation
of the ideas is considerable in terms of providing program continuity over time, as a basis for later prioritization of needs, and for program evaluation.

Many of the benefits already described may be considered group process benefits as well as program benefits. Participating in the series of working sessions is a group sharing and building process which is satisfying, which tends to bring staff members closer together, and which is in itself a learning and growing experience.

The methodology encourages insight into the way people think. Especially interesting is the feeling of satisfaction individuals receive through "constructing" a tangible product step by step; during their work program developers frequently used the image of "building" in the sense of following a blueprint. This same feeling contributes to the satisfaction individuals receive in being able to locate themselves accurately in the whole conceptualization process. The methodology is a learning process which helps develop rigor and toughness in thinking. Yet sharing ideas and building on the concepts of others is also crucial, which encourages individual risk-taking. By vocalizing and risking his ideas an individual tends to feel more a part of the group.

Some benefits of the conceptualization process also exist for the university and the cooperating schools involved with the teacher education program. With the traditional rapid turnover of students and staff in teacher training
programs, the problem of program continuity from year to year is always an issue. Having the written conceptualization would help the university and the school system know precisely what should be happening in the program; it operates as a unifying framework exclusive of time and personnel. It provides a written document for the university to share with other teacher preparation programs for the purpose of avoiding duplication of approaches, sequences, and operations. Furthermore, in light of current interest in competency based teacher education, the conceptualization provides a framework for identifying the various competencies a university may want to stress in its teacher education programs. For these reasons the university may want to consider requiring all new teacher training program staff members to conceptualize their programs with a rigorous process such as this.

Sub-step 2.2: Outline the parameters of the conceptualization process.

After an initial organizational meeting the program conceptualization process may be completed in six to eight working sessions of two and a half to three hours each. The number of sessions depends mostly on the number of program developers involved and on the facilitator's dexterity in keeping the group energetic and task oriented. The relative complexity of the teacher training program is not an important factor, whereas maintaining group momentum is crucial. Meetings should take place every second or third day over a two-
to three-week period so that time lags and other pressures do not accumulate. The morning, when people are fresh and before other affairs intrude, is the best time to work.

Finding a suitable environment for work is crucial. The group must not be interrupted, it must feel relaxed, and it should have a large table where the working sheets can be spread out to mull over constantly. For these reasons the usual office space is not adequate. Interruptions always threaten, many people cannot relax in another person's office, and in some way the intangible pressures of program experience, the feeling of "this is the way we do it here" is stronger in an office than in a neutral working space. A private home can be excellent since interruptions are controllable and people can relax with coffee and rolls. The working space is not laden with program "baggage." Most important, in this introductory meeting the facilitator should also discuss the importance of regular attendance and being on time at the sessions.

In discussing the program conceptualization process the facilitator should explain to program developers that the conceptualization will benefit from persons who are aware of multiple points of view represented by students, faculty, and cooperating school systems. Wide breadth of view among three or four persons is ideal. During the work the facilitator should frequently ask whether different points of view are being considered, especially while performing the needs
analysis. If several points of view are not actively considered, the program conceptualization will be limited in its richness.

Some attention should be paid to the size of the working group. The facilitator working with one program developer is most efficient, yet will not allow a sufficiently broad conceptualization or any group cohesiveness benefits. A group of three to four program developers seems best to maximize the potential benefits of the process. The issue of competitiveness becomes real. On the one hand it tends to stimulate ideas, leads to spontaneous "ah-ha" reactions as ideas "piggy back" on each other, generates energy and group cohesion, and generally creates an enjoyable working climate. On the other hand, any group raises inhibiting feelings in some of its members, sometimes reduces risk-taking in ideas, and increases the likelihood of digressions. The facilitator's job is clearly considerably harder as the group increases in size, but by involving three or four program developers the potential benefits outweigh the risks.

Sub-step 2.3: Present an overview of the conceptualization process.
Sub-step 2.4: Describe a typical working session.

At this point in the procedures the facilitator's objective is to introduce program developers to the conceptualization process and through doing so motivate them to participate. A helpful way to proceed is to describe the conceptualization
process in its broadest terms followed by a description of a typical working session with some of its problems and rewards.

The purpose of this methodology is not to produce new ideas, but to organize present thinking by developing a framework for concepts and operations in the teacher training program. In the course of the work new ideas and wider implications of present ideas always emerge. The framework is intended to clarify the relationship of ideas to each other. The purpose is also to carry the conceptualization process far enough so that the future direction of program planning is clear and so that program developers will be able to continue the process themselves.

In this chapter each step in the conceptualization process will be expanded in the descriptions of the several procedural steps. The facilitator at this step in the procedures would merely stress the logical sequence involved and highlight the steps as follows:

1. Write a temporary purpose for the teacher training program.
2. Perform a needs analysis from all available points of view.
3. Rewrite the temporary purpose into a working purpose.
4. Prioritize the needs.
5. Perform a series of task analyses on the identified needs of the program while specifying the elements of behavioral objectives at the uppermost level of each task analysis.
In describing a typical working session the facilitator should explain that each session begins with feedback and review of the previous session. Starting with feedback inevitably reviews the work of the previous session with the focus being not so much on what was accomplished but on the facilitator's leadership and the manner in which the group functioned. These exceedingly important sessions increase the facilitator's effectiveness enormously by airing people's feelings about the methodology, about his input, about the general direction of the work, and about staff perceptions of their work together. A time limit should be agreed upon which may vary as the situation requires. In any case, the regular opportunity and request for this information tends to increase group productivity and cohesiveness. Some people will air their inhibitions only in this structured context; one of the distinct skills of the facilitator is making effective use of this repeated step in the procedures.

After touching on the work itself and on the role of the facilitator, which should be clear after highlighting the preceding steps, the facilitator should point out that he will guide the group at the end of each session in setting an agenda for the upcoming session. He will try to specify those aspects of the work to come which look difficult or easy and which task analyses might logically precede others. The agenda setting process is reassuring since it precisely
identifies the group's progress and gives program developers an opportunity to consider the upcoming task analysis in advance.

The facilitator may wish at this point to review briefly some of the rewards of this kind of work if he feels such reinforcement is necessary. He may also want to suggest a few problems which typically occur as a way of generating questions and restating some important points of the conceptualization process. Although this step may not be necessary, it has the effect of clearing the air somewhat and of opening dialogue between the facilitator and the program developers he may work with.

He may raise the problem of thinking in pre-conceived patterns rather than at the overall program level; the problem of maintaining momentum, of physical energy, and tiredness; the problem of group competitiveness or lack of it; the problem of misunderstanding the purpose or procedures of this process; the problem of overattention to phrasing or details; or the problem of unsuitable working environments. Although the facilitator certainly does not wish to discourage people at this point, he does want program developers with whom he may work to understand the benefits and problems of the conceptualization process as realistically as possible.
Sub-step 2.5: Clarify mutual agendas.
Sub-step 2.6: Gain commitment to starting and completing the process.

By this step in the procedures the potential program developers should have a good idea of the conceptualization process. Assuming their interest continues, they should be able to commit themselves to starting and completing the process. Both the facilitator and the program developers should express their agendas for the entire conceptualization process to assure congruency of expectations. There exists a tendency for some developers to expect magic from the conceptualization process. Which is dangerous. The methodology has its own agenda, however; to shape existing ideas into a framework while proceeding to analyze sequentially a series of program needs. More specifically, the facilitator's agenda is to carry out the procedures of the methodology: to write a working purpose for the teacher training program; to perform a needs analysis of that purpose; to perform a series of task analyses of those identified needs.

Apart from a reasonable desire to enjoy some of the many benefits of the conceptualization process, the facilitator should discourage unwarranted hopes or expectations of magical results. This point in the procedures is a good one at which to remind people of the computer phrase GIGO (Garbage In; Garbage Out). The methodology is no better than the methodologists, and garbage encased in a beautiful system is still garbage.
Having clarified expectations as much as possible by this stage, the facilitator should secure a specific commitment from program developers concerning their intention to start and complete the conceptualization process. He should also determine the numbers and specific individuals who will be involved, and review the reward basis for the work. The reward basis should be clear after rechecking expectations in the previous step. A contract may need to be signed. The facilitator should remind program developers that their group should not exceed three to four persons and that the points of view represented by that group will ultimately determine the characteristics of the program conceptualization.

Sub-step 2.7: Outline the agenda for Step Three.
Sub-step 2.8: Set a time and place for the next session, if necessary.

Following a firm commitment to perform the conceptualization process, the facilitator should outline the agenda for Step Three of the methodology, which is organizational in nature. Whether or not the session is ending, a regular agenda setting process is reassuring to program developers. They need to be located periodically on the "blueprint" of the entire process and they need to understand and see their progress. One of the principal characteristics of this methodology is its logical, almost relentless sequence if carefully followed. Stating and perhaps preparing written copies of the agenda for each Step as it is reached maximizes
this particular characteristic. Program developers inevitably become interested in the process and since one of the objectives is to train one or more persons in the program to continue the work, written agendas are useful guides.

Finally, if necessary, a specific time and place should be set for the next session. Although this step in the procedures is a logical place to end a session, the facilitator and program developers may wish to continue right through the organizational work of Step Three and start the conceptualization process in Step Four by writing the temporary purpose. The division of this methodology into eight major Steps does not imply that each step should be a separate session; Steps Two, Three, and Four may, for example, constitute one meeting.
STEP THREE: The facilitator organizes the group and the task of conceptualizing their teacher training program. (time: about one hour)

3.1 Confirm the commitment of individuals to the work if a break has occurred between Steps Two and Three.
3.2 Examine examples of previous program conceptualizations.
3.3 Discuss the type of thinking necessary.
3.4 Discuss the type of questioning necessary.
3.5 Discuss the role of the facilitator.
3.6 Discuss some physical and psychological requirements for the work.
3.7 Present an overview of Instructional Systems Development methodology.
3.8 Examine the relationship of the program conceptualization process to a "systems approach."
3.9 Explain the relationship of the program conceptualization process to common sense and familiar outlining procedures.
3.10 The facilitator and program developers recheck their mutual agendas for congruency.
3.11 Schedule a series of seven working sessions.
3.12 Decide the "working environments" for those sessions.

The purpose of Step Three is to organize both the group and the task of conceptualizing the teacher training program. Sufficient time should be spent on this step to be sure program developers thoroughly understand the program conceptualization process. Once the job begins and sessions occur every two or three days work will proceed too rapidly to review items presented in this step. Ample time spent in the early portions of the methodology builds a worthwhile foundation of confidence for later work. If a break has occurred between Steps Two and Three, the facilitator should reaffirm
the specific commitments of those program developers with whom he plans to work. Typically, a break may not occur and the introductory and motivational work from Step Two may flow directly into the organizational matters of Step Three. Once Step Three has started no new program developers should be added.

Sub-step 3.2: Examine examples of previous program conceptualizations.

At this point in the procedures the facilitator may show the program developers at least one example of a previous program conceptualization such as appear in the Appendix. Showing the "product" develops a strong incentive to work hard and clarifies many uncertainties about the visual shape of the results. The facilitator may read through the purpose and point out its general nature. Secondly, he may briefly examine the needs analysis level and explain how those needs are related to the purpose. Thirdly, he may want to describe part of a task analysis of one individual need to demonstrate how the program conceptualization process actually occurred.

In addition to developing incentive in the group, studying examples of previous work increases understanding of the process. The technique of horizontal diagramming is important since it places ideas in relationship to each other visually. The fact that this is an enriching rather than refining process is clearer as the group examines the "pyramid"
development from a general purpose at the top through the needs analysis to fairly specific supporting ideas at the bottom. The purpose and its needs are enriched and given shape rather than refined to extract their essentials.

Sub-step 3.3: Discuss the type of thinking necessary.

The facilitator and program developers examine closely the type of thinking necessary for success in this conceptualization process. Thinking must start and be maintained at the level of program "functions" or principles rather than at the level of means to accomplish those principles. The group must think in terms of "why" and "for what reason" rather than "how" and "by whom," which is the level of means or implementation. Thinking at the implementation level is habitually the first step in developing teacher training programs; since this is a new pattern of thinking for many program developers, the facilitator must provide careful guidance.

Thinking at the level of program functions requires an overall program point of view rather than consideration of pre-conceived phases, courses, or other divisions. As an example, rather than considering program administration in terms of staff members who would assume specific responsibilities, administration may be considered as "functions" which are necessary to operate any teacher training program: instruction, personnel, communication, policy, and facilities. Thinking at this level requires program developers to consider
overall program needs rather than the operation of individual units within the program. It stretches program developers into considering new ways of reaching program goals. In fact, being guided to think in this manner is the most demanding and creative aspect of the entire methodology.

Sub-step 3.4: Discuss the type of questioning necessary.

Since prior thinking may have been in terms of divisions of the program rather than in terms of the program as a whole, the facilitator's ability to guide the group's thinking with appropriate questioning is crucial. The facilitator uses as his tools three categories of questions. The first category consists of the formal, repeated questions of the methodology which are itemized and discussed in Steps Three, Five, and Eight. These questions have to do with identifying program purposes and needs and, in the task analysis, with specifying what students must "know," "do," or "be like" to fulfill those needs. As a foundation of the methodology these questions provide a helpful, repeated, formal base.

The second category includes repeated questions aimed at sequencing program experiences and showing the relationships among them. "Are these experiences parallel?" "Is the preparation for this experience different from that one?" "Is this field experience a necessary precondition of that theoretical input?" "If I were a student in your program could I do . . . ?" These questions are helpful in breaking ideas
down and regrouping them in new ways. They encourage program developers to see relationships among concepts they may previously have considered separate since the program may not have been viewed as a total "system."

The third category of questions includes ones which probe and clarify ideas, program concepts, flights of fancy, etc. These are not regular or repeated. They are necessary and enjoyable and an aspect of the facilitator's role in making certain that ideas eventually are clearly expressed or rejected by the group. He attempts to tease out incipient, vague notions to probe the implications and point of view beneath. Since many digressions are in fact a form of creative thinking and have a disguised, often unrealized intent, he channels digressions as best he can. He offers his own ideas as well as questions, for his ideas often provide a focus to which program developers may respond.

Although the facilitator needs to consciously think in terms of using these three categories of questions as tools of his trade, the program developers soon employ this questioning technique themselves. In the course of the work the facilitator inevitably becomes a model because he appears to know what he is doing more than the others. Employing a specific set of procedures and a technique for producing a conceptualization, his skill in implementing these procedures consists primarily of his questioning ability. Thus knowledge of the procedures and technical ability to carry them out
become in themselves a learning model for program developers who inevitably want to familiarize themselves with the program conceptualization methodology.

Sub-step 3.5: Discuss the role of the facilitator.

After discussing the types of thinking and questioning necessary, the facilitator may briefly describe some key elements of his role in the conceptualization process. At this point it would be absurd for the facilitator to expound at length on his role or examine each item on the list below. Before starting the process, however, the facilitator may wish to be aware of these aspects of his role, which is why they are described early in this chapter. The facilitator will probably limit himself to mentioning items he considers significant as part of an overall description of his role in the process; the organizer, questioner, clarifier, recorder, and supporter of the group—in short, a facilitator.

1. Locate the group on the methodological "blueprint" of the process at any time.
2. Organize the gathering of information by providing a structure for the work.
3. Guide the thinking of the group through questioning and drawing out the implications of ideas and concepts.
4. Be aware of whose points of view and whose values are operating.
5. Keep the momentum of the process going.
6. Write and record the work in a parallel form; diagram the ideas and concepts, thus placing them visually within the structure of the methodology.
7. Clarify ideas and concepts.
8. Phrase and restate ideas and concepts.
9. Provide a fresh perspective to the group's thinking.
10. Be aware of the structure of the entire teacher training program as it emerges through the needs analysis and the individual task analyses.
11. Relate the individual components the group is working on to each other and to the entire conceptualization at any time.
12. Support the group continually.
13. Conduct regular feedback and review sessions.
14. Concentrate on being a facilitator, yet contribute to thinking without dominating.
15. Summarize the ideas and concepts as a technique to produce related thoughts rather than for closure.
16. Present choices to program developers.
17. Help program developers prioritize items and make temporary decisions about them during the work.
18. Train program staff members to continue the conceptualization process themselves after the formal working sessions end.

A characteristic of human beings is their desire to know where they are physically at any moment. The same characteristic holds for program developers in this conceptualization process to the extent that they need to locate themselves physically in the procedures and realize the level at which they are working. This need is especially evident during the first two or three task analyses before the analysis procedure becomes comfortable. At the needs analysis level and at the
upper levels of the task analyses program developers tend to become specific rather than general. They need to be reminded, for example, that at this level in the conceptualization process they should think in broad terms while gradually enlarging the "pyramid" with increased depth or specificity.

Along with organizing information within the total structure provided by the conceptualization methodology, the facilitator may want to suggest individual structures during certain task analyses. Program developers frequently are unclear regarding a certain need they may feel but cannot articulate. When they are able to react to the facilitator's structure their own feelings and ideas may develop. An example of this technique is suggesting that the administrative "need" of a teacher training program be viewed in terms of five categories: instruction, personnel, communication, policy, and facilities. Most developers have not considered their programs from the point of view of these organizing categories and the structure provided by the facilitator provokes lively exploration, a testing of the categories, and an immediate set of possible trails through a seeming morass.

Having discussed the types of questioning a facilitator needs to encourage, further comment about his role may be helpful. As he familiarizes himself with the specific program being conceptualized, the facilitator may be able to anticipate questions and the developers' trains of thought. The advantage
of anticipation for all concerned is increased efficiency and less floundering around. Since developers' thinking sometimes becomes rather patterned, especially if the program has operated for some time, anticipation enables the facilitator to question responses to his questions in order to explore implications even further. Anticipation may also aid in achieving the purpose of all questions, which is to encourage new ways of looking at familiar ideas.

The facilitator needs to be aware of points of view and values expressed during the work. Part of his role is his attempt to include in the emerging conceptualization all the points of view represented among the program developers. Certain people may need encouraging; others may need to be reminded of their prior commitment to include points of view other than their own. Above all, although the facilitator will be contributing his own ideas to the conceptualization, his point of view should not influence the development of the program. His ideas are best contributed within the represented frames of reference.

As he phrases ideas and diagrams them visually for the group, the facilitator records the phrases in a roughly parallel form to avoid later confusion. This parallelism is difficult to achieve since the ideas come with such variety and varying degrees of completeness. Unparallel ideas stated in many different forms end up being rather confusing and usually need to be readdressed. Furthermore, the concise
phrasing of an idea usually measures its completeness. The facilitator diagrams ideas at the same level of development on the same physical level of the working paper. Developers unfamiliar with the diagramming procedure draw unwarranted conclusions about the value and relationship of ideas when they are placed at differing physical levels. The facilitator will find that the working sheets need to be redrafted between sessions, which takes extra time but is essential in clarifying the work for all concerned.

Along with clarifying, rephrasing, and summarizing ideas, the facilitator's opportunity to provide a fresh perspective to the group's thinking is immense and enjoyable. If program developers understand this aspect of his role he can play the gadfly by asking "what if" questions to raise potential problems and contingencies the developers may not have considered. "What if I wanted to do . . . ?" Asking "boundary questions" such as "Is it all right for a student to do x, y, or z?" is also a good strategy. The facilitator's inventiveness with these questions can provide fun and perspective as long as they do not divert the group from its task. At times asking frivolous questions strictly to raise a laugh helps everybody. The task can get overly serious!

