To the Graduate Council:

I am submitting herewith a dissertation written by Marcia J. Keith entitled "A Student Teacher's Practical Knowledge Of Success In Classroom Lessons." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Education.

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A STUDENT TEACHER'S PRACTICAL KNOWLEDGE OF SUCCESS IN CLASSROOM LESSONS

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Marcia Jeanne Keith

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DEDICATION

To my father,

Lionel A. Keith.

He has always believed that I could.

ACKNOWLEDGMENTS

I would like to thank my committee for supporting me as I struggled to make order out of my vague notions for this study. That I was encouraged to pursue my interests which ultimately resulted in this descriptive piece of research is a testament to their faith in me. Thank you all.

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ABSTRACT

Practical knowledge of teaching is gained through the experience of teaching within specific contexts. This study's focus was on the practical knowledge held and used by a student teacher as she experienced success in classroom lessons she taught. The study explored how a student teacher formed her perceptions of success, what these perceptions meant to her, and what she knew (or learned) how to do to enact such lessons with the pupils in her class.

The informant for this research was selected from among those student teachers who were to begin their 16 week student teaching experience in August, 1986. Several data sets were collected over the course of student teaching. A repertory grid was completed prior to and at the conclusion of student teaching; stimulated recall interviews were held; and classroom observations followed by interviews were held. Analysis involved multiple comparisons between and among the data sets and included thematic examination, and the identification of metaphoric segments from the interview data. One unique aspect of analysis was that the student teacher coded her own stimulated recall transcriptions into the categories identified from her repertory grids.

Findings indicated that the student teacher held a limited number of constructs that she used to frame success in classroom lessons. Furthermore, her interactive teaching behavior seemed limited to those activities, in this case didactics and practice, for which she could anticipate or expect specific results. It was these results that she then identified as indicators of success.

Additional findings were:

1. The student teacher developed planning strategies which represented her practical means for achieving success in classroom lessons;

2. An implicit image of Lesson As Journey was identified in metaphoric interview segments; and

3. The interactive teaching of this student teacher was minded by her image of success. Representations of this image were present in both the classroom observation data and the stimulated recall data.

The study offers eight hypotheses that were generated from the data sets. In general, these hypotheses suggest that student teachers have a holistic aspect to their practical knowledge which frames their perceptions and gives them meaning. They have (or learn) the know-how to do those things which will result in successful lessons, and they have (or learn) the know-how necessary to be able to expect what will happen when they perform certain acts. The practical knowledge of success held and used by student teachers therefore appears to have three components: expectations, specific teaching techniques, and an implicit, metaphorically expressed image.

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CHAPTER I

NATURE AND SCOPE OF THE STUDY

I. INTRODUCTION

Teacher educators are currently under increased pressures, from outside and within the profession, to examine what it is that a teacher preparation program ought to accomplish, and how best to enact that program with students. Decisions on the content of programs, length of programs, and even whether such programs ought to be housed in institutions of higher education or be completely field based will be made. It seems appropriate to expect that such decisions ought to be informed by what teacher educators have reason to believe is the knowledge that a teacher must command in order to carry out the tasks of teaching successfully.

Attempts by researchers to understand teaching led first to an examination of those traits or personality characteristics which might differentiate effective teachers from less effective teachers. Getzels and Jackson (1963), in a review of the teacher trait literature, identified why such research failed to provide much help to teacher education programs. The research