A significant role the facilitator assumes is that of being responsible for relating elements of various task analyses to each other, to task analyses in other breakdowns, and to the entire program as it emerges. He is the one who
redrafts the working papers, prepares agendas, and conducts feedback periods to review progress. His ability to see connections and components of the program in relation to each other during the redraftings and reviews is crucial if the facilitator is to take advantage of this strength of the methodology.

The operations of summarizing and restating are in themselves ways of offering support, which is a crucial facilitator role. When the facilitator restates ideas he tells program developers that their ideas are being heard and considered and therefore valued. While clarifying ideas and supporting the developers, summarizing and restating also tend to produce in their wake new or related thoughts. They provide the time and input to trigger derivative thoughts which may not have occurred. The facilitator may ask others in the group to assume this role, which sometimes enhances a person's value in the group while providing him practice in a specific technique. It also decreases the dependency which program developers may come to feel regarding the facilitator without slowing the efficiency of the work. The facilitator attempts to strike a conscious balance between offering his own thoughts and knowing when to clarify, when to reflect, and when to wait.

Presenting choices and supporting program developers in their choices and emerging priorities is another form of support. Being asked to deal with alternatives when possible
tends to move the work along efficiently and clarify ambiguities in the standards or anticipated program sequences. Setting the standards is the most difficult part of framing the behavioral objectives, partly because program developers expose their values more than in any other part of the work. But the value of requesting standards is considerable in moving program developers toward emerging priorities. Attempting to frame standards and being assured that they do not need to be polished during the conceptualization work in itself constitutes support.

Finally, somehow the facilitator strives to find a balance between encouraging ideas and making program developers realize that they cannot accomplish everything the ideal program should do. The program conceptualization process promotes an understandable urge to include everything that program developers have dreamed. Although the large job of setting priorities comes after the conceptualization process, and when all alternatives are clearly available to be dealt with, preliminary priorities do need to be set. One way of showing the group's priorities is to carry certain breakdowns within a task analysis further than others. Doing so indicates greater concern with that breakdown and in effect assigns it a higher priority. Since the depth of a breakdown should be a conscious decision, the facilitator questions the group about how far down it wishes to carry breakdowns as they are being thought out.
Sub-step 3.6: Discuss some physical and psychological requirements of the work.

After discussing the types of thinking and questioning necessary in the program conceptualization process and examining the facilitator's role, the facilitator may briefly mention some physical and psychological requirements for engaging in this work. He may point out, for example, that determination and endurance are essential since although the results look as though they are arrived at easily, this process is in fact long, hard, and difficult work. Program developers should be willing to risk themselves, their ideas, and their program and to accept the fact that much unexpected ambiguity in concepts and operations will appear. A group usually develops skill at being able to work comfortably with imperfectly formulated ideas. The conceptualization process tends to muddy waters more than expected when people judge by the clear results of other program conceptualizations.

Since this step follows an examination of the facilitator's role, program developers should already realize the importance of supporting each other in their work. The facilitator may also explain that they should restrain their natural urge to digress in conversations and to justify their ideas constantly to their colleagues and to the facilitator. In an atmosphere of trust and acceptance these problems will be minimal. The facilitator may also stress the importance of program developers' being willing to make tentative decisions as they set priorities in carrying certain task
analyses farther than others. The facilitator would not offer these physical and psychological requirements as threats to the success of the work. On the contrary, they are a way of restating earlier thoughts with the hope of strengthening the developers' commitment through an explicit realization of certain requirements.

Sub-step 3.7: Present an overview of Instructional Systems Development Methodology.

Sub-step 3.8: Examine the relationship of the program conceptualization process to a "systems approach."

Sub-step 3.9: Examine the relationship of the program conceptualization process to common sense and familiar outlining procedures.

At this point in the procedures the program developers should be familiar in a general way with the program conceptualization process itself; its organization, its potential benefits, its thought processes, the facilitator's role, and their own requirements. To the extent that the group may want to do so, it may be helpful to refer briefly to the background of the process and its relationship to systems approaches and common outlining procedures. The facilitator should assess the degree of interest in Sub-steps 3.7, 3.8, and 3.9 very carefully; if program developers are not especially interested in this background material he probably will not wish to present it. The decision depends on time, personalities, and interest. These steps are optional.

For many program developers, however, part of the purpose of performing this process is to learn a new technique.
Members of the group may want to know the basic facts of Instructional Systems Development methodology and systems theory as presented in Chapter II and clearly understand which portions of the methodology are used in the program conceptualization process. Program developers should realize that Instructional Systems Development is a methodology originally designed for curriculum development. The program conceptualization process has adapted Instructional Systems Development methodology to develop a set of program planning procedures which, in fact, enable program developers to conceptualize a curriculum for their teacher education programs. Thus the program conceptualization process is an outgrowth of Instructional Systems Development methodology. Secondly, apart from the methodological sequence itself which has already been explained to program developers, another significant point is that Instructional Systems Development methodology is divided into two different conceptualization and implementation segments. The program conceptualization process is built on the conceptualization segment only. The written documentation of their work will provide program developers with the framework for later prioritization and subsequent implementation of task analysis items.

Some interest may or may not be expressed regarding the relationship of the program conceptualization process to a "systems approach" since in its title Instructional Systems Development uses the word "systems." This relationship is
expanded in Chapter II, but certain basic items listed below may be stressed at this point in the procedures if interest warrants consideration:

1. Both demonstrate how components of the program work together for one overall "purpose" or objective.

2. Both analyze the teacher training program in terms of functions rather than preconceived divisions.

3. Both order and relate thinking sequentially.

4. Both provide a context for logical and coherent decision-making.

5. Both provide performance information.

The same procedure is true of relating the program conceptualization process to more familiar outlining procedures. Making the relationship may alleviate some anxieties as well as contribute to learning on the part of program developers.

Points that could be stressed are as follows:

1. Outlines and common sense suggest a logical plan of attack.

2. Any outline attempts to order elements sequentially.

3. It is common sense to break a task into segments (the needs analysis) relating to a whole before proceeding.

4. It is common sense to locate ideas physically where they can be seen and related easily visually.

Sub-step 3.10: The facilitator and program developers recheck their mutual agendas for congruency.

At this point in the procedures Step Three, the organization of the group and task, is nearly complete. The facilitator and program developers should recheck their agendas
to be certain their expectations are congruent. After previous comments and discussion the stage is set for the work itself. The facilitator would be wise to make certain that no confusion exists at this point and to reaffirm commitments. The step may, in fact, take only a moment if no issues arise. If differences in expectations are apparent, however, the entire group should realize what they are and determine whether they will affect the enterprise. At this time the group may also discuss whether any members should be dropped or replaced. The facilitator should discourage adding any new members this late in the process since they would find it very difficult to fit the context.

Sub-step 3.11: Schedule a series of seven working sessions.
Sub-step 3.12: Decide the "working environments" for those sessions.

The final steps in this unit are to schedule a specific series of seven future working sessions of two and a half to three hours each in appropriate working environments. The facilitator may wish to review the arguments of Step Two, Sub-steps 2.2.2, and 2.2.3.

If the group is stopping its work at this procedural point the facilitator should present the agenda for the next session as "writing a temporary purpose for the teacher training program." Frequently, however, the work of Step Three will flow directly into that of Step Four.
STEP FOUR: The facilitator leads the group in writing a temporary purpose for the teacher training program. (time: about one and one-half hours)

4.1 Give the rationale for the temporary purpose.
4.2 Ask the appropriate formal questions.
4.3 Categorize the information from answers to the questions.
4.4 Discuss and prioritize information in each category.
4.5 Write a one-sentence statement of the temporary purpose.
4.6 Engage the group in feedback and review of this Step.
4.7 Provide an agenda for Step Five.

The purpose of Step Four is to start the conceptualization process itself by framing a statement of a temporary purpose for the teacher training program. At this point such a statement is not intended to be polished or even complete. It provides the group with the top of the "pyramid" from which the rest of the conceptualization flows. The facilitator states that this statement is, in fact, "temporary" and will be redrafted after the needs analysis and at any other point the group desires. Developers at this step in the procedures naturally want the temporary purpose to be complete and rather complex, even grandiose. A general statement including the various points of view represented will provide a starting point. The temporary purpose is not a program description or philosophy in any sense, although developers will find that having a written statement of purpose and a
specific needs analysis will help greatly in later writing a philosophical statement.

Presenting the rationale for a temporary purpose helps start the process. The statement presents one or more broad reasons for operating the teacher training program and broadly defines both its constituencies and activities. Since the temporary purpose is the start of the program conceptualization process it provides a specific statement to which the various program needs may be related. This statement is necessary to perform a needs analysis, which is the next procedural step. In its broad way the attempt to frame a temporary purpose usually surfaces most of the major issues in a teacher training program while defining the limits of the enterprise. It is surprising how frequently program developers have not actually articulated their program purpose and consequently how much help developers may require. Led by the facilitator, the attempt to write this statement is a safe, manageable way for the group to begin working together.

Since developers are not accustomed to thinking in this manner, certain formal, procedural questions are useful: "What do you want to accomplish in your program?" "For whom do you want to do these things or provide these services?" "Why do you want to do these things, or provide these services?" These questions are designed to pinpoint the program's constituency and anticipated activities.
The facilitator organizes the information provided by the answers to these questions into three categories of "what," "for whom," and "why." Categorizing the information visually on paper or a chalkboard helps the group discuss and prioritize items in each category until all program developers agree that the items are broadly representative and identify basic program purposes.

Having gathered the above information, the facilitator may proceed in one of two ways. He may himself attempt to frame a one-sentence statement. Or he may present the commonalities and differences in the information and ask each program developer to frame an acceptable statement. The second method takes more time, depending on the group's size, but has the advantage of involving everyone directly. After two or three attempts the group should be able to reach an agreed upon statement. Trying to include the various points of view while framing an intelligent statement is not easy; it is the group's first experience in this process with the hard thinking necessary. Spending the time to attempt to frame the statement individually increases personal commitment to the process and ownership of the group's statement.

Framing the temporary purpose usually takes one to two hours. Developers are always surprised at the difficulty of framing such a basic, mutually acceptable statement. The results, however, are satisfying and the process is an initial example of how the group will work together. This
is a good time for feedback, both in terms of group interaction and in terms of Step Four activities as a model of the program conceptualization process. Furthermore, feedback now provides another periodic check of mutual expectations. The facilitator may also complete the procedural sub-steps by outlining the agenda for Step Five, the needs analysis. He may highlight the rationale, the importance of including all available points of view, the formal questioning process, and his role in the needs analysis.
STEP FIVE: The facilitator leads the group in performing a needs analysis of the temporary purpose. (time: about one hour)

5.1 Locate the group in the methodology.
5.2 Give the rationale for the needs analysis.
5.3 Encourage contribution by all points of view represented in the group.
5.4 Describe his role in the needs analysis process.
5.5 Ask the appropriate formal questions.
5.6 Regroup the needs into discrete categories.
5.7 Rediagram the needs analysis.

The facilitator should begin the needs analysis process by making certain that program developers understand where they are in the methodological "blueprint." Locating the developers takes only a moment, but it reassures them and provides a transition into the needs analysis itself.

The transition is further effected by presenting a rationale for the needs analysis. It is a crucial step in separating a complex enterprise such as a teacher training program into manageable, discrete components (or "needs") which later can be analyzed separately. Secondly, the needs analysis process forces program developers to relate each of these discrete needs directly to a common, mutually acceptable purpose. It is a downward expansion of the pyramid which has the statement of purpose at the top. A third reason for performing a needs analysis is that it separates theory from practice to the extent that it differentiates instructional needs from supporting field experiences. These two components are separate needs of any teacher training program and may
be analyzed separately; the needs analysis identifies them as separate, but parallel, items.

Another reason for performing a needs analysis of the temporary purpose is that it provides a way to start the program conceptualization process on a level of relatively little disagreement since agreement on the broad components of the program is fairly easy to achieve. In fact, interestingly enough, the needs analysis tends to be easier, looser, less rigorous, and more enjoyable than writing the temporary purpose. Developers seem to have a clearer vision of the broad experiences and instruction they want in the program than of their general purpose concisely stated. The needs analysis is also a specific attempt to include a variety of constituencies in the program conceptualization; input from these constituencies will be assured if their views are represented in the needs analysis. A final reason for the needs analysis is that it creates the agenda for subsequent working sessions which task analyze each separate, identified need.

Having explained the rationale for the needs analysis, the facilitator stresses the importance of including all available points of view. School systems want interns to help staff their classrooms; graduate students may need supervisory and college-level teaching experience and join a teacher training program for that level of training; the university sponsors teacher training programs to offer a rich
curriculum; some faculty prefer to be affiliated with a teacher training program to satisfy their professional interests and teaching responsibilities. During the needs analysis the facilitator explicitly encourages all available points of view. If they are not included at this time these various program needs may never emerge in the later conceptualization.

At this time, Sub-step 5.4, the facilitator may consider his role in the needs analysis process. He may or may not wish to discuss his role, or some aspects of it, with the program developers. In any case, if he understands the various dimensions of his role he can aid the group most effectively. A review of role functions in Sub-step 3.5 will prove helpful. He also concentrates on gathering all possible information regarding program needs. Through the formal questions listed below he should clarify and rephrase the needs expressed to him, many of which will be incomplete and confused. The facilitator lists this information visually in a roughly parallel form so that program developers can literally see their ideas emerge. If the facilitator makes certain that the needs expressed are broad educational principles or goals rather than means or ends, he will find that the needs can be written in roughly parallel phrases identifying classes of needs at the same level.
Two other aspects of the facilitator's role in the specific needs analysis process are significant. Program developers feel an understandable personal need to amplify and justify the program needs they identify. They are starting to declare their positions somewhat at this point and unless the facilitator provides firm direction the needs analysis can merge into an unproductive philosophy and rationale session.

If excessive justification of ideas becomes a problem, the facilitator assumes the responsibility of regaining the group's momentum. A useful way is to lead the group in the "brainstorming" technique. If carefully applied, as it should be in this situation since it is a device for liberating the group and pointing them on a specific course, brainstorming adheres to the following rules.

1. By group agreement, limit the duration of the brainstorming period.
2. Do not discuss any ideas during that period.
3. Do not make any negative comments.
4. Give as many ideas as possible.
5. Deliberately "piggy back" on the ideas of others.

Ten minutes of formal brainstorming is likely to be highly effective in producing information and in discouraging too many digressions or justifications of ideas.

At this point in the procedures, Sub-step 5.5, the facilitator should guide the thinking of program developers by asking the following two questions:
1. "What program needs must you satisfy in order to achieve your (temporary) purpose?"

2. "What components do you need to have in your program to achieve your (temporary) purpose?"

To gather the necessary information, the facilitator may want to suggest categories of needs, such as field experience, instruction, learning theory, or administration. He would be wise, however, to offer general, organizing suggestions only at this point in the procedures if he offers any comments at all; his objective is to gather information about identified needs rather than add his own.

After he has gathered as much information as possible regarding program needs, the facilitator performs Sub-step 5.6 by regrouping the needs into discrete categories and rephrasing those categories with reasonably clear labels. Both operations are important and closely related. The facilitator is likely to have four or five times as many needs listed as are really separate. He is not concerned with priorities or relationships among needs at this point; the needs analysis is intended to identify the whole spectrum. He categorizes these needs in various ways and phrases and labels them. The actual phrase label used does make a difference since an imprecise label may result in restricted thinking in a later task analysis. The facilitator makes a genuine attempt to attach the most precise possible label to each need category, but he will find that generally the available labels or phrases will not satisfy everybody. Indeed, some confusion
may yet exist over the implications or even the basic thrust of a certain need; yet it is there, clearly felt, and should be retained even if its fuzzy form is just enough to point direction in the later task analysis. Too much time may be spent trying to polish the needs analysis when in fact several of the labels and categories will change when they are task analyzed. The needs analysis is basically information gathering; it is complex and fundamental, but the facilitator should not insist on more clarity and precision than comes readily.

The final Sub-step (5.7) in the needs analysis process is to rediagram the discrete categories of needs with their reasonably clear labels. The facilitator may perform this Sub-step during the working session itself or between sessions if work ended with the needs analysis. In any case, the results of the work are best presented in parallel form so that program developers can visualize the top portion of the "pyramid," the needs analysis relating directly to the temporary purpose while outlining future task analyses.
STEP SIX: The facilitator leads the group in rewriting the temporary purpose into a working purpose. (time: a half hour or less)

6.1 Check the consistency of needs with the temporary purpose.
6.2 Write a working purpose.

The purpose of Step Six is to rewrite the temporary purpose into an acceptable working purpose. This process may take ten minutes or an hour and is designed to tighten up any loose ends before the task analyses are started. New information occasionally will emerge during the needs analysis and an identified need will not clearly relate to the statement of purpose. In that case, since the need is essential, the statement may be rewritten to reflect that need. The working purpose should continue to be a one-sentence, broad statement to which all needs and eventually all task analyses may be related. The group may also find that this cross-checking procedure may alter one or more of the labels to reflect more clarity or precision for the phrasing of an individual need.
STEP SEVEN: The facilitator leads the group in prioritizing the discrete categories of needs. (time: a half hour or less)

7.1 Prioritize the needs.
7.2 Engage the group in feedback and review of Steps Five, Six, and Seven.

Step Seven has two functions: one is deciding which needs are more significant to work with than others; the other function is to organize feedback about the needs analysis and working purpose steps of the methodology. Program developers normally select one need as their first task analysis. Further prioritization may or may not be possible or advisable; the group may prefer to see the results of the initial task analysis before determining an order for subsequent task analyses. Since a successful initial task analysis sets the stage and generates momentum for the whole process, the facilitator should urge program developers to select a need which they feel they understand quite well. The importance of starting with an "easy" need, one with a high degree of consensus, should not be underestimated.

Secondly, the facilitator again offers the opportunity for feedback about the needs analysis and working purpose steps. These steps are further examples of group interaction, of the facilitator's leadership, and of the program conceptualization process as applied to the specific teacher training program involved. Misperceptions regarding the methodology may still exist. Group interpersonal problems may have emerged.
A feedback period of ten to twenty minutes at this time may clarify mutual expectations. Even if such a period is not needed by the group, knowledge that time is available in the procedures is reassuring. Program developers or the facilitator may need the structured time to comment on their work together.
STEP EIGHT: The facilitator leads the group in performing the first task analysis of an individual program need. (time: about two hours)

8.1 Locate the group in the methodology.
8.2 Give the rationale for the task analysis.
8.3 Personally review his role in the task analysis.
8.4 Examine the "label" for the need being task analyzed.
8.5 Specify the upper level of the task analysis.
8.6 Ask the appropriate formal questions.
8.7 Create the elements of a behavioral objective for the need being task analyzed.
8.8 Help program developers set initial priorities.
8.9 Direct the depth of individual breakdowns within the task analysis.
8.10 Relate elements within the task analysis.
8.11 Relate elements within the task analysis to elements within other task analyses.
8.12 Locate spontaneous thoughts within other need categories.
8.13 Alter "labels" for other need categories if necessary.
8.14 Review the checklist for a productive task analysis.
8.15 Review the checklist of potential problems and remedies for an unproductive task analysis.
8.16 Check the upper level of the task analysis for consistency with the need being task analyzed.
8.17 Confirm the accuracy of the "label" for the need just task analyzed.
8.18 Select the next need to be task analyzed.
8.19 Rediagram the completed task analysis.
8.20 Lead program developers in feedback and review of the previous working session.

The task analysis work of Step Eight is the heart of the program conceptualization process. Steps preceding
the analysis prepared program developers and their material for the rigorous thinking necessary. Prior commentary in this chapter has referred to many specific details of the task analysis process which will not be reviewed at this point. Certain items should be expanded, however, and new ones introduced.

Sub-step 8.1: Locate the group in the methodology.
Sub-step 8.2: Give the rationale for the task analysis.

After being certain that all program developers realize which methodological step they are performing, the facilitator should give the rationale for the task analysis. In actual operation Sub-step 8.2 may have been performed simultaneously with selecting a specific need to start the process in the previous Step. By this time, although everybody concerned understands the flow of the process, some confusion may remain over what a "task analysis" actually is. The task analysis process provides a series of "breakdowns" which consist of the answers to formal questions asked during the work. These breakdowns start with major subdivisions at the upper level of each analysis. Within each subdivision the breakdowns identify the elements of the need being analyzed with increasing specificity to the point of actually delineating certain program "tasks" which must be accomplished to fulfill that particular program need. Hence the term "task" analysis. Studying "body language," for example, is a fairly
specific task which must be accomplished to meet the "strength training" component of "skill training"; skill training, in its turn, is a major subdivision of an identified program need of "Learning Experiences and Their Applications." The movement from the general program principle of "Learning Experiences" to the specific study of "body language" represents the conceptual flow of the task analysis. Reaching from the broad principle involved to the more specific means of servicing that principle constitutes building the "pyramid" of the conceptualization.

In presenting the rationale for the task analysis, highlighting other aspects of the analysis process is useful if done briefly. The task analysis will provide a structure for program concepts which will be diagrammed in such a way that they can be visually related to each other easily. These concepts will be organized in terms of specific program needs rather than any pre-conceived divisions. Behavioral objectives at the uppermost levels of the task analyses will specify the conditions, behaviors, and standards for the learning experiences serving the various program needs. The task analyses will provide increasingly specific information about program operation and personnel expectations. Finally, while developing a sense of achievement in "constructing" a program, the task analyses will help begin the process of setting priorities within program needs. Although none of
these points should be labored since program developers are eager to start work, mentioning them tends to clarify expectations.

Sub-step 8.3: Personally review his role in the task analysis.

Whether or not he does so with the group, the facilitator may wish to review his role in the task analysis process to clarify his own expectations. Reviewing Sub-step 3.5 (the facilitator's role in the conceptualization process) and Sub-step 5.5 (the facilitator's role in the needs analysis) will reinforce fundamental aspects. Another consideration more specific to Step Eight is controlling the timing and environment of the working sessions. Rather than permitting unexpected delays or changes in environment, the facilitator is wise to insist on both the best conditions available and the agreed upon schedule. Sooner or later program developers are likely to request changes; the facilitator should take seriously his responsibility in resisting changes or, conversely, in promoting changes himself if he finds conditions are unsatisfactory. Other basic functions of his role, such as requesting information and formal questioning, have been explored in earlier portions of this chapter.

Proper diagramming of concepts is, of course, essential. It is important to place ideas of the same significance (or level of development) at the same physical level on the working paper. Extra large newsprint is ideal. Vertical position
in the methodology does indicate degree of specificity down the "pyramid" from general program needs to identified tasks to fulfill those needs. Proper diagramming, which is a strength of the methodology, enables the group to visualize the top and bottom of the conceptualization "pyramid" while simultaneously relating ideas horizontally. The chain from principles to means is clear, as is the relationship and overlap of means at each level of development. Lack of attention to this seemingly small detail can result in rapid confusion among program developers or to unwarranted assumptions about the worth of certain ideas in relation to others.

Another important facilitator role lies in being aware of the entire framework as it emerges during the several task analyses. The facilitator provides leadership in relating components within the task analysis to each other as well as to components in other task analyses. Clear diagramming and a deliberate attempt to think in terms of the entire framework are essential to maximize this methodological strength. Program developers quite naturally tend to lose themselves within individual task analyses, thus limiting their vision.

An especially important aspect of the facilitator's role is that of guiding the depth of the various breakdowns. The facilitator helps developers realize which are their more significant breakdowns. This realization is the start of setting priorities. Simultaneously he directs the gradual movement from broad principles to specific means of reaching those
principles in those breakdowns which have been selected for more intensive analysis. The facilitator has a very serious role in providing leadership during the task analysis consisting of guiding thought, maintaining momentum, and following the procedures without controlling the group.

Sub-step 8.4: Examine the "label" for the need being task analyzed.

The procedural moment to examine the "label" for the need being task analyzed occurs as the group begins the task analysis. As explained earlier in this chapter, the label used to identify a need can be inhibiting or liberating when the task analysis is started. At this point the facilitator may want to suggest reasons for re-examining the label. Time has elapsed between the initial struggle to articulate the need during the needs analysis and the time to task analyze it; new understandings, new program directions may have emerged; a program developer may have realized more clearly what he meant when he first had an unclear notion of a need; program developers may alter the focus of a need to subsume it within another. In any case the facilitator may ask developers whether the label for the need clearly reflects their concept. A change of label may or may not occur, or it may happen rather suddenly at any point during the task analysis when developers realize the implications of the need they are task analyzing. The necessity for a change or
the timing of it depends entirely upon the clarity of the need at any given time.

Sub-step 8.5: Specify the upper level of the task analysis.

When the label for the specific need being task analyzed is as clear as possible, the facilitator leads program developers in breaking that general need into more specific categories for detailed analysis. These large divisions subdivide the general need into manageable categories. An example is subdividing the "non-classroom" component of the "field experience" need into the four categories of "adolescents," "personal significance," "supervision," and "logistics." (See the Alternative Learning Experiences conceptualization in the Appendix.) Program developers should determine these categories as they start a task analysis; otherwise the group becomes immersed in trying to analyze the need itself rather than one category or subdivision at a time. Furthermore, program developers may wish to create behavioral objectives for each upper level category as well as or in preference to one for the overall need.

Sub-step 8.6: Ask the appropriate formal questions.

As in Steps Four and Five when the purpose and needs were identified, so also in the task analysis the facilitator asks a series of repeated, formal questions. Since the questions are asked several times in each task analysis, the facilitator will find that Substeps 8.6 through 8.13 usually
occur simultaneously rather than sequentially. The information provided by answers to the following questions provide the concepts and eventually fairly specific requirements for personnel and the program itself.

1. "What do your students have to know or do in order to fulfill this particular need?"

2. "What does your program need to do in order to fulfill this particular need?"

3. "What information does your program need to provide in order to fulfill this particular need?"

4. "What does your program have to be like in order to fulfill this particular need?"

5. "What do your students have to be like in order to fulfill this particular need?"

The questions concerning "knowing" are in the cognitive domain and provide concepts for the task analysis breakdowns. The questions concerning "doing" reflect both cognitive and motor domains and are particularly useful in setting standards for behavioral objectives. The questions asking what the program or students have "to be like" provide information in the affective domain. Program developers are likely to explore one or two of these questions to the exclusion of a third area they really would like to include. The facilitator must be aware of which questions are being answered and offer opportunities to elicit information in all three domains. During difficult breakdowns or when ideas are not flowing easily, asking these questions repeatedly focuses thinking enormously. On occasion, precise asking on the part of the
facilitator and precise understanding of the question on the part of program developers is crucial in steering the group out of complex ideological morasses.

Sub-step 8.7: Create the elements of a behavioral objective for the need being task analyzed.

The program conceptualization process calls for creating the elements of behavioral objectives rather than formally writing objectives. These elements are created at the uppermost level of the task analysis only except when developers wish to specify further objectives at lower levels of the task analysis. The facilitator assumes responsibility for guiding program developers by asking them to specify the following components of behavioral objectives with regard to each identified need:

(1) the conditions under which their students will demonstrate practicing the behavior;

(2) the specific behaviors which the students will demonstrate;

(3) the standards which will define and measure learning of the need being task analyzed.

Although great emphasis has frequently been placed on behavioral objectives, it should be stressed that they fulfill a minor, but helpful, function in the program conceptualization process. Even when used at the broad level of this conceptualization process they do require fairly rigorous performance criteria stated in terms of the learners in the teacher training program. The elements of objectives in
this methodology are not highly prescriptive activities which can be easily measured. Rather, they serve the purpose of requiring further thought about where and how learning will occur and what standards will judge the performance of program personnel. The standards portion of the behavioral objective is extremely useful to the overall program conceptualization and frequently serves a unifying function among separate program needs.

Part of the function of behavioral objectives in this methodology is to further clarify thinking and expectations as well as to provide direction for future program development. The program conceptualization process does not, however, benefit from carefully written, perfectly developed objectives, each with a behavioral verb specifying a single contingency. Rather, they are deliberately used somewhat loosely: they are not formally written and their primary purpose is to tighten thinking by identifying general modes of behavior. They provide a common set of expectations between program students and staff rather than detailed or precise performance measurement. An example of the way behavioral objectives are used in this methodology lies in the difference between the formal, highly prescriptive objective in number one below and the broader standards of numbers two and three.

(1) "The student must be able to correctly solve at least seven simple linear equations within a period of thirty minutes." (Taken from Mager, 1962, pp. 45-50)
(2) Choose a professional issue significant to you in one of your field placements and illuminate that issue through your readings. (See the Alternative Learning Environment conceptualization in the Appendix.)

(3) The student must "share" (deliberately unspecified) the results of learning his new non-verbal skill with the learning group which approved it. (See the Alternative Learning Environments conceptualization in the Appendix.)

Behavioral objectives are tools for the facilitator to use and in the program conceptualization process he should not feel they constrict him. Creating the elements of the objectives (the conditions, behavior, and standards) simultaneously with performing each task analysis appears to work best. Each tends to complement the other through adding to the overall conceptualization, especially when thinking falters. If a breakdown is not going well, switching to creating the elements of the objective can be helpful, as can be the reverse. Generally, if thinking stalls in both creating the elements of the objective and in performing the task analysis breakdown, the need being task analyzed either needs further clarification or the breakdown itself may not be significant. If the need or concept being analyzed is not very clear it is better to task analyze it in some depth in terms of "knowing" and "doing" questions before specifying the elements of a behavioral objective. If the concept is quite clear, developers will probably be able to simultaneously specify the standards and task analyze the breakdown.
Sub-step 8.8: Help program developers set initial priorities.
Sub-step 8.9: Direct the depth of individual breakdowns within the task analysis.

A significant activity of each task analysis is setting initial priorities by making temporary decisions as the breakdowns develop. As stated earlier, the program conceptualization process is not a methodology for setting priorities; rather, its intent is to clarify alternatives in preparation to formally setting priorities, which normally occurs after the conceptualization work has been completed. Directions do emerge in the breakdowns, however, and the facilitator may encourage program developers to consider their preferences and make operational decisions concerning portions of their program they want to emphasize. The facilitator must take care to be certain that such decisions are made by program developers rather than by himself.

Formally asking repeated questions is again a useful technique: "Is this part of your program more important to you than that?" "If you had to make a choice, would you rather have this in your program than that?" If a breakdown emerges as particularly important to the program the facilitator or the group members may suggest carrying it into progressively lower and more specific levels. Program developers may suggest further analysis or the group can tell by its energy and enthusiasm that a particular concept is significant
and should be developed further. In any case, the decision to analyze a breakdown in unusual depth should be a conscious one.

Normally, each breakdown is carried far enough so that the broad need being analyzed is quite clear and directions for further development of the task analysis breakdown at a future time are equally clear. No confusion should remain concerning the implications and directions for future analysis, although most details may still be unspecified. Deciding to carry an individual breakdown further than others should be an explicit realization that this component of the program is significant and has priority. Further analysis requires considerable time to discuss increasingly fine implications and start to identify specific means for reaching broader program objectives. The momentum of the task analysis may be slowed significantly by analyzing a breakdown in too much depth. This danger is an important consideration in relation to group energy. In a sense, even though the group is thinking and making decisions at the program level, it must decide frequently how to allocate its own resources during the work. Too frequent exploration of breakdowns will result in discouragingly slow progress. The group's effectiveness at making these decisions clearly affects both the breadth and depth of their conceptualization. Generally, if developers wish to carry a breakdown analysis further than usual their apparent energy and readiness for the task will
carry it along briskly, thus avoiding a costly delay in momentum.

After completing several task analyses program developers begin to feel that their program may be trying to accomplish too much. They are reluctant to abandon good ideas, even though they recognize that some portions of their program are more significant than others. The facilitator needs to remind program developers continually that formally setting priorities will be the next stage of their work after the conceptualization process is completed. At that time the grounds for priorities will be far clearer. While their present work is being done the facilitator's role is to urge program developers to create as rich a conceptualization as possible.

Sub-step 8.10: Relate elements within the task analysis.
Sub-step 8.11: Relate elements within the task analysis to elements within other task analyses.
Sub-step 8.12: Locate spontaneous thoughts within other need categories.
Sub-step 8.13: Alter "labels" for other need categories if necessary.

The headings of these steps are clear enough not to require much elaboration. A strength of this conceptualization process lies in relating discrete portions of the conceptualization to each other. As the work proceeds program developers become increasingly adept at finding these relationships, although the facilitator should always consider this responsibility for a broader view as his. Since
spontaneous thoughts occur frequently, the facilitator must pay attention to them by locating them in other already-completed task analyses. Locating stray thoughts is extremely reassuring to program developers who then do not have to be concerned that these ideas will be lost. At the same time, it is essential to focus on one breakdown at a time to maintain clear lines of analysis. Occasionally the need to consider stray thoughts and their proper location will clarify a need yet to be analyzed or provide details which will be helpful in later analyzing that need. The "label" for that need may even become more apparent.

Sub-step 8.14: Review the checklist for a productive task analysis.

Sub-step 8.14 is not a specific operation performed as are other steps in the program conceptualization process. The facilitator could refer to the following list of attitudes and operations to help him determine whether any given task analysis is proceeding fruitfully. Clearly, other thoughts could be added to make this list more complete. These items are, however, the most striking; all have been described in depth in earlier portions of this chapter.

(1) Easy and rapid movement from one element to another of the breakdown within a task analysis.

(2) The implications of ideas and concepts will be explored.

(3) Good momentum will be apparent.

(4) A high energy level among the program developers will be apparent.
(5) Modified, informal brainstorming may occur.

(6) Spontaneous "ah-ha" reactions will occur from time to time.

(7) There will be expressions of enjoyment regarding the conceptualization process.

(8) Creative digressions will occur.

(9) Priorities will emerge.

(10) Some temporary decisions will be made without hardship.

Sub-step 8.15: Review the checklist of potential problems and remedies for an unproductive task analysis.

As with the above checklist, Sub-step 8.15 offers a review of potential problems and some remedies the facilitator could try if he feels a task analysis is not proceeding well. Although Sub-step 8.15 is not specifically performed with program developers, the facilitator benefits by being alert to these remedies, most of which can be discussed with the group if progress falters. These items have also been discussed in earlier portions of the chapter.

(1) Check to see that program developers are really aware of where they are in the conceptualization process.

(2) See whether the "label" of the need being task analyzed is confusing to some program developers.

(3) Change immediately and at any time to another task analysis which the program developers feel they understand better.

(4) A false start can sometimes lead program developers in profitless directions; try again with different questions. A fresh start on another breakdown within the same task analysis often helps.
(5) Try the brainstorming technique.

(6) Try working on the "standards" portion of the behavioral objective.

(7) Try asking some "what if . . ." questions: "what if I were a student in your program and I wanted to do . . . ?"

(8) Try asking one of the standard formal questions.

(9) Try urging program developers to set priorities.

(10) Try urging program developers to make some temporary decisions.

(11) Try to see whose priorities and values are operating in the group.

(12) Make sure that you are facilitating rather than dominating the group.

Sub-step 8.16: Check the upper level of the task analysis for consistency with the need being task analyzed.

Sub-step 8.16 is analogous to Sub-step 6.1 in which each need category was checked for consistency with the temporary purpose. Sub-step 8.16 provides a second check for consistency within each task analysis. Its importance lies in checking and maintaining a logical flow via the task analysis from purpose and need to more specific detail. In expanding a breakdown program developers can become exuberant and begin including items which are not properly part of the need being analyzed. If the upper level of the breakdown is directly related to the need being task analyzed, the group may be certain that the individual breakdowns in fact expand that need as they are intended to. If the check in Sub-step 8.16 reveals inconsistency, that portion of the breakdown may be
eliminated from the conceptualization or relocated in another task analysis. A strength of the methodology is that breakdowns may be lifted from one task analysis to another when they seem to relate more clearly to another need. This occasional rearranging of breakdowns contributes to the feeling a group develops of "constructing" their conceptualization and reassures them that rather than being lost ideas will be relocated logically.

Sub-step 8.17: Confirm the accuracy of the "label" for the need just task analyzed

The final step in each task analysis is an extension of the previous step. When program developers are certain that the upper level of the task analysis is consistent with the need being analyzed, they should then be certain that the "label" for that need is as accurate and informative as possible. Frequently, during the task analysis program developers will understand much more clearly a need they had identified and started analyzing even when it was somewhat vague. The analysis should clarify any existing vagueness, which may result in a sharpening of the label as well.

Sub-step 8.18: Select the next need to be task analyzed.

Sub-step 8.18 is self-explanatory, with the added thought that the facilitator should generally urge the group to pursue next that task analysis which seems to have the most information available or to be clearest. As work
proceeds stray thoughts will accumulate to be included in needs yet to be analyzed. Such gradual advance "crediting" of thoughts frequently makes certain task analyses easier than others. In this sense, the methodology encourages and locates thoughts which run in advance of any given task analysis. The group should always proceed to the easiest remaining analysis since that work often makes a harder one easier to do in a later session.

Sub-step 8.19: Rediagram the completed task analysis.

The working papers of each task analysis inevitably become extremely messy as ideas live and die. In any given session work may continue directly from one task analysis to another without any need to redraft the papers. Between sessions, however, and in preparation for the feedback and review period opening each working session, the facilitator assumes responsibility for rediagramming each completed task analysis. He may rephrase ideas or perhaps relocate them in relation to each other within an analysis. While he does not make substantive changes on his own authority, the facilitator should feel that the redrafting is considerably more than copying; it is clarifying; it is collecting and perhaps linking sprawling, still unclear notions at times; it is a specific synthesizing skill which is creative in its own way and should not be minimized.
Sub-step 8.20: Lead program developers in feedback and review of the previous working session.

Chapters III and IV refer often to the many advantages of starting each working session with a feedback and review period. The crucial nature of Sub-step 8.20 is emphasized by its inclusion in the procedures at this point. The feedback and review may or may not occur at the end of any given task analysis. It should start each new working session. Since working sessions frequently end with completing the breakdowns of an individual task analysis, however, the facilitator will often find that Sub-step 8.20 actually does occur at this point in the procedures.

Future Work

At this point in the procedures the formal work of the program conceptualization process is complete. Task analyses should proceed as described in Step Eight until each identified need is analyzed and the conceptualization is complete to the extent that directions for further work are clear. By this time information should be available for setting priorities and for allocating human and material resources. Program developers should understand how to proceed with the conceptualization work, especially since they will be able to build on the written, visual documentation available.

Developers may wish to continue the work on their own. More likely, they will formally set priorities at this stage by selecting certain needs as paramount and certain breakdowns
within those needs as ones deserving further analysis or immediate implementation. Much depends on time pressures. Implementation of the specific program directions provided by the analyses is frequently a necessary next step. Thus begins the true systems link between the conceptual and the operational segments of the teacher training program. The administrative breakdown should identify role functions within the program so that staff responsibilities may be specified. The facilitator need not be involved in these decisions except as a friend of the teacher training program. Since he has provided the methodological framework to organize program ideas, since he has trained his colleagues, and since he has gathered the written documentation of their work together, he has discharged his responsibilities.

Formal Extension of the Procedures

To speculate somewhat at this point, it may be instructive to show how the procedures would logically be extended when applied to a typical page of the conceptualization of the Alternative Learning Environments Program listed in the Appendix. Figure 1 represents the initial task analysis of the non-classroom component of the field experience need. Further work by the program developers would begin in Step Nine by deciding which ones of the four breakdowns assumed highest priority and therefore deserved further work.
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

(Task Analysis and Low Level Behavioral Objective)

I. Learning Experiences and Their Application

Conditions:
1. The student will work with one or more adolescents.
2. The teaching involved will be non-traditional.
3. The work must be done in a setting where professional on-site supervision is available.

Behavior:
1. The student will form a relationship, an acquaintance, with an adolescent.
2. The student will meet with the supervisor to set appropriate goals for the relationship in a written contract.
3. The contract will include (a) time spent; (b) duration of the experience; (c) duties and extent of supervision.
4. The student

(1) Field Experiences

B. Non-Classroom Component

Standards:
1. The student will meet with the supervisor to assess the degree of attainment of the goals.
2. The time spent will be specified in the contract and be agreeable to the supervisor in the individual setting. The suggested minimum is three hours per week. We expect that many students will spend more time.
3. The student will write a two-page summary of the experience.

Figure 1
Assuming the "supervision" breakdown had a high priority in Step Nine, Step Ten would be to further task analyze the "supervision" breakdown and develop behavioral objectives at every level program developers wished to implement at a later time. Step Eleven would be to develop instructional materials and alternative resources to use with these objectives. Step Twelve calls for implementing the objectives as part of an entire program which had been task analyzed to the point of implementation.

Following implementation of the task analysis breakdowns through the behavioral objectives, Step Thirteen establishes feedback procedures to assess the effectiveness of the objectives in meeting the specific program need being addressed, which is "learning experiences and their application." The Fourteenth Step is a continual process of adjusting and maintaining the system as a result of information gained from the feedback. To what extent is the on-site professional and program staff supervision specified in this breakdown effective in helping to provide a valid learning experience? What changes may be made to make this supervision more appropriate?

The Fifteenth Step, which would be the final one in the extended procedures, is to devise and implement an evaluation of the "supervision" breakdown. The evaluation would be responsive to the system alterations which may have occurred as a result of previous feedback. The evaluation
would judge the effectiveness of the objectives in meeting this particular need, as well as the effectiveness of the need itself in meeting overall program goals. Thus the extended procedures of the program conceptualization process attempt to tie the conceptualization segment of the process to the operational segment to create a more complete system.
Chapter IV examines the actual development of the procedures of the program conceptualization process as they were applied by the facilitator to the International Education and the Alternative Learning Environments teacher training programs. Part I also describes some early exposure and practice with the methodology in the Amherst Elementary Program. Since the development and application of the procedures occurred simultaneously, Chapter IV attempts to highlight some of the more significant processes, relationships, and work produced by the facilitator and program developers. Certain essential characteristics of performing the program conceptualization process, such as the role of the facilitator and the types of thinking and questioning necessary to the procedures, are examined. The focus of this chapter is on these characteristics rather than on the operation or sequence of individual procedural steps. The purpose of Chapter IV is not to re-examine all steps from a developmental point of view, but rather to explore the nuances of applying procedures such as these to unfamiliar programs while at the same time examining the gradual growth of theory out of practice.
Part I: Initial practice with the methodology through partial conceptualization of the Amherst Elementary Program.

Exposure to Instructional Systems Development first occurred in September, 1972, when a colleague in the Amherst Elementary Program presented the methodology as a potential student curriculum offering in this teacher training program. The Amherst Elementary Program had not been conceptualized in any thorough way at that time. As the program prepared to operate in its first semester the staff had made an initial division into four separate phases. Program staff, however, did not have a clear idea of what they wanted to accomplish within phases or of how they could relate phases to each other or to the program as a whole. The staff assumed that their division into phases was a sensible one, but that assumption was not specifically related to any direct analysis of program needs to determine whether the phase division best met those needs. In short, since the Amherst Elementary Program was not formally conceptualized, it was ready for a systematic approach such as the program conceptualization process provided.

As staff members of the Amherst Elementary Program considered teaching the Instructional Systems Development approach to their students as a tool to aid them in curriculum planning, they also felt that they could adapt the methodology to aid them in planning a more coherent program. One
of the author's primary responsibilities as coordinator of the Amherst Elementary Program concerned overall program planning. Time pressures of presenting that program immediately did not permit the program staff to conceptualize the program from the overall perspective essential to the program conceptualization process or to any systems approach. Consequently, the program was analyzed according to predetermined phases. Despite this theoretically imperfect approach, staff members hoped they would be able to specify their content and organization within each phase much more clearly.

The staff made a great deal of progress in what the author regards in retrospect as a learning experience for all concerned rather than a proper application of the procedures of the program conceptualization process. The major steps of Instructional Systems Development methodology, which consist of writing a purpose and performing the needs and task analyses, were followed. Staff members and the author as facilitator had no previous conceptualizations to guide them, no understanding of the dimensions of the facilitator's role, not even a clear view of the benefits this process might bring to the program.

The staff proceeded on faith and on fairly immediate payoff. As the facilitator worked with the leader of each phase in turn, staff members consistently felt that their rigorous though somewhat unfocused analysis greatly improved
their understanding of what they hoped to accomplish within each phase. These program developers began to see how one breakdown within a phase complemented another. The task analyses showed them more clearly those specific tasks they needed to address in order to accomplish the needs they had identified by phases.

The conceptualizations of phases of the Amherst Elementary Program are limited, of course, in that the lack of an overall program point of view prevented program developers from relating parts of one phase to another, seeing how phases complemented or failed to complement each other, and from deciding whether their phase division best met their program needs. Nevertheless, their work improved their understanding of program objectives so much that as this dissertation is being written, the staff is performing another conceptualization from the correct, overall program point of view. Staff members did realize that significant portions of several phases related to each other and were designed to accomplish similar objectives. Overall program needs became clearer to the developers, giving the program greater coherence and direction as well as a solid base for the second conceptualizing effort.

In retrospect the facilitator is particularly aware of the fact that by working individually with each phase leader he failed to benefit from one of the methodology's greatest strengths, its effectiveness in drawing a program
staff together during the conceptualization process. The Amherst Elementary Program might be considerably further advanced in its conceptualization work as well as more integrated as a staff if this program conceptualization process had been sufficiently developed for the facilitator to guide the entire program staff in thinking from an overall program point of view. As it was, the program was fortunate to gain as much as it did from the conceptualization. Furthermore, the facilitator's practice with the procedures provided a solid foundation for applying and further developing this methodology through field work with other teacher training programs. Thus a principal purpose of the initial development work with the Amherst Elementary Program was to draft the procedural steps and start to arrange them in a sequential framework.
Part II: Development of the procedures through applying them to the Alternative Learning Environments Program and to the International Education Program.

The remainder of the commentary in this chapter is organized to follow the sequence of steps of the program conceptualization process. The intention in this chapter is not to refer to all procedural steps: they are presented formally in Chapter III and condensed in the Handbook of Procedures in the Appendix. Rather, the chapter documents the gradual development of the formal procedures by highlighting some of the more interesting and significant aspects of work with program developers. As is apparent from the facilitator's lack of procedural sophistication at the time of entering the field work, the application and development of the procedures of this methodology occurred simultaneously. Using the foundation provided by the initial work with the Amherst Elementary Program, Part II of this chapter documents some aspects of the gradual growth of theory out of practice.

A. An outline of the procedures.

Step 1: The facilitator identifies the type of program to work with and the reward basis for the work.

Step 2: The facilitator introduces program developers to the program conceptualization process.

Step 3: The facilitator organizes the group and the task of conceptualizing their teacher training program.

Step 4: The facilitator leads the group in writing a temporary purpose for the teacher training program.
Step 5: The facilitator leads the group in performing a needs analysis of the temporary purpose.

Step 6: The facilitator leads the group in rewriting the temporary purpose into a working purpose.

Step 7: The facilitator leads the group in prioritizing the discrete categories of needs.

Step 8: The facilitator leads the group in performing the first task analysis of an individual program need.

B. Step One: Identifying the programs for conceptualization.

The program selection and location process for the field work of this study took place in an evening seminar for directors of teacher training programs. The facilitator presented this conceptualization process and some results of applying the methodology to the Amherst Elementary Program. Staff members were enthusiastic about their progress and wanted to share their approach and early results. The facilitator further hoped to identify program directors who would be willing to work with him in the second stage of developing the procedures of this methodology. The facilitator wanted unfamiliar programs to work with; for program developers the incentive would be the opportunity to perform a rigorous conceptualization on their teacher training programs.

The facilitator's reception that evening was positive, although sprinkled with reservations about a "dehumanizing" process. This concern is frequent and needs consideration in the opening stages. The facilitator needs to reassure
people through his explanations, style, and method of presenting the process that the methodology itself is not dehumanizing. No methodology can of itself be dehumanizing until it is applied in that way; opportunities for warmth, humor, and pleasure are just as likely. The possibilities for productive group interaction in the experience of building a program together can be highly rewarding.

As early as possible in his association with program developers, the facilitator explains that he does not want to overemphasize the program conceptualization process as "the true way." He explains the procedures and considers very seriously the many doubts and reservations which will inevitably be expressed. The digressions and doubts require time, to be sure, but later comments from program developers indicate that this time provided the facilitator with an essential basis for confidence. Since the methodology is new it does require several sessions for program developers to feel comfortable with it.

At the end of the seminar the developers of two programs volunteered to work with the program conceptualization process. The staff of the existing University of Massachusetts teacher training program in International Education had reached the point of wanting to make serious changes. They were unclear about their goals and priorities. They viewed the conceptualization process as an opportunity to clarify their directions and perhaps the courses they offered.
A single male graduate student is the program developer with whom the facilitator worked.

The other program which volunteered presented quite a different prospect. The Alternative Learning Environments program is offered to University of Massachusetts undergraduates as a teacher training program operated in the Boston area by three faculty members at Simmons College. The three program developers with whom the facilitator worked explained that they had many ideas and vast experience working together in teacher training at the secondary level. They were experiencing difficulty in moulding their ideas into a teacher training framework. They viewed the conceptualization process as a way to find direction, coherence, and relationships among their ideas.

Through working with both programs the facilitator hoped to further develop the procedures by applying them to unfamiliar teacher training contexts. The directors hoped to clarify their programs and learn a new process for their personal benefits. The potential rewards for all were considerable. For research purposes a number of contrasts developed which might help to extend and refine the procedures of the conceptualization process by generalizing them to broader contexts:

1. The programs were very different in their basic approaches, such as their learning theory, type of student, physical location, length of program, specific requirements, etc.;
2. The programs were to be sponsored by different universities.

3. In one case the facilitator would work with a single individual; in the other case with a group of three persons.

4. Sex differences existed between the developers of the two programs.

For different reasons both the facilitator and the program developers wanted the tangible, written product which this methodology provides at the end of the process.

C. Developing and applying the introductory and organizational steps of the procedures (Steps II and III).

At the time of applying the conceptualization procedures to the Alternative Learning Environments and International Education programs, the introductory and organizational steps of this methodology with their clear procedural outlines did not exist. Before we actually started work the facilitator knew how he intended to proceed, of course, but not always which steps would precede other steps. Consequently, although all the procedural steps described in Chapter III and in the Handbook actually occurred at one time or another, many were blended and not apparent as discrete steps until much later in the process. Highlights of the program conceptualization process, such as the benefits involved, the types of thinking and questioning necessary, and the role of the facilitator are discussed in this section of Chapter IV even though these aspects of the process necessarily occurred throughout the study. The emphasis again is
on the actual development of the procedures through field work with the Alternative Learning Environments and International Education programs.

At the evening seminar the facilitator had already outlined the conceptualization process, described typical working sessions, and presented an overview of the methodology as he then conceived it. He had also presented an example of the conceptualization process as used in a phase of the Amherst Elementary Program and briefly related this process to Instructional Systems Development. Thus many of the introductory and organizational procedural sub-steps of Steps II and III occurred in various ways during the seminar presentation and the accompanying questions.

The Relationship of the Facilitator and the Program Developers

Since he was working with both programs simultaneously, some cross-fertilization of ideas undoubtedly occurred through the facilitator. This methodology is not "facilitator proof" in the sense that the facilitator would be a neutral party whose only role was to guide program developers through the process. On the contrary, throughout this study the facilitator has contributed his own ideas to program conceptualizations as they developed. It would be a mistake if the facilitator viewed the methodology as merely a way to gain input into his system. In both field situations
the program developers requested contributions from the facilitator. In one of the regular feedback sessions a program developer said to the facilitator and the group, "A crucial point in this [process] which enabled us to go on was the point at which you contributed an idea. That is, you got involved enough to make us feel you cared enough about the program."

In this regard, the question of common or different backgrounds between the facilitator and the program developers is an interesting one to consider. An advantage of common backgrounds is that the facilitator rapidly understands what the developers are suggesting and can provide examples from his own experience. On the other hand, the facilitator may understand "too quickly" and without asking enough questions to expand the implications of ideas. Furthermore, if he comes from a different background he may bring a very fresh perspective to the conceptualization if he is actually contributing to its development.

In the course of contributing his own ideas the facilitator necessarily risks himself to some extent. An attitude of mutual searching, of some hesitancy regarding ideas, of not appearing to know all the answers may be an effective way to create a good working atmosphere in this process. While he should know where and how the group is proceeding in terms of the sequential procedures, the facilitator can effectively request help with ideas and the placement of ideas in context.
Creating a congenial atmosphere of sharing and planning together is crucial, as was pointed out repeatedly. The facilitator must persuade program developers that the methodology is worthwhile. He avoids ridiculing them or making them feel uncomfortable if they find the thinking difficult. The facilitator must make program developers feel they are valued as persons so that in turn their ideas will be valued. He must not raise any feelings of hostility or imply that he is superior because he already knows how to do it. Searching for answers and contributing ideas, frequently hesitatingly, may draw out other ideas, thus working to the facilitator's advantage.

Both the facilitator and program developers suggested that a balance of personal and position power seems to be necessary to perform the process. A student teacher, who has no position power, would probably not be successful in performing this process with his cooperating teachers. On the other hand, a superintendent, who is likely to have overwhelming position power, would probably be unsuccessful because of his extreme authority. The process may work best if the facilitator, whether he is a teacher, a graduate student, or a superintendent, is working with his peers. Program developers did feel, however, that a university faculty member or a school principal who had an effective working-planning relationship with his students or faculty members could certainly perform this process with them.
Benefits of the Program Conceptualization Process

Since the results of the conceptualization work have not been implemented at the time of writing, some of the benefits to the programs, to the universities, and to the cooperating school systems are ones program developers feel will occur when the conceptualizations are implemented. Benefits to the individuals and groups involved in the work are, however, apparent. For instance, an interesting parallel exists between the purposes of this methodology and the purposes of a teacher training program. Both program developers and students are asked to think or perform in ways which may be unfamiliar to them and to see new kinds of relationships. One of the program developers with whom the facilitator worked stated that "One of the things I honestly feel is that I have been freed up a lot to expand the way my mind operates." In addition, program developers have felt that in a significant way they are placing themselves in the same position their learners are placed in during their teacher training programs. More than once this realization has made them think seriously about what they were asking their students to do.

We frequently discovered that program ideas were incipient rather than vocalized and when expressed they assumed much greater clarity. Being forced to explain ideas, particularly under the probing leadership of the facilitator, invests these ideas with substance and authority where
previously they had been just notions. Vocalizing also encourages developers to "piggy back" on each other's ideas and increases the likelihood of the familiar "ah-ha" insight response.

Several times, particularly in connection with writing the temporary purpose in Step Four and the needs analysis in Step Five, program developers mentioned that they had never dealt with program goals with as much "toughness." "I think we did understand by the end of the first meeting that it was hard work and was going to get us someplace, but I don't think it was anywhere near as clear as it was by the end of the second meeting." A typical question by the facilitator in this regard produced an interesting response: "Who judges whether that supervision is competent?" Reply: "We do, and don't ask me . . . well, I guess we have to be able to say how because that's part of what your thing makes me do."

The value to the individuals involved, the group, and to the program of having a written, visual representation of the program is perceived to be considerable. After the fifth session one program developer explained that,

I felt a tremendous sense of relief that a lot of that written stuff had gotten out. As we get closer and closer to running the program the fact that I now have something I can clutch to my bosom and say, "See, I have done some work!" makes me feel much better. Why, we even have stated topics and some contracts.
At another time a program developer stated that,

My problem is the way I deal with my feelings of insecurity is to leave a lot more vague than probably ought to be left vague. So that this work has been very useful to me in that I can now see several contracts which we can write a form for and hand out. I can see kinds of relationships which we can set up and divy up without wondering what my role will be in all this in a kind of nebulous way. This was a program which felt right, but before I didn't see how the details would work out.

After a particularly productive session, one developer turned to her colleagues to say, "I know damn well we never would have worked out the details together like this. We would have done it individually, each thinking we had done more than the others, and come back snarling." Another comment at another time stressed the value of detailed, written conceptualizations:

It's like reading a poem because we thought it was good, we did it under heat, but going back over it there was a lot of subtlety which we really didn't see at all and which we can now exploit. There are some issues, like subject matter, which we had not dealt with the first time around, which are now there and clear and the more detailed you get the more you see what else needs to be done.

One of the strengths of this methodology is that the benefits as described in Sub-step 2.1 are apparent and realized early in the process, which encourages acceptance of the work. Nevertheless, although program developers enjoy the benefits and accept the methodology once the work has started, real understanding of the process comes considerably later. Acceptance is more important than understanding since it allows the group to start and continue the work;
understanding comes more readily towards the end of the process when the various task analyses are broken down and seen in relation to each other. During the process the facilitator should be sensitive to the developers' feelings about the methodology itself as well as to many other intellectual and emotional considerations. People are risking their ideas and their entire program design, in some ways their intellectual child, with him, a stranger. At the very beginning of the second session one developer said to the group, "Well, here we are ready to run our program through Alan's machine." She meant, as she explained at my request, both my brain and my methodology as facilitator. She was also pointing out the potential dangers of operating this process in a machine-like manner! The facilitator may wish to ensure that warmth and at times some human imprecision work their way into this fairly precise set of procedures. All the program developers involved in this study agree that there is nothing inherent in the methodology itself which makes it dehumanizing.

The Types of Thinking and Questioning Involved

During the initial work with the Amherst Elementary program, with the Alternative Learning Environments program, and with the International Education program, the highly specific types of thinking and questioning necessary for this program conceptualization process were not clear. The
facilitator tended to ask questions in a somewhat random way rather than in the regular, almost formal patterns which came to be most effective later in the work. Only later did categories of questions, such as formal, sequencing, and probing, emerge to make the questioning more directive. Gradually the importance of thinking in terms of program functions or educational principles rather than pre-conceived divisions such as courses or phases became apparent. The divisions are means of reaching the educational principles involved and are a later stage in thinking which this methodology points toward but does not include. The methodological development work in the Amherst Elementary Program was only that portion of the program conceptualization process dealing with a task analysis of a pre-planned phase in the program. This was a backward place to start work, which the staff realized, but pressures of time and performance allowed no other approach. Later work at the overall program level in the Amherst Elementary Program and in the two other programs is far more effective; it reinforces our understanding that the program conceptualization process should be performed in terms of overall program functions and principles.

An example from our work is the difference between thinking in terms of a previous course titled "Education in East Africa" and thinking in terms of a program need entitled "Knowledge of Other Educational Systems." Through repeated
questioning the facilitator realized that the East Africa course had been used as a means to reach the broader principle of understanding other educational systems in general. To reach this broader objective a number of means could be employed; knowledge of education in East Africa is only one of several.

Another example of the type of thinking necessary is the response to several questions about what students should be able to "know" or "do" in the program. Program developers are likely to answer, "We want them to learn about Flanders Interaction Analysis." The facilitator then asks "Why, what principles are you trying to get at?" He and the program developers realize that the answer is "student-teacher interaction." The point is that if thinking had stopped with the "Flanders" answer, which is a particular method of codifying the frequency and quality of interactions, the broader principle of interaction itself would not have been reached. Having been reached, many implications of student-teacher interaction may be listed, such as the frequency and quality of interactions, the deliberate withholding or overuse of interactions, training for interactions, classes of interactions appropriate to classes of students, etc. In developing the procedures we discovered that reaching the principle behind the statement of means is often extremely difficult and requires constant probing and encouragement. When reached, it is invariably liberating. It is the
difference between stating that "We want to teach Micro-teaching" on the one hand, and on the other stating that "We want to teach pedagogical skills." Those skills may be "questioning," "listening," "responding," "presenting," and "attending"; Micro-teaching is one means of learning them.

Ideas may have implications unknown to program developers which, when exploited, create a richer, more fruitful conceptualization. An example of such exploitation occurred when a program developer made the general statement that he wanted students to inquire about the "physical environment" in a certain field experience. The facilitator may probe for implications by asking whether the people's relationship to the environment is also a valid consideration and whether that relationship affects their relationships with each other. These questions may be asked in the sense of probing and enriching the conceptualization rather than in the sense of "Have you considered this?" or "Why haven't you thought of that?" These latter are highly threatening questions damaging to the group and to the conceptualization process itself. Through experience a facilitator learns when to ask which types of questions; in this manner these types of thinking and questioning become formal procedural steps.

The impact of repeated questioning as a technique was brought home to me in one session when a program developer said,
One of the things that has happened is that it [the questioning technique] has been learned because we have been doing the same thing. . . . We have modeled after you. That is a technique which has clearly been powerful enough for us to pick it up and start using it for ourselves. "What if I am Johnny in the program?" "What if I am a supervisor?"

In a final note regarding the types of thinking and questioning necessary to the program conceptualization process, the facilitator found that as well as asking what program developers wanted their students "to know or do" (cognitive and motor concerns) in their work the conceptualization benefited by adding "to be aware of," such as during a specific field experience interaction. There are times when students are deliberately trying to assess feelings and their awareness of other persons. These are concerns of the affective domain and to become part of the conceptualization they need to be included in the kind of thinking and questioning used.

The Role of the Facilitator

Just as the ability to question more intelligently grows as a facilitator understands the type of thinking necessary to this process, he also gradually becomes more aware of the many specific responsibilities he assumes as the facilitator. The list of eighteen facilitator role items presented in the Handbook of Procedures does not appear magically! From the beginning the facilitator explains his role in organizing, clarifying, rephrasing, and recording ideas. He also realizes that as facilitator he assumes responsibility for redrafting
the working papers and for thinking about the relationship of task analysis items to each other and to items in other task analyses. As the program developers become more familiar with the technique they are able to make these relationships themselves with increasing frequency. Several times, when program developers reached the point of understanding fully what concept or operation they were in fact breaking down, they realized that a breakdown in one task analysis really belonged to another analysis, perhaps even in a different need.

Scheduled Feedback and Review Periods

During the course of the work other aspects of the facilitator's role gradually became apparent. For example, the procedures included planned feedback periods at the start of each session which were designed initially to provide data for research more than anything else. The actual work showed that the facilitator needs this regular, scheduled feedback to clarify misperceptions and unrealistic expectations, and to help him adapt his methods and style to the personalities of the group. Feedback flows both ways, which is a characteristic of the systems approach of this process. The facilitator can use it to remind the group of the type of thinking and questioning needed; of the need to include all points of view if one or more threatens to become dominant; of the need to control digressions if they are a problem; of any group process items which need to be aired.
The feedback periods tended to merge into a review of the previous session's work. When feedback items were not forthcoming the review led by the facilitator usually prompted them. Although it is possible to have a member of the group conduct these feedback periods rather than the facilitator, program developers felt that the facilitator could better direct progress and had a broader view. The facilitator may be aware of the program developers' need to locate themselves physically on the "blueprint" of the entire process at least once in each session. The feedback and review time, which lasts from five to fifteen minutes, provides an opportunity to locate the group by making certain they know where they are in the procedures, to review the agenda for that session, and to remind developers at which level they are working.

The feedback and review periods also provide the facilitator with a good opportunity to start the session with a high rather than low energy level. While the facilitator may control the direction of feedback and review, the information is provided and articulated by the program developers. Their contributions at the very beginning of each session usually assure abundant enthusiasm and energy, especially when the feedback and review is a regular feature. Above all, the facilitator is wise to avoid starting a working session with five to fifteen minutes of his own talk, as the group's energy level will immediately diminish. One working
session never really recovered from such an error. Not until we were well into our work with the two field programs did we realize the importance of the facilitator's role in generating and maintaining momentum. In planned feedback periods he has the perfect opportunity to start.

The Facilitator as Supporter

Just as the importance of maintaining momentum gradually became apparent, our awareness of the facilitator's role in providing support for the group and its members also grew out of the application of these procedures to all three programs. Frequent reassurance was necessary that program developers were thinking and proceeding as others do: "There's something perking in you which is beginning to emerge and this happens frequently in this process." Awareness that others have similar difficulty thinking and planning is encouraging, apparently. Offering an example of a previous struggle to vocalize an idea from another program conceptualization is reassuring as well. Too much support can be counter-productive, of course. As facilitator, I found it fascinating, and considered it a real danger signal, when occasionally the program developers asked me—the facilitator—if it was all right to do something in their program. In order to avoid influencing the program conceptualization unduly, the facilitator needs to make a distinct effort to combat this tendency for his technical conceptual
ability to overlap into a feeling that he is also an authority regarding the ideas of the program being conceptualized.

Support is also necessary because the program conceptualization process is new to the developers. As one of the group said in a feedback period,

> It's also important for people to get support because they are messing around in something where the product is not very evident to begin with. It's unclear how much of a return we and they [their students] will get for our investment of energy.

Seeing examples of previous program conceptualizations and starting the entire process with a need which program developers perceive to be easy to task analyze helps relieve such anxiety by generating results quickly.

Support Through Non-verbal Contact

Another aspect of support available to the facilitator lies in the significant area of non-verbal communication. Focusing hard on each group member as he speaks gives that person added encouragement. Staying with a person's thought by maintaining eye contact even during an interruption is important. After hearing during a feedback period about some carelessness on my part as facilitator regarding non-verbal contact, I was careful not to place any program developer in such a position that he was excluded from eye contact with me. Without non-verbal support of differing degrees, that developer may feel himself to some extent an outsider and not contribute as effectively as he might.
The Impact of Absences

An extension of the support function of the facilitator's role is his awareness of the impact lateness or absences have on the group. Once again, such awareness developed well along in our work when one program developer was rather late for a working session. The facilitator's sensitivity to that person's feelings, especially when he or she did not participate in the work already diagrammed is significant. On this occasion a member of the group jokingly said to the late arrival, "Oh, we've just been talking about you!" Although it was clear to everyone, including the late arrival, that this was a jest, none of us realized until the feedback period at the next session how this comment and her haste and guilt at arriving quite late shattered her. She did not contribute anything for fifteen minutes and, by her report, deliberately sat where the facilitator could not effectively use non-verbal cues to encourage her. If the full importance of the facilitator's supportive role had been clear as a procedural item, the facilitator would have been able to explain these feelings to the group and to the late arrival, thus setting the stage for her productive entry.

These problems are heightened when a developer is absent from a session. Late in our work one developer missed two consecutive and important sessions. Again, it was not
until later feedback that the group fully realized what happened upon her return. She could have been helped more by the facilitator if his supportive role had been clearer in the procedures. She felt guilty about her absences, which were unavoidable. She also felt somewhat left out and strongly inhibited about adding ideas to the completed work. Some sort of review without time for additions was, of course, necessary for her to participate effectively. During this review she became very aware of the real investment other group members felt in not having her, the absentee member, disagree with any of the work done in her absence. Group members develop a strong proprietary interest in their conceptualizations.

The combination of guilt, inhibition, and awareness of this proprietary investment produces in the absentee member a strong need to congratulate the group on its work. In this case the praise was rather noticeable since it came from a developer who would not normally express such pleasure spontaneously. It is true, however, that a good deal had been accomplished. One developer, in fact, worked more effectively than ever during those two sessions because she felt less of a sense of competition with the absentee member away.

As a procedural step, the facilitator's supportive role after an absence may be as follows. He may explain to the former absentee and the group that reconvening after an
absence is frequently awkward, that feelings of guilt, being left out, inhibition, and investment typically occur. He may lead the group in the usual feedback and review of the work done with the understanding that everybody benefits from the review and that time does not permit a close examination of the breakdowns unless group members who worked on them want to recast their work. The facilitator may reassure the former absentee that a place exists for her contributions to the completed work since, in fact, no breakdowns in this conceptualization process are ever in their final form. Finally, he may explain to the group that former absentees typically feel a strong need to start contributing to the new work immediately as a way of saying "Now I am back." Such an explanation in turn is the support the former absentee needs to jump into the work and re-establish her influence.

The final sub-steps in Steps Two and Three, the introductory and organizational units, relate the program conceptualization process to Instructional Systems Development methodology, to a "systems approach," and to familiar outlining procedures. These sub-steps had been performed during the original evening seminar presentation. Since ours was an academic setting such background was appropriate to the group. The program developers are learning a new technique themselves, which is one of the several reasons why they are interested in performing the process. The opportunity for
background information is appreciated and should be available in the procedures.

Having completed the organizational material of Steps Two and Three and arranged times and places for our series of meetings, we moved with no break to the writing of a temporary purpose in Step Four.

D. Developing and applying the working units of the procedures (Steps IV, V, VI, VII, VIII).

Writing the Temporary Purpose

In these working steps of the methodology the procedures were clearer than in the previous organizational steps. Further development of the procedures chiefly required application of the methodology based on earlier practice in the Amherst Elementary Program and breaking the process down into separate procedural components. A key to the entire program conceptualization process is the facilitator's skill in judging the fine line between providing direction as opposed to exerting control. As with other procedural steps, gradually learning to formalize the questions appropriate to framing the statement of a temporary purpose was helpful. Before the questions became more formally precise as described in Sub-step 4.3, the questions tended to be rather roundabout. Although accomplishing the task, the group did it inefficiently compared to having the facilitator follow procedural step 4.3 conscientiously. Knowing the best
repeated questions to ask permits the facilitator to provide direction yet allow digression, which is frequently highly creative and productive. If he is fully aware of the direction he provides through a knowledge of the procedures, he will find it easier to operate effectively through the methodological framework.

In writing the temporary purpose program developers typically experienced difficulty in dealing with program goals formally, rigorously. Even though the program is considered only broadly at this point in the procedures, the more goals are discussed the more important questions which are basic to the program emerged: What type of student should join the program? How should program activities be sequenced? What types of careers are the students being trained for? In order to frame a purpose these questions need to be explored to some extent. A facilitator may find himself groping for questions and wondering to what degree he should limit discussion.

The Importance of Labels

A major point of interest turned out to be the importance of the labels placed on the various needs as they were grouped into categories. Program developers tend to be aware of areas of needs in their programs, but they occasionally find it exceedingly difficult to articulate the need precisely enough to label it clearly. The facilitator should
be alert to the distinction between an unclear concept and an unclear expression of that concept. After making the mistake once, as facilitator I later stated that I felt the need being considered was rather vague even when I felt the articulation was fuzzy. Criticizing a program developer's verbal skills tends to be judgmental, it may be offensive, and it can be counter-productive. A label of a brief phrase is necessary, obviously, to relate the need to the temporary purpose and to other parallel needs of similar importance. Furthermore, the label helps begin the thinking when that need is task analyzed. For these reasons a clear label is helpful, although not mandatory.

The Label and the Needs Analysis

In one instance, after considerable groping the developers finally reached a very fuzzy need they identified as "intellectual awareness." Although the facilitator requested more precision, eventual clarity was not reached until well into the task analysis of this need when it became clear that "awareness" meant "awareness of culture and its expression." If such clarity had been reached in the needs analysis we would have saved ourselves much groping later on; changing the label freed the group to work productively on that task analysis. Through this groping we discovered that identifying the categories of needs is the most important function of the needs analysis: reasonably clear labels for
those categories are extremely helpful but probably not worth pressing for at the risk of frustration and digressions. Since developers are rather anxious about the implications and conceptual development of needs as they are identified, the facilitator needs to reassure them frequently that these implications will be addressed in the task analyses breakdowns.

Another example of confusion reflected in labels occurred among needs identified as "learning experiences," the "application" of those experiences, "theory," and "content." The group muddled around in confusion while these needs sorted themselves out. Eventually program developers reached compromise labels which were still unclear and unsatisfactory, but which allowed them to continue the process. During the task analysis sessions these compromise labels were clarified into "learning experiences and their application" as one need and "theoretical constructs" as another, separate need. In both instances when the group reached these clear labels, which happens suddenly with a moment of insight, it was able to proceed effectively. The clarity of the phrasing seems to be an accurate indication of the clarity with which program developers understand a particular need.

The Task Analysis

Most of the important considerations in the development of these procedures have been explored in earlier portions
of this chapter. If a solid foundation is laid in the early steps the task analysis work itself tends to proceed quite well. Gradually learning to concentrate on subdividing our needs categories into three to six manageable components at the upper level of each task analysis helped us considerably. Typically, the group also becomes accustomed to working together in this methodology by the time it has written a purpose, performed a needs analysis of that purpose, and performed its first task analysis on the easiest need. Group members supported each other's thinking well; minor differences stayed minor as long as they were aired regularly in feedback periods at the start of each new session.

Interestingly, group members gradually learned to tolerate and play with each other's digressions. In the course of the study, as facilitator I came to believe that practically no digression was totally irrelevant; many were "creative" in the sense that while they provided a break they stimulated new thoughts or kept old ones alive. Occasionally, digressions may be clearly hostile to another group member or to the work. In any case, the facilitator needs to consider when to clarify, when to reflect, when to interrupt, and when to draw the group back to its primary task.

Behavioral Objectives

The reaction to working with behavioral objectives in the general way required by these procedures is interesting.
All the developers participating in this study were wary of behavioral objectives, having previously experienced them as highly specific and, for them, limiting. Behavioral objectives usually give an instructor a very small, highly specified activity measured in performance or behavioral terms. As used in the program conceptualization process, however, behavioral objectives broaden thinking rather than prescribe performance, although the standards do state broad criteria which can be adapted to measure performance by program staff and students. The standards portion of the objectives met some good-humored reluctance on the part of program developers simply because they are difficult to create and because the developers prefer to maintain their options as long as possible. But developers quickly recognize the value of projecting a design of obligations, or at least expectations, for their program. Occasionally, significant differences existed in the time program developers envisioned for an activity; what did "regularly" mean when they talked easily about doing something regularly? What differences were there in expectations for reports on time spent in field work? "Can we really expect students to do all these things we ask?" In any conceptualization such differences need to be discussed thoroughly.
False Starts

Another interesting feature of applying the procedures turned out to be the frequency with which the group made false starts in task analysis breakdowns. A reason for this lies partially in the fact that the facilitator was inexperienced in performing the program conceptualization process since individual procedural steps were, in fact, being created during the work. A related reason is that it was not until well into our work that the facilitator could provide sufficiently reassuring direction through an understanding of the entire methodological sequence and through a realization of the importance of his role in maintaining an overall program point of view. Consequently, the group's progress was not quite as logical as it might have been.

On the other hand, both the facilitator and the program developers discovered that the rigorous thinking demanded was more difficult than they had anticipated. As a result, program developers occasionally pursued breakdowns which ultimately seemed irrelevant to the program or in some way unrelated to the task analysis the group was performing. Such irrelevancies nevertheless clarified thinking. Unrelated breakdowns were relocated to other task analyses where they better supported the need being analyzed. Our conclusion is that false starts are inevitable and may even be viewed as potentially helpful. The facilitator should expect them to
happen and prepare program developers not to be discouraged by them. They can be useful to the process in the same way that "creative digressions" can suddenly shed light on a difficult concept.

Remedies for Problems

The checklists for a productive and an unproductive task analysis, Sub-steps 8.15 and 8.16, grew directly out of task analysis experiences. Program developers had earlier imagined that thinking would flow if the group was sufficiently tenacious. This seemed a natural assumption and program developers will urge the facilitator and the group to stay with a breakdown even when real lack of progress is apparent. As facilitator twice I made the mistake of allowing program developers to persuade me to continue working with a concept I could see was insufficiently clear even to start conceptualizing. Such well-intentioned but misguided persistence on both occasions led to frustration and decreased effectiveness. When a breakdown is not proceeding smoothly, the last thing to do is sit there and stay with it!

Switching to a different breakdown within the task analysis is frequently useful. Changing to a more mechanical, less ideological breakdown within the analysis may free thinking productively. Moving to an entirely new need with a totally different task analysis may be even more helpful. Brainstorming for five to ten minutes can help; one program
developer commented that "I think it's very freeing to list out as many things as possible and then work at seeing how to put them together." The methodology, particularly the visual representation, permits this kind of movement from one section of the work to another without mixing trains of thought in a confusing way. A drastic, perhaps artificial, but useful question to ask is, "What would you feel would be lost if someone said 'You can't have this component in your program'?" The sudden loss of a component in the conceptualization can clarify at least the thrust of the idea. Finally, taking the time to rediagram while simultaneously commenting on a confusing or messy working paper may help program developers see more clearly what they are reaching toward and provide them with time to mull over their thoughts.

Just after completing our work with the two field programs an interesting question occurred which we did not have the opportunity to explore. It involves the area of prediction of responses. Are the task analyses different in character when the questions and answers are in terms of "doing" rather than "knowing"? Do answers given in terms of what students need to "do" produce different trains of thought from those in terms of what students need to "know"? If certain predictibility is apparent, an experienced facilitator could guide the group very effectively knowing which route is likely. The great danger would lie in his knowledge becoming a limitation on the thinking of the group; then the
methodology and the facilitator would start playing a substantive rather than a guiding role.

Summary

As originally stated, the purpose of Chapter IV is to examine the actual development of the procedures of the program conceptualization process as they were applied by the facilitator to the three teacher training programs involved in the study. The point to be stressed is that the development and application of the procedures occurred simultaneously. Chapter IV has attempted to highlight some of the more significant processes, relationships, and work produced by the facilitator and program developers.

In many ways the nuances of applying these procedures are as interesting and perhaps as valuable to a facilitator who may want to use them as are the actual procedural steps described in Chapter III and in the Handbook in the Appendix. Thus the application data may be useful in a practical way. A further reason for presenting it in this study is to highlight some of the key processes in the procedures to show the gradual growth of procedural theory out of practice. Examples of key processes are chapter sub-headings such as (1) the role of the facilitator, (2) the impact of absences, (3) the importance of labels, etc. These processes are aspects of the program conceptualization process which are
important both to its prior development and to its present potential for further application. They are not formally part of the procedures themselves, yet they are significant aspects of the study producing these procedures.
CHAPTER V
CONCLUSIONS AND IMPLICATIONS FOR FURTHER RESEARCH AND PRACTICE

The opening section of Chapter V attempts to review the purposes of this study as stated in the introductory chapter. The second section briefly describes tentative conclusions of the program conceptualization process which emerged during the study. The review of original purposes and the description of these conclusions together constitute the basic findings of this study. The third section of Chapter V discusses implications of this study for further research and practice based on the program conceptualization process.

I. Review of the Purposes of This Study

Chapter I specifically identified four purposes of this study:

1. to develop a set of procedures, new to the literature of teacher training, which would enable program developers to systematically conceptualize their teacher training programs;

2. through applying these procedures, to conceptualize two teacher training programs unfamiliar to the author, who acted as the facilitator in this study;

3. to explore the development of theory out of practice by highlighting certain aspects of the application process with regard to the two field programs in this study;
4. to employ a systems analysis approach to the conceptual design of teacher training programs.

The first section of Chapter V discusses each of these purposes from the point of view of the author's conclusions regarding the extent to which those purposes were addressed. No formal evaluation or assessment of the effectiveness of the procedures generated by this study has been undertaken. The intention of the study has been to create and apply a set of procedures as a prior step to later research regarding the effectiveness of the methodology.

As indicated in the Introduction, research available at the time of the study did not include a procedural methodology for conceptualizing a teacher training program. Therefore, a set of procedures had to be developed to accomplish the task of rigorously and systematically thinking out the design of a teacher training program. Starting from an initial sequence of purpose, needs analysis, and task analysis provided by Instructional Systems Development methodology, the author (as facilitator) and the various program developers together expanded these general steps into the detailed sequence of steps and sub-steps documented in Chapter III and outlined in the Handbook of Procedures. These procedures in their present state are highly detailed and provide program developers with a logical, sequential framework for thinking out the design of a teacher training program. The creation of these procedures, a significant and original
purpose of this study, has the further benefit of adding to research in the area of teacher education.

As this methodology was being developed, a second purpose of the study was to apply the emerging procedures to two teacher training programs unfamiliar to the author-facilitator. The application in this study was not a field test of final procedures. Rather, application experience had two objectives: one was to provide a vehicle to develop the procedures to their present state through the process of applying them. The second objective was to perform a formal conceptualization with written results on the two field programs. Program developers expected practical help in planning their programs while at the same time the facilitator-author agreed to provide that help for the research purpose of developing a more sophisticated set of procedures.

All parties have indicated that the results have been beneficial both in terms of the written documents presented in the Appendix and in terms of benefits to the programs and to the individuals involved. Although formal evaluation of the lasting effectiveness of these procedures is an area of further research rather than a purpose of this study, initial indications by program developers are that the process is highly beneficial and has considerable promise. Development of the program conceptualization process has occurred with apparently positive and beneficial consequences. Documenting
the procedures and the results of their application to two field teacher training programs constitutes the text of this study.

A third stated purpose of the study is to explore the development of theory out of practice by highlighting aspects of the actual application of systematic thinking procedures to three teacher training programs. This simultaneous development and application of the procedures constitutes the focus of Chapter IV. Both program developers and the facilitator gradually realized that the program conceptualization process generated more benefits than originally anticipated, especially regarding the programs themselves and the individuals and groups involved in the working sessions. In retrospect a significant unanticipated finding of our work is that group cohesiveness benefits to a program staff may be as valuable to the teacher training programs as are the actual written conceptualizations. As frequently happens, the process of achieving results is a vital by-product of producing the results.

Other conclusions regarding the application of the procedures concern the importance of understanding the types of thinking and questioning necessary to performing the program conceptualization process and the role of the facilitator. The value of formal, repeated questions gradually became apparent, as did the importance of thinking in terms of program functions or educational principles rather than
in terms of preconceived divisions such as phases or courses. Crucial dimensions of the facilitator's role also clarified as the work progressed. These are explored at length in Chapter IV and presented as a list of eighteen role items in Sub-step 3.5 of the Handbook of Procedures. The facilitator has many vital functions, among them to organize, clarify, and restate ideas; to relate elements of task analyses to other task analyses; to record and diagram information; to support the program developers; to summarize ideas; to aid in prioritizing items; and to train program developers to continue the process themselves.

A fourth stated purpose of the study is to apply a systems analysis framework to the design of teacher training programs. Rather than exemplifying a complete systems approach encompassing both the conceptual and operational segments of a teacher training program, the program conceptualization process attempts to apply a systems point of view only to the conceptual design of a program. While this attempt has been successful to a certain degree, the systems framework could invariably be tighter and more explicit. More precision could be included in dealing with feedback, for example. The performance measurement aspects of the program conceptualization process could be strengthened if desired. That a systems point of view is clearly operating, however, is exemplified by (1) the logical and coherent set of procedures; (2) by the clear relationship of program
components to each other, to needs, and to a common purpose; 
(3) by performance objectives and instructional events pre-
designed to address specific needs; (4) by the task analysis 
breakdowns, etc.

The systems framework has been extremely helpful in 
orienting the logical, sequential thinking implied in this 
study. In particular, the methodological steps initially 
provided by Instructional Systems Development methodology 
(the sequence of purpose, needs analysis, and task analysis) 
were instrumental in providing a focus for the development 
of the procedures. The resulting procedures as presented in 
Chapter III and the Appendix have expanded far beyond the 
original categories provided by Instructional Systems Devel-
opment methodology and are now even more representative of 
a systems approach to the conceptualization of a teacher 
training program.

II. Conclusions of the Program Conceptualization Process

The second section of Chapter V contains a series of 
briefly stated conclusions of the program conceptualization 
process. During and following the work of this study these 
conclusions emerged as fundamental conditions of the process 
and are therefore in the nature of tentative findings of the 
study.

1. Our basic conclusion is that it is, in fact, use-
ful and good to think out a program rigorously and in detail
as is required by the program conceptualization process. Neither the facilitator nor the program developers in the three teacher training programs participating in this study had ever engaged in this type of extended systematic thinking prior to this work. All participants in the work felt that their ability to think logically improved and that the practical benefits to themselves and to their programs of a written conceptualization warranted the twenty hours of time spent on each program conceptualization.

2. A second conclusion, which is also expressed as two of the purposes of the study, is that a methodology for conceptualizing a teacher training program can be created, applied, and based on a systems point of view. During the work the facilitator and program developers were always aware of the attempt to use the interrelated framework of a systems approach as a research objective of this study. In retrospect, as documented in this study, all persons involved in the program conceptualization process felt that the resulting set of procedures did, in fact, constitute a valid methodology for conceptualizing a teacher training program.

3. A third finding is one which the author, as the facilitator, has come to feel very strongly about as a result of the difference between working with one program developer in the International Education program and a group of three program developers in the Alternative Learning Environments program. As discussed in both Chapters III and IV, the
group cohesiveness benefits of this work are considerable and would justify the time spent perhaps even without the written conceptualizations. The actual process of guided, coherent thinking unifies a group of program planners by giving them a logical, sequential framework with manageable, day-by-day conceptual tasks. Both the program and eventually the students should benefit by any process such as this which can unify its staff into an efficient, mutually supportive group.

Because the group cohesiveness benefits were both unanticipated and vital by-products of the program conceptualization process, further comment about their importance may be useful. Program developers frequently expressed satisfaction over the group sharing and building process inherent in the work; indeed, they often spoke in terms of "constructing" their program and of physically "locating" themselves in the process. Sharing ideas and building a program together are qualities encouraged by the conceptualization process and are criteria for successful team functioning in this type of work.

Another criterion for success is the group's realization that constant support and encouragement are necessary. Offering support is probably the most crucial role of the facilitator and his encouragement in turn provides a model for program developers in their support of each other. In performing the conceptualization process program developers
necessarily risk their ideas and expectations for their program. Group cohesion is developed when members support each other by encouraging ideas, offering non-verbal support, being candid in the feedback sessions, and by accepting and building on each other's digressions as well as ideas.

A third criterion for successful team functioning in this work involves understanding and supporting each other in the types of thinking and questioning involved. More rigor and "toughness" in thinking about program goals is required than many program developers are accustomed to. The ability of program developers to encourage each other in answering systematic questions and in thinking in terms of overall program goals and functions is crucial to their success in functioning as a team.

The responsibility for group cohesion and successful functioning falls principally on the facilitator. The group may be effective largely to the extent that he encourages the thinking required, supports developers with examples from other programs, relates portions of the work to the whole, diagrams effectively, suggests "labels" and alternative ideas, etc. Rather than being a mechanical process, these procedures require a contributing facilitator who is aware of the group process benefits to program developers as much as he is interested in performing the conceptualization itself.
4. A fourth finding, closely related to the group cohesiveness benefits previously mentioned, is that several minds working and responding together within a framework are superior to one individual working alone or to several working apart. The program conceptualization process encourages all members of the working group to contribute and respond to each other; indeed, a major role of the facilitator is to create a responsive environment. As facilitator, the author of this study feels that the Alternative Learning Environments program conceptualization, performed by a group of four persons, is a richer, more carefully thought out conceptualization than that of the International Education program, performed by two persons. A group of three to four program developers working with one facilitator is probably the ideal size for the program conceptualization process.

5. A fifth conclusion of the program conceptualization process is that although behavioral objectives are deliberately used, and although attempts are made to specify much student behavior in broadly measurable terms, not all portions of a teacher training program and not all student activities can be expressed behaviorally. The process allows some aspects of student learning, especially those in the affective realm regarding what program developers want their students "to be like," to be less precise, less measurable. The program conceptualization process in itself does not force behavioral terminology or characteristics on any teacher.
training program. Developers may use behavioral objectives to the extent that they are helpful in guiding thinking. They consciously decide which student behavior can be measured precisely and which cannot. Without such a deliberate decision teacher training programs may tend to drift uncertainly with regard to the measurement of student performance or of specific competencies.

6. A sixth conclusion of the program conceptualization process is that a highly complex product of thinking such as a teacher training program is best developed by subdividing the task and considering it in discrete portions. Both the facilitator and the program developers were consistently faced with program needs of considerable complexity; by applying and following the procedures of this study these complex needs eventually resolved themselves into manageable task analysis breakdowns. Deliberate analysis of separate portions of the program in relation to each other is a systems characteristic essential to the success of the process. A possible danger, however, is that the procedures can become an end in themselves rather than the means to a satisfactory program conceptualization. This danger should be minimal if program developers and the facilitator maintain a broad program perspective and frequently relate task analysis items to each other.

7. A seventh finding, again a characteristic of the systems approach, is that thinking should be done from the
point of view of overall program functions and educational principles rather than from the point of view of preconceived program divisions or phases. Such possibly contrived divisions may not best fulfill the purpose and needs of the entire program. Thus, as is typical of a systems approach, the purpose, needs, and elements of those needs should be determined prior to deciding in what way these essential aspects of the program should be implemented.

8. A corollary to the above finding is that a teacher training program may be considered as a conceptual segment and an operational segment. The meshing and subsequent implementation of these two segments constitutes the operation of the total system. The program conceptualization process concerns itself with the conceptual segment and thus, while employing a systems point of view, is not in itself a complete system.

9. An additional conclusion is that a facilitator is useful in this process to guide the thinking of program developers. While a facilitator outside the program brings a fresh perspective to the conceptualization, one of the program developers may be trained in the program conceptualization process and thus act as a facilitator for his colleagues. The many specific functions of the facilitator, such as clarifying, recording, summarizing, restating, etc., suggest that this work needs a guide operating from as broad a perspective as possible to make certain that various program
components are properly considered in relation to each other. A facilitator who does not have a personal stake in the program may have a broader perspective and may be more effective at maintaining momentum.

10. A final conclusion is that visual documentation of conceptual thinking is both possible and desirable. Although performing the process has its own intrinsic value, the conceptualizations as presented in the Appendix are useful as examples when starting the process and as an indication of future work. The conceptualizations are reassuring to program developers; they can be shown to other people; they provide the basis for performance contracts, competencies, and for open communication between program staff and students. Because they are never complete, the results are always imperfect. They do, however, provide the framework for future work.

III. Implications for Further Research and Practice

The procedural steps of the program conceptualization process are necessarily imperfect, but those persons involved in the study feel that they constitute a useful and practical addition to research literature and techniques in teacher training. To capitalize on the start made in this study, a great deal of work based on these procedures could be done. As indicated by the nature of the following paragraphs, such work necessarily involves close ties between research and
practice since the two are, in fact, inseparable in this type of study.

1. A most obvious area of further research and practice is to continue refining the procedures through applying them to more teacher training programs. A different facilitator using these same procedures might alter certain steps or combine others to increase their sophistication, especially since the facilitator's input is a key part of the process. The nature of the teacher training programs involved does not appear to affect the use of the procedures significantly; further field testing could test this assertion.

2. The procedures of the program conceptualization process could be extended to include the operational segment as well as the conceptual segment of teacher training programs. By deliberately linking the two segments this process would then be more characteristic of a total systems approach to a teacher training program.

3. Although the conceptualizations themselves as presented in the Appendix need further refinement, they do provide the foundation for a competency or performance-based teacher education program. Practical, field-based research could be done to explore the usefulness of these procedures as a foundation for identifying the specific competencies which a teacher training program wished to emphasize.
4. The degree to which these procedures actually are effective needs to be assessed more precisely. This study does not include data on effectiveness; a follow-up study of the International Education and Alternative Learning Environments programs to assess the extent to which the conceptual framework presented in this study is actually followed and assists in specific program development would be useful.

5. A significant area of research could be a study of the extent to which the procedures can be taught to program developers and others who wish to act as facilitators. In their present state the procedures have been developed and applied by the author. Are they in fact, as they should be, generalizable to other facilitators?

6. A beneficial area of possible further research and practice concerns the extent to which the program conceptualization process could be used partially rather than completely as presented in this study. Just as the process itself is a part of a system rather than an entire system, considerable potential may exist in developing a partial program conceptualization process for those program developers who do not have the time or inclination for performing the entire sequence. Program developers would derive considerable benefit, for example, from the following limited sequence: (1) hearing a condensed version of the introductory material, (2) writing a temporary purpose, (3) performing a complete
needs analysis, and (4) performing one task analysis of the most significant need. Such a condensed version might take approximately five hours and while providing many benefits to the program it would also serve as the basis for deciding whether to continue such conceptualization work.

7. A final area of further research concerns the generalizability of these procedures to the wider context of instructional training programs in general. The procedures seem flexible enough to be applied to curriculum development, for example, in practically any subject. Their growth from Instructional Systems Development methodology places them close to curriculum development. They might also be applied to personnel development programs in education or in other fields. The significant point of these procedures is not their content but their logic; in their sequence and interrelated point of view lies a potential for generalizability.
APPENDICES

APPENDIX A. A Handbook of Procedures for the Conceptualization of a Teacher Training Program

APPENDIX B. A Conceptualization of the Alternative Learning Environments Program

APPENDIX C. A Conceptualization of the International Education Program
APPENDIX A
A HANDBOOK OF PROCEDURES FOR THE CONCEPTUALIZATION OF A TEACHER TRAINING PROGRAM

STEP I. The facilitator identifies the type of program to work with and the reward basis for the work. (time: variable)

1.1 The facilitator selects the type of program he wants to work with.

1.1.1 an existing program
1.1.2 a new program being planned
1.1.3 an on-campus program
1.1.4 an off-campus program
1.1.5 etc.

1.2 The facilitator determines his reward basis for the conceptualizing work he will do with the teacher training program.

1.2.1 for financial payment
1.2.2 for personal or professional reward
1.2.3 for research purposes
1.2.4 for the future trading of services

1.3 The facilitator locates the specific program he wants to work with.

1.3.1 He may personally approach the staff members of a specific program.

1.3.2 He may be recommended to the staff members of a specific program as a voluntary service.

1.3.2.1 by a faculty member
1.3.2.2 by a student
1.3.2.3 by the school administration
1.3.3 The facilitator may describe the conceptualization process at a seminar and request program developers to work with the process voluntarily.

1.3.4 The facilitator may work with the program staff as a university requirement for starting a teacher training program.

1.3.5 A teacher training program may request the services of the facilitator.
STEP II. The facilitator introduces program developers to the program conceptualization process. (time: about two hours)

2.1 The facilitator describes the benefits of performing the conceptualization process.

2.1.1 benefits to the teacher training program
2.1.2 benefits to the groups of developers involved
2.1.3 benefits to the individuals involved
2.1.4 benefits to the university administration
2.1.5 benefits to the cooperating school systems

2.2 The facilitator presents an outline of the parameters of the conceptualization process.

2.2.1 the anticipated number of working sessions
2.2.2 the usual length of the working sessions
2.2.3 the best hours of the day to have the working sessions
2.2.4 the timing (frequency) of the working sessions
2.2.5 the length of the entire conceptualization process
2.2.6 suitable environments for the working sessions
2.2.7 unsuitable environments for the working sessions
2.2.8 The facilitator makes potential program developers aware that the points of view represented in the working sessions will determine the characteristics the program conceptualization will have as the final product.

2.2.9 The facilitator discusses the relationship to the program of those program developers who will be involved in the working sessions.

2.2.9.1 graduate program staff
2.2.9.2 faculty members affiliated with the program
2.2.9.3 students affiliated with the program
2.2.9.4 university administration
2.2.9.5 personnel from the cooperating schools working with the teacher training program

2.2.10 The facilitator discusses the number of people who may be involved in the conceptualization process.

2.2.10.1 one program person
2.2.10.2 more than one program person
2.2.10.3 the largest effective group of program personnel

2.2.11 The facilitator discusses certain expectations on the part of program developers to the conceptualization process.

2.2.11.1 regular attendance in the working sessions
2.2.11.2 being on time for the working sessions
2.2.11.3 the importance of not permitting interruptions during the working sessions

2.3 The facilitator presents an overview of the conceptualization process.

2.3.1 The facilitator explains the purpose of the methodology itself.
2.3.2 Develop a temporary purpose for the teacher training program.
2.3.3 Perform a needs analysis of the temporary purpose from the available points of view.
2.3.4 Rewrite the temporary purpose into a working purpose.
2.3.5 Perform a series of task analyses on the identified needs of the program.
2.3.6 Create the elements of a behavioral objective at the uppermost level of each task analysis.

2.3.7 Briefly describe the value and nature of behavioral objectives as used in this process.

2.4 The facilitator describes a typical working session.

2.4.1 The facilitator describes the typical format.

2.4.1.1 feedback and review of the previous working session

2.4.1.2 the work itself; an overview in general terms

2.4.1.3 the role of the facilitator in general terms

2.4.1.4 agenda setting for the next working session

2.4.2 The facilitator highlights problems which can occur in the working sessions.

2.4.2.1 The facilitator makes a decision about whether to present information about problems.

2.4.2.2 If a decision has been made to present information about such problems, the facilitator devises a strategy for presenting such information.

2.4.2.3 lack of understanding of this methodology and the process of the work

2.4.2.4 thinking in terms of courses or phases rather than at the overall program level

2.4.2.5 maintaining momentum

2.4.2.6 group competitiveness or lack of it

2.4.2.7 the environment for the working sessions

2.4.2.8 overattention to words and phrasing

2.4.2.9 physical tiredness
The facilitator highlights the individual rewards which typically occur in a working session.

2.4.3.1 The enjoyment, satisfaction, and excitement of productive thinking

2.4.3.2 The feeling of being able to locate yourself accurately in an on-going process

2.4.3.3 The feeling of "constructing" a tangible product step by step

2.4.3.4 The feeling of not being locked into a phase or course structure

2.4.3.5 Heightens the feeling of being part of a productive group

2.4.3.6 The feeling of risking oneself productively and of being appreciated for doing so

2.4.3.7 The personal satisfaction of learning a new technique of thinking

2.5 The facilitator asks those who expect to be involved in the conceptualization process to articulate their agendas for the entire process.

2.5.1 Program developers

2.5.2 The facilitator

2.5.3 The agenda of the process itself

2.6 The facilitator secures commitment from program developers for starting and completing the conceptualization process.

2.6.1 Determine the numbers and the specific individuals who will be involved in the working sessions.

2.6.1.1 The facilitator makes program developers aware that the points of view represented in the working sessions will determine the characteristics of the program conceptualization emerging as the final product.
2.6.2 The facilitator reviews the reward basis for his work.

2.6.3 The facilitator finalizes any formal contracts which may be necessary.

2.7 The facilitator outlines the agenda for the next major step in the conceptualization process, which will be to organize both the group and the task of conceptualizing a teacher training program.

2.7.1 The facilitator presents examples of previous program conceptualizations.

2.7.2 The facilitator discusses the types of thinking necessary in performing the conceptualizing process.

2.7.3 The facilitator discusses his role in the conceptualization process.

2.7.4 The facilitator presents an overview of the origins and purposes of Instructional Systems Development methodology.

2.7.5 The facilitator explains the relationship of the program conceptualization process to a "systems approach."

2.7.6 The facilitator explains the relationship of the process to common sense and to familiar outlining procedures.

2.7.7 The facilitator discusses some physical and psychological requirements for engaging in this kind of conceptualizing work.

2.7.8 The facilitator and the program developers recheck their agendas to assure congruency of expectations after previous comments and discussion.

2.7.9 Schedule a specific series of seven working sessions of two and one-half to three hours each.

2.7.10 Decide the "environments" or working places for those sessions.
2.8 If a break occurs in the work, confirm a specific time and place for the next session, which will be for organizing both the group and the task of conceptualizing their teacher training program.
STEP III. The facilitator organizes the group and the task of conceptualizing their teacher training program. (time: about one hour)

3.1 Recheck the commitment of the specific individuals who will be involved in the working sessions.

3.1.1 Review the agenda for this step in the process (Sub-steps 2.7 through 2.7.10), which can be accomplished in one meeting.

3.2 The facilitator presents examples of previous program conceptualizations.

3.2.1 Explain the diagramming technique.

3.2.2 Explain the "pyramid" development.

3.2.3 Discuss the advantages of visualizing the conceptualization.

3.2.4 Develop an understanding of and an appreciation for the total "package" which will emerge.

3.3 The facilitator discusses the types of questioning necessary to performing the conceptualization process.

3.4 The facilitator discusses the types of thinking necessary to performing the conceptualization process.

3.5 The facilitator discusses his role in the conceptualization process.

3.5.1 Locate the group on the methodological "blueprint" of the process at any time.

3.5.2 Organize the gathering of information by providing a structure for the work.

3.5.3 Guide the thinking of the group through questioning and drawing out the implications of ideas and concepts.

3.5.4 Be aware of whose point of view and whose values are operating.

3.5.5 Keep the momentum of the process going.

3.5.6 Write and record the work in a parallel form; diagram the ideas and concepts, thus placing them visually within the structure of the methodology.
3.5.7 Clarify ideas and concepts.
3.5.8 Phrase and restate ideas and concepts.
3.5.9 Provide a fresh perspective to the group's thinking.
3.5.10 Be aware of the structure of the entire teacher training program as it emerges through the needs analysis and the individual task analyses.
3.5.11 Relate the individual components the group is working on to each other and to the entire structure at any time.
3.5.12 Support the group continually.
3.5.13 Conduct regular feedback and review sessions.
3.5.14 Concentrate on being a facilitator, yet contribute to thinking without dominating.
3.5.15 Summarize the ideas and concepts as a technique to produce related thoughts rather than for closure.
3.5.16 Present choices to the program developers.
3.5.17 Help the program developers prioritize items and make temporary decisions about them during the work.
3.5.18 Train program staff members to continue the conceptualization process themselves after the formal working sessions end.

3.6 The facilitator discusses some physical and psychological requirements for engaging in this kind of work.

3.7 The facilitator presents an overview of the origins and purposes of Instructional Systems Development methodology as originally developed. This sub-step is optional, depending upon the interest of program developers.

3.8 The facilitator explains the relationship of the program conceptualization process to a "systems approach." This sub-step is optional, depending upon the interest of program developers.
3.9 The facilitator explains the relationship of this process to common sense and familiar outlining procedures. This sub-step is optional, depending upon the interest of program developers.

3.10 The facilitator and program developers recheck their agendas to assure congruency of expectations.

3.10.1 If differences are apparent, make sure everyone involved is aware of them.

3.10.2 The facilitator and the program developers together determine whether such differences will interfere with the conceptualization process.

3.10.3 The facilitator and the program developers decide whether any members of the proposed group will be dropped or replaced before the working sessions begin.

3.10.4 The facilitator and program developers discuss the impact of decision 3.10.3 if it is made.

3.11 Schedule a specific series of seven working sessions of two and one-half to three hours each.

3.12 Decide the "working environments" for those sessions.
STEP IV. The facilitator leads the group in writing a temporary purpose for the teacher training program. (time: about one and one-half hours)

4.1 The facilitator gives the rationale for the temporary purpose.

4.2 The facilitator asks the following questions of program developers to guide their thinking and gather information for writing the temporary purpose.

4.2.1 "What do you want to do or accomplish in your teacher training program?"

4.2.2 "For whom do you want to do these things (.... provide these services)?"

4.2.3 "Why do you want to do these things (.... provide these services)?"

4.3 The facilitator categorizes the information provided by the answers to these questions.

4.3.1 a category of information about "what"

4.3.2 a category of information about "for whom"

4.3.3 a category of information about "why"

4.4 The facilitator leads the group in discussing and prioritizing the items in each category until all agree that the items are clear and broadly representative.

4.5 The facilitator writes a one-sentence statement of the temporary purpose which is acceptable to the program developers.

4.5.1 A variation of 4.5 is that the facilitator requests each member of the group to write a one-sentence statement of the temporary purpose.

4.5.2 If Sub-step 4.5.1 is followed, the facilitator then presents the commonalities and differences in the statements and follows 4.5.

4.6 The facilitator engages the program developers in feedback and review of Step Four.

4.7 The facilitator provides the agenda for Step Five, which is performing a needs analysis of the temporary purpose, including the rationale, the guiding questions necessary, and the facilitator's role.
STEP V. The facilitator leads the group in performing a needs analysis of the temporary purpose. (time: about one hour)

5.1 The facilitator makes certain that program developers understand which step of the conceptualization process is being started.

5.2 The facilitator gives the rationale for the needs analysis.

5.2.1 It identifies the major components of the teacher training program.

5.2.2 It divides a complex teacher training program into discrete components (or "needs") which can later be analyzed separately.

5.2.3 The needs analysis process forces program developers to relate these discrete elements (or "needs") of their teacher training program directly to a common purpose.

5.2.4 It provides a way to separate theory from practice at the start of the conceptualization work.

5.2.5 It provides a way to start the conceptualization process on a level of relatively little disagreement.

5.2.6 It generally provides the program developers with basic agreement on the broad elements of the program.

5.2.7 It represents a variety of constituencies and ensures their input if their views are included at the time of the needs analysis.

5.2.8 The needs analysis creates the agenda for all the subsequent task analysis sessions.

5.3 The facilitator determines what information is available about the needs of the program from the points of view represented by program developers involved in the conceptualization process.

5.3.1 graduate staff points of view
5.3.2 program faculty points of view
5.3.3 student points of view
5.3.4 cooperating school system points of view  
5.3.5 university administration points of view  

5.4 The facilitator asks the following questions of program developers to guide their thinking and gather information about the needs of the teacher training program.  

5.4.1 "What program needs must you satisfy in order to achieve this (temporary) purpose?"  
5.4.2 "What elements do you need to have in this program to achieve your purpose?"  

5.5 The facilitator discusses his role in the needs analysis: he works with the information provided by the answers to the questions asked in 5.4.  

5.5.1 He requests as much information concerning program needs as he can gather from the program developers.  
5.5.2 Through questioning he clarifies and rephrases the needs expressed to him.  
5.5.3 He lists the information visually in a parallel form in broad areas of program needs.  
5.5.4 He makes sure that the needs expressed are broad educational principles or goals rather than means or ends.  
5.5.5 He discourages amplification and justification of needs, which is typical at this time.  
5.5.6 He leads program developers in the "brainstorming technique" if the momentum seems to be lost.  

5.5.6.1 The group agrees to limit the duration of the brainstorming period.  
5.5.6.2 Do not discuss any ideas during that period.  
5.5.6.3 Do not make any negative comments during that period.  
5.5.6.4 Deliberately "piggy back" on the ideas of others.
5.5.6.5 Give as many ideas as possible.

5.6. He regroups the needs and rewrites them into discrete categories rephrased with reasonably clear labels.
STEP VI. The facilitator leads the group in rewriting the temporary purpose into a working purpose. (time: a half hour or less)

6.1 The facilitator leads the program developers in checking the consistency of the needs with the temporary purpose written in Step Four.

6.2 The facilitator rewrites the temporary purpose into a different (or more inclusive) one-sentence statement to include any new categories of needs which may have emerged during the needs analysis.
STEP VII. The facilitator leads the group in prioritizing the discrete categories of needs. (time: a half hour or less)

7.1 The facilitator leads the group in prioritizing the needs.

  7.1.1 Prioritization is necessary, at least to the point of selecting one need to task analyze.

  7.1.2 The initial task analysis should be a fairly specific need which program developers feel they understand thoroughly.

  7.1.3 Further prioritization provides the agenda for the series of task analysis working sessions.

7.2 The facilitator engages program developers in feedback and review of the needs analysis process.

  7.2.1 The needs analysis process is a model of how the group will work together.

  7.2.2 The needs analysis is a further model of the program conceptualization process as applied to the teacher training program.

  7.2.3 The feedback provides an opportunity to clarify mutual expectations.
STEP VIII. The facilitator leads the group in performing the first task analysis of an individual program need. (time: about two hours)

8.1 The facilitator makes certain that program developers understand exactly which step of the conceptualization process is being started.

8.2 The facilitator gives the rationale for a task analysis.

8.2.1 The task analysis provides a structure in which to locate ideas and concepts.

8.2.2 The diagramming technique of the task analysis places ideas visually in such a way that they can be related to each other easily.

8.2.3 The task analysis organizes thoughts in terms of a specific program need rather than a pre-conceived phase or course.

8.2.4 The task analysis provides material for a behavioral objective servicing a specific program need.

8.2.5 The task analysis provides increasingly specific information about the operation of the teacher training program.

8.2.6 The task analysis provides increasingly specific information about program expectations for students and staff.

8.2.7 The task analysis helps begin the process of setting priorities within an individual need category.

8.2.8 The task analysis provides a sense of achievement in "constructing" or "building" the teacher training program.

8.3 The facilitator reviews his role in the task analysis process without explaining it to the group.

8.3.1 Review Sub-step 3.5 (the facilitator's role in the conceptualization process) and 5.5 (the facilitator's role in the needs analysis).

8.3.2 He controls the environment and timing of the working sessions.
8.3.3 He requests as much information as he can gather concerning the specific program need being task analyzed.

8.3.4 Through questioning he clarifies and rephrases the elements of the task analysis.

8.3.5 He diagrams the information visually in a parallel form while developing the task analysis breakdown.

8.3.6 He relates components of the task analyses to each other and to the entire structure.

8.3.7 Within each breakdown he directs the gradual movement from broad principles to specific means of reaching the principles.

8.4 Before starting work on a specific task analysis, the facilitator and the program developers examine the phrase or "label" for the need being task analyzed.

8.5 The facilitator helps the group specify the upper level of the task analysis before exploring individual breakdowns.

8.6 The facilitator asks the following questions of the program developers to guide their thinking about the specific operations and personnel expectations of the teacher training program. He should realize that Substeps 8.5 through 8.13 usually occur simultaneously rather than sequentially.

8.6.1 "What do your students have to know or do in order to fulfill this particular need?"

8.6.2 "What does your program need to do in order to fulfill this particular need?"

8.6.3 "What information does your program need to provide in order to fulfill this particular need?"

8.6.4 "What does your program have to be like in order to fulfill this particular need?"

8.6.5 "What do your students have to be like in order to fulfill this particular need?"
8.7 The facilitator guides the program developers in creating the elements of a behavioral objective for the particular need being task analyzed. In some cases program developers may want to perform Sub-step 8.7 at lower levels in the task analysis breakdown. The advisability of doing so will vary with individual task analyses.

8.7.1 Help specify the conditions under which the behavior will be demonstrated.

8.7.2 Help specify the specific behaviors which the learners will demonstrate.

8.7.3 Help specify the standards which will define and measure learning of this particular need.

8.8 The facilitator encourages program developers to set initial priorities by making temporary decisions during the task analysis process. To assist completing this sub-step he may ask the following questions:

8.8.1 "Is this part of your program more important to you than that part?"

8.8.2 "If you had to make a choice, would you rather have this in your program than that?"

8.9 The results of Sub-step 8.8 control the extent to which any task analysis breakdown is carried into progressively lower and hence more specific levels.

8.9.1 Consider the time spent.

8.9.2 Consider the momentum lost or gained.

8.9.3 Consider the importance of that particular task item to the program as a whole.

8.9.4 Consider whether the implications and directions for future consideration of that need are apparent.

8.10 The facilitator assists program developers in relating the elements of a task breakdown to each other within the task analysis of a given need.

8.11 The facilitator assists program developers in relating the elements of a task breakdown to elements of other breakdowns in other task analyses.
8.12 The facilitator assumes the responsibility of locating spontaneous thoughts in other categories of needs in task analyses which have been completed or which have not yet been started.

8.13 The facilitator assumes the responsibility of altering or adding to any "labels" of other categories of needs if appropriate.

8.14 This sub-step includes a checklist of attitudes and operations which may be occurring if the facilitator feels that a particular task analysis is being productive.

8.14.1 Easy and rapid movement from one element to another of the breakdown within the task analysis.

8.14.2 The implications of ideas and concepts will be explored.

8.14.3 Good momentum will be apparent.

8.14.4 A high energy level among the program developers will be apparent.

8.14.5 Modified, informal brainstorming may occur.

8.14.6 Spontaneous "ah-ha" reactions will occur from time to time.

8.14.7 There will be expressions of pleasure or enjoyment over the conceptualization process.

8.14.8 Creative digressions will occur.

8.14.9 Priorities will emerge.

8.14.10 Some temporary decisions will be made without hardship.

8.15 This sub-step includes a checklist of potential problems and remedies if the facilitator feels the task analysis is not being productive.

8.15.1 Check to see that program developers are really aware of where they are in the conceptualization process.
See whether the "label" of the need being task analyzed is confusing some of the program developers.

Change immediately and at any time to another task analysis which the program developers feel they understand better.

A false start can sometimes lead program developers in profitless directions; try starting again with different questions. A fresh start on another breakdown within the same task analysis may help.

Try the brainstorming technique.

Try working on the "standards" portion of the behavioral objective.

Try asking some "what if . . ." questions: "What if I were a student in your program and I wanted to do . . . ."

Try asking one of the standard, formal questions.

Try urging program developers to set priorities.

Try to see whose priorities and values are operating in the group.

Try urging program developers to make some temporary decisions.

Make sure that you are facilitating rather than dominating the group.

The facilitator leads program developers in checking the various elements of the task analysis breakdown to see if they are consistent with the need being task analyzed.

The facilitator confirms with the program developers that the "label" for the need which has just been analyzed is accurate and understandable.

The facilitator leads program developers in selecting the next need to be task analyzed.
8.19 Between sessions the facilitator assumes the responsibility of rewriting and rediagramming the task analysis which has just been completed.

8.20 The facilitator leads program developers in feedback and review of the previous working session.
APPENDIX B

A FIRST-RUN CONCEPTUALIZATION OF THE
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

(Purpose and Needs Analysis)

To provide students with learning opportunities in alternative styles of teaching and learning for themselves and adolescents which will equip them as follows:

(1) with information to decide whether they themselves want to teach;
(2) with the necessary resources and experiences to begin to cope with the consequences of that decision. Then, with this common background, the students will evaluate and consider ways to redesign their on-going program.

I

Learning Experiences and Their Application

(1) Field Experiences
(2) Skill Training
(3) Learning Groups

A. Learn a new skill
B. non-classroom component
C. classroom apprenticeship

II

Theoretical Constructs

(1) Knowledge of Adolescents
(2) Rationale for an individual student's academic discipline
(3) Professional issues
(4) Knowledge of alternative learning environment
(5) Knowledge of organizational behavior
(6) Knowledge of Group and individual discrimination

III

Administrative Operation

Instruction
Personnel
Policy
Communication
Facilities
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM
(Task Analysis and High Level Behavioral Objective)

**Conditions:**
1. Field experience settings
2. Learning Group settings
3. Workshops
4. Teacher guidance and instructions

**Behavior:**
1. Participate in field experiences, workshops
2. Acquire specific knowledge and skills
3. Participate in regular Learning Group seminars

**Standards:**
1. Regular attendance in workshops, seminars and program experiences.

---

(1) Field Experiences
(2) Skill Training
(3) Learning Groups

A. learn a new skill
B. non-classroom component
C. classroom apprenticeship
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

(Task Analysis and Low Level Behavioral Objective)

Conditions:
1. The skill must be non-verbal.
2. The student did not previously know the skill.
3. The student must find a person outside the program to teach him the skill.
4. The skill and its method of being learned must be approved by the members of the Learning Group.

Behavior:
1. The student will follow a course of study appropriate to the subject and the setting.

Standard:
1. The student must share the result of his learning with the group.

---

I. Learning Experiences And Their Application - 2
   (1) Field Experiences
   A. Learn a New Skill

---

decide skill to be learned 
select teacher
setting where learning will occur
how many?

<table>
<thead>
<tr>
<th>time necessary to learn</th>
<th>cost of learning skill</th>
<th>personal significance of learning skill</th>
<th>group sharing experience in new learning and student's teaching</th>
<th>personal impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>time money volun-</td>
<td>peerism</td>
<td>degree of professionalism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>other attitude self-</td>
<td>demands</td>
<td>success and failure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ability to own</td>
<td>toward identify</td>
<td>accept partial attainment of goals</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM
(Task Analysis and Low Level Behavioral Objective)

I. Learning Experiences And Their Application - 3

(1) Field Experiences

B. Non-Classroom Component

Conditions:
1. The student will work with one or more adolescents.
2. The teaching involved will be non-traditional.
3. The work must be done in a setting where professional on-site supervision is available.

Behavior:
1. The student will form a relationship, an acquaintance, with an adolescent.
2. The student will meet with the supervisor to set appropriate goals for the relationship in a written contract.
3. The contract will include (a) time spent; (b) duration of the experience; (c) duties and extent of supervision.
4. The student

Standards:
1. The student will meet with the supervisor to assess the degree of attainment of the goals.
2. The time spent will be specified in the contract and be agreeable to the supervisor in the individual setting. The suggested minimum is three hours per week. We expect that many students will spend more time.
3. The student will write a two-page summary of the experience.

<table>
<thead>
<tr>
<th>Adolescent(s)</th>
<th>Personal Significance</th>
<th>Supervision</th>
<th>Logistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>author-physical</td>
<td>self-identity, about partial attainment</td>
<td>on-site program</td>
<td>selecting type of adolescent</td>
</tr>
<tr>
<td>identity</td>
<td>feelings etc.</td>
<td>professional staff</td>
<td>child</td>
</tr>
<tr>
<td>character</td>
<td>separating</td>
<td>selecting</td>
<td>character</td>
</tr>
<tr>
<td>attitudes</td>
<td>from self</td>
<td>contact</td>
<td>interview</td>
</tr>
<tr>
<td>toward</td>
<td>goal setting</td>
<td>nature</td>
<td>[supervision]</td>
</tr>
<tr>
<td>school</td>
<td>and</td>
<td>selecting</td>
<td>[supervisor]</td>
</tr>
<tr>
<td>attitudes</td>
<td>way</td>
<td>another</td>
<td>site</td>
</tr>
<tr>
<td>provide</td>
<td>goal setting</td>
<td>teaching</td>
<td>character</td>
</tr>
<tr>
<td>teaching</td>
<td>model</td>
<td>relationship</td>
<td>interview</td>
</tr>
<tr>
<td>model</td>
<td>amount</td>
<td>and</td>
<td>[supervision]</td>
</tr>
<tr>
<td>another</td>
<td>and</td>
<td>nature</td>
<td>[supervision]</td>
</tr>
<tr>
<td>relationship</td>
<td>goals for</td>
<td>the relationship</td>
<td>[supervision]</td>
</tr>
</tbody>
</table>
ALTERNATIVE LEARNING EXPERIENCES PROGRAM

I. The student will write a contract with the
   teacher, stating the goals of learning.
   Standards:
   1. Learning experiences and
   2. Field experiences
   3. Classroom experiences
   4. Short application

II. The student should work with a group
    that would help achieve the objectives.
    Conditions:
    1. The student should work with a group.
    2. The student should work with a group.
    3. The student should work with a group.
    4. The student should work with a group.

III. The student should work with a group.
    Conditions:
    1. The student should work with a group.
    2. The student should work with a group.
    3. The student should work with a group.
    4. The student should work with a group.

IV. The student should work with a group.
    Conditions:
    1. The student should work with a group.
    2. The student should work with a group.
    3. The student should work with a group.
    4. The student should work with a group.
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

(Teaching Analysis and Low Level Behavioral Objective)

1. Learning Experiences And Their Application - 5

(2) Skill Training

Conditions:
1. Professional and program staff instruction carried on throughout program, intensively during the first two weeks.
2. Field experiences.

Behavior:
1. The students will attend class regularly.
2. The students will participate in class discussions, assigned reading, and arranged field work.

Standards:
1. The pedagogical, classroom management, observational, and counseling areas will be attempted to the satisfaction of the staff, site-supervisor, and student.
2. The students will participate regularly in strength training exercises.
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

(Touch Analysis and Low Level Behavioral Objective)

1. Learning Experiences And Their Application - 6

Behavior:
1. The students will complete the assigned reading.
2. The students will participate in discussions and in seminar activities with each other.

**Conditions:**
1. Seminar setting.
2. Program staff guidance.

**Standards:**
1. The students will participate actively in seminar discussions.
2. Regular (i.e. 100%) attendance.
3. Each student will write a one-page written statement of expectations for ALE.

---

(3) Learning Group

- mutual feedback
- L-Group as mode of teaching and learning
- modes of responding
- group approval of individual's non-verbal skill
- skill training focus during first two weeks (see skill training breakdown)
- integration of experience and learning
- role of outside experts

---

- support criticism information advising
- to group language to people environments

---

- drama-synectics responses
- sessions visible and regarding risks
- improvisations experiences analysis

---

learning assumptions
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

(Task Analysis and Behavioral Objective)

II. Theoretical Constructs

Conditions:
1. Classroom instruction.
2. Bibliographies provided.
3. Field experience.

Behavior:
1. Assigned reading.
2. Participation in class discussions.
3. Fulfill contracted field work expectations.

Standards:
1. Identify and elaborate one construct presented in the readings and offer an example(s) from your field work and/or personal experience within the past semester. The form of elaboration is to be specified.

(1) Knowledge of Adolescents

- Daedalus
- Piaget
- Kohlberg
- Erickson
- Etc.

Issue

(2) Rationale for an individual student's academic discipline

- Content
- Structure of the discipline
- Skills
- Methodology
- Cultural background

(3) Professional Issues

- Authority
- Freedom
- Role
- Skill training and application

Standard: Take a theory of development; use one or more constructs of the theory to illuminate one adolescent's observed behavior.

Standard: Articulate the rationale for the student's individual (20 hour minimum) curriculum unit including consideration of the items in the task analysis.

Standard: Choose a professional issue significant to you in one of your field placements and illuminate that issue through your readings.
## ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

### (Task Analysis and Behavioral Objective)

#### II. Theoretical Constructs - 2

<table>
<thead>
<tr>
<th>Conditions:</th>
<th>Standards:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Classroom instruction.</td>
<td>1. Identify and elaborate one construct presented in the readings and offer an example(s) from your field work and/or personal experience within the past semester. The form of elaboration is to be specified.</td>
</tr>
<tr>
<td>2. Bibliographies provided.</td>
<td></td>
</tr>
<tr>
<td>3. Field Experience.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Behavior:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assigned reading.</td>
<td></td>
</tr>
<tr>
<td>2. Participation in class discussions.</td>
<td></td>
</tr>
<tr>
<td>3. Fulfill contracted field work expectations.</td>
<td></td>
</tr>
</tbody>
</table>

### Standards:

1. Identify and elaborate one construct presented in the readings and offer an example(s) from your field work and/or personal experience within the past semester. The form of elaboration is to be specified.

### Conditions:

1. Classroom instruction.
2. Bibliographies provided.
3. Field Experience.

### Behavior:

1. Assigned reading.
2. Participation in class discussions.
3. Fulfill contracted field work expectations.

#### Knowledge of alternative learning environments

- School: public
- School: non-school
- School: within
- School: without
- School: a school
- School: team

#### Knowledge of organizational behavior

- Groups change
- Institutions
- Leadership
- Organization in relation to environment
- Structure roles
- Purpose
- Schools industry

#### Knowledge of group and individual discrimination

- Sexism
- Racism
- Ideology
- General learning styles

### Standards:

1. Identify the type of school you are working in. Summarize the rationale in two pages. State the extent to which the rationale agrees with the practice.

2. Consider in detail one of the above issues in the task analysis as it relates to your alternative school site.

3. Describe an incident from your experience this semester which is discriminatory in nature. Utilize your reading to identify the elements of this experience, hypothesize the root causes, and suggest more fruitful ways of handling the experience.
III. Administrative Operation

- Instruction
  - Personnel
    - Communications
      - (see breakdown)
  - Facilities
  - Policy
  - Communication
    - Staff
      - Student Support
    - NASP Support
      - Instructional
      - Administrative
    - Policies
      - Personnel
ALTERNATIVE LEARNING ENVIRONMENTS PROGRAM

(PARTIALLY DONE)

III. Administrative Operation - 2

Personnel

Staff

Students

NASP Support

recruit students

enroll students

instruction

communication weekly with students

supervision

record keeping

attend staff meetings

attend classes

participate in classes

teach in alternative school

arrange work with adolescents

evaluation

work in "non-verbal" site

ALE program

ALE staff

supervise

evaluation

students ALE

communicate with U-Taes

arrange alternative sites

contact alternative school for placement interview

locate secure group experience approval itself

NASP TASP TPPC

teaching work with adolescents
APPENDIX C

A FIRST-RUN CONCEPTUALIZATION OF THE INTERNATIONAL EDUCATION PROGRAM
INTERNATIONAL EDUCATION PROGRAM
(Purpose and Needs Analysis)

I. For School Systems:
1. To provide school systems with trained teachers who will make the school system's personnel more aware of: (1) culture and how people express themselves as cultural beings; (2) the value of field experience in teacher training; (3) other educational systems.

II. For Undergraduates:
1. To provide and administer a sequence of activities which constitute a teacher training program for intercultural education.
2. To make them more aware of the role culture plays in education;
3. To create an awareness of how they express themselves as cultural beings;
4. To provide them with tools for teaching about other cultures and/or in another culture.

III. For Graduate Students:
1. To provide a context for experiential training;
2. To provide assistantships.

<table>
<thead>
<tr>
<th>I</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>VIII</th>
<th>IX</th>
</tr>
</thead>
<tbody>
<tr>
<td>Culture and how people express themselves as cultural beings</td>
<td>Field Experiences</td>
<td>Knowledge of other Educational Systems</td>
<td>Knowledge of Curriculum</td>
<td>Knowledge of Racism</td>
<td>Skill Training</td>
<td>Staff Training</td>
<td>Administration</td>
<td>Instruction</td>
</tr>
<tr>
<td>A. Interaction with a foreign student</td>
<td>B. Experience in a cultural setting</td>
<td>C. A teaching experience in a culture different from one's own</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Policies</td>
</tr>
</tbody>
</table>
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and Low Level Behavioral Objective)

I. Culture and How People Express Themselves as Cultural Beings

Conditions:
1. Professional instruction
2. Assigned readings and bibliographies
3. Classroom setting

Behavior:
1. Attend class
2. Participate in classes, small groups, and exercises
3. Do readings

How people individually express themselves as cultural beings

As an individual student
As an American

How

Occupationally, educationally, emotionally, politically, socially, recreationally

Occupationally, educationally, emotionally, socially, communicatively, recreationally

Significance

to the individual student

to the individual student

to Americans

to non-Americans

definitions

expectations

of the culture

of the culture

Individuals from his culture

Judgment will be by program staff and perhaps by peers in the group.

Dimension of Culture

significance
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and High Level Behavioral Objective and Low Level Objective for "E")

Conditions:
1. Given an opportunity for cross-cultural interaction;
2. The interaction must be with a person from a different nationality;
3. It must occur in a cultural setting different from the student's own culture.

II. Field Experiences

Behavior:
1. The student will plan his interaction with that person;
2. The student will interact with that person;
3. The student will analyze his interaction with that person.

Standard:
1. Written or verbal evidence of planning that interaction;
2. Completion of the allotted time for the interaction;
3. Verbal or written analysis of the interaction.

A. Interaction with a foreign student

Behaviors:
1. Interaction must occur in a different cultural setting in this country;
2. This interaction must follow Interaction "A."

Conditions:
Planning
- Interacting
- Analyzing

(See detailed breakdown, page 224)

B. Experience in a cultural setting different from the student's own

Planning
- Interacting
- Analyzing

teacher's
review the three-fold process of interacting with a foreign student; plan, interact, analyze
make the teacher's explanations contact
interact while being aware of your planning and future analysis

feelings
accuracy of expectations
observation of behavior

of people in the environment, both stated and unstated
about environment
about people
about other people
about environment outside the environment
about environment itself
about environment

C. A teaching experience in a culture different from the student's own

Planning
- Teaching
- Analyzing

(See detailed breakdown, page 225)
INTERNATIONAL EDUCATION PROGRAM
(Task Analysis and Low Level Behavioral Objective)

II. Field Experiences - 2

Conditions:
1. The interaction must be with a foreign student attending U-Mass.

Behavior:
1. Attend program planning class discussions for planning this experience.
2. Interact.
3. Report (written or verbal) on their interaction based on notes.

Standards:
1. The interaction must be not less than four hours, at least two of which must be consecutive.
2. The written or verbal analysis must be expressed in terms of feelings and observations.

Planning

- teacher's explanations
  - time notes
  - self

- awareness
  - foreigners

- contacting
  - methods
  - activities

Interacting

- interact while being aware of your planning and analysis
  - stated
  - reaction to stated feelings

Analyzing

- feelings
  - accuracy of expectations
  - observation of behavior

by American student
  - being an American
  - about U-Mass
  - about foreigners

by foreign student
  - being a foreign student
  - about U-Mass
  - about American students

by American student
  - being an American
  - about U-Mass
  - about foreigners

by foreign student
  - being a foreign student
  - about U-Mass
  - about American students
Conditions:
1. Different cultural setting, preferably abroad;
2. Teach full-time for one semester;
3. The teaching must occur in a formal school setting.

Behavior:
1. Plan the experience;
2. Carry out the assigned responsibilities;
3. Develop and use a specific curriculum development unit-component if appropriate.

II. Field Experiences-3

C. A Teaching Experience In A Culture Different From The Student's Own

Planning

Teaching

Analysis

Select the setting

Expectations of the teaching job

Develop knowledge of selected cultural area

Role

Personal

Teacher

Student

Supervisor

Final verbal feedback session

Monthly report

Final evaluation report

Reflections on the experience itself

Reflections as how the student can use the experience in the future

Evaluation of experience for other students in the program

Standards:
1. Complete the experience to the satisfaction of the designated supervisor.
2. Student and supervisor jointly decide whether it is appropriate to develop and use curriculum materials specific to that teaching situation as per the curriculum development unit.
3. The student will present a monthly report.
4. A final verbal feedback session with the program staff.
### INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and High Level Behavioral Objective; Same Objective for Lower Levels)

#### III. Knowledge of Other Educational Systems

**Conditions:**
1. Classroom setting;
2. Program staff instruction.

**Behavior:**
1. Attend and participate in class discussions;
2. Read appropriate assigned readings;
3. Give a presentation.

<table>
<thead>
<tr>
<th>Standards:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Attend 3/4 of the class meetings;</td>
</tr>
<tr>
<td>2. Participate to the satisfaction of the teachers;</td>
</tr>
<tr>
<td>3. Give a class presentation in one of the three sub-areas of this component;</td>
</tr>
<tr>
<td>4. Read the required readings in the sub-area of their presentation.</td>
</tr>
</tbody>
</table>

#### A. Historical

(See detailed breakdown page 227)

#### B. Present

(See detailed breakdown page 227)

#### C. Future

- Projections (of the fact)
- Probability
- Anticipated results

<table>
<thead>
<tr>
<th>demonstration</th>
<th>government sponsored national development plans</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>individual independent conceptualizations</td>
</tr>
<tr>
<td></td>
<td>system rationale</td>
</tr>
</tbody>
</table>
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis; Behavioral Objective Is The Same As For Higher Level on Page Six)

III. Knowledge of Other
   Educational Systems — 2

A. Historical And
   B. Present

Fact   Rationale   Effect

relationships with internal anthropo-political economic psychological, national goals
other cultures history geographical political economic on people

socialization functions economic political other

socialization

religion

those never in the system drop graduates of the system

manpower produced by the system manpower needed by the economy implication of the
decisiveness decision-making leadership conflict birth control etc.

agrarian reform
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and Low Level Behavioral Objective)

IV. Knowledge of Curriculum Development

Conditions:
1. Program staff and professional instruction;
2. Classroom setting;
3. Field experience and setting;
4. Assigned readings.

Behavior:
1. Developed a detailed curriculum outline;
2. Implement the outline if appropriate;

Behavior (cont'):
3. Attend class;
4. Participate in class discussions;
5. Do the assigned readings.

Standard
1. The curriculum outline must be for a minimum of ten hours of classroom instruction;
2. The supervisor will judge the implementation of the curriculum outline if done;
3. The class-program staff instructor will judge the items 3, 4, and 5 above.

Theories of Curriculum Development
- examples
- functions
- needs
- values
- purposes
- implementation
- evaluation

Skills of Curriculum Development
- plan a methodology
- select the teaching environment
- content of the curriculum
- implementation evaluation
- on-going evaluation
- types of presentation
- age or grade of student
- classroom setting
- nature of the student
- duration of the unit
- available resources
- subject area
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and Low Level Behavioral Objective)

V. Knowledge of Cultural Content

Conditions:
1. Program staff and professional instruction;
2. Assigned readings.

Behavior:
1. Gain knowledge of another cultural area or country in depth;
2. Compare that culture with the American culture;
3. Attend and participate in class discussions;
4. Complete the assigned reading.

Standards:
1. Give a written, verbal, or visual demonstration of the use of the cultural knowledge studied in the curriculum component of the International Education Program.
2. When appropriate, the student will demonstrate #1 in his practice teaching.
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and Low Level Behavioral Objective)

VI. Knowledge of Racism

Conditions:
1. Classroom setting;
2. At least one workshop will take place;
3. Professional, peer and program staff instruction;
4. Focus will be on the United States.

Behavior:
1. Complete the assigned readings;
2. Participate in discussions (to be specified) in classroom setting;
3. Engage in an identifiable personal action to combat racism.

Institutional

staffing admissions financial aid lunch programs extracurricular activities testing tracking school curricula membership policies districting

Personal

peer teaching response to institutional racism association behavior

Standards:
1. Select an area of institutional racism and give a written (three pages) or oral presentation;
2. Give an example of a racist activity or of the racist effect of a statement at the University of Massachusetts;
3. Attend at least one university sponsored workshop focused on racism;
4. Explain a positive step you took personally to combat a racist situation.
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and Low Level Behavioral Objective)

Skill Training and Theory

Conditions:
1. Professional and program staff instruction;
2. Classroom setting;
3. A practice teaching site.

Behavior:
1. The student will attend classes;
2. The student will participate in class discussions;
3. The student will attend skill training workshops;

Behavior (cont.):
4. The student will complete the assigned readings;
5. The student will use his skills in his practice teaching.

Standards:
1. Satisfactory completion of three university credits for "methods courses";
2. Demonstrate understanding of the four areas listed below to the satisfaction of the supervisor in the student's practice teaching experience.

Pedagogy

Self Awareness

Classroom Management

Interaction

Skills

Theory

Skills

Theory

Skills

Theory

Skills

Theory

Questions

listening

presentation

use of media

lecture

individualized

instruction

values

outward

clarification

exercises

discipline

environment

record keeping

physical

objects

students

outward bound

school

administration

extraclass

individual

group

Erikson

Simon

Gesell

Rogers
INTERNATIONAL EDUCATION PROGRAM

(Task Analysis and High Level Standard)

Administration of International Education Program

Standard:
1. That sufficient instruction, personnel, and facilities are provided to operate the International Education Program satisfactorily according to end evaluation form completed by (1) program staff and students and (2) TPPC.

Communication
(See page 234)

Instruction

Personnel

Facilities
(See page 233)

Policies

students

staff

classrooms administration

field sites

transportation

space

funding

equipment

implement policy
counseling
provide instruction
record keeping
record

student recruitment and enrollment

place facilities

locate

communicate

make policy

with TPPC

with university

with students other

field sites

attend

record

attend

provide

in-class

in field

instruction

program meetings

feedback
INTERNATIONAL EDUCATION PROGRAM
(Task Analysis and High Level Standard)
Administration of International Education Program - 2

Standard: That sufficient policies are provided to operate the International Education Program satisfactorily according to the end of semester evaluation form completed by (1) program staff and students and (2) TPPC.

- **Instruction** (See breakdown, page 232)
- **Communication** (See page 234)
- **Policies**
- **Personnel** (See breakdown, page 232)
- **Facilities** (See breakdown, page 232)

**Facilities**
- **Policies, review and generation of**
  - **Communication**
- **Personnel**
- **Instruction**

**Classrooms**
- Evaluation
- Administration
- Field placement

**Space funding equipment**
- Place
- Size

**Staff meetings**
- Lunch social gatherings
- Social gatherings
- Information about
- Shared experiences

**Student evaluation**
- Collection
- Disbursement
- Judgment

**STAFF**
- Number
- College
class-
time

**Time duties**
Standard: That sufficient communication is provided to operate the International Education Program satisfactorily according to the end of semester evaluation form completed by (1) program staff and students and (2) IPPC.
BIBLIOGRAPHY AND REFERENCES


Elfenbein, Iris M. "Performance-Based Teacher Education Programs; A Comparative Description." For The American Association of Colleges of Teacher Education Committee on Performance-Based Teacher Education, Washington, D.C., 1972.


Heffernan, T. "An Instructional System to Teach in a Two Semester Course a Methodology to Design Teacher Preparation Programs That Optimally Meet the Needs of Clients." Graduate paper, University of Massachusetts, 1972.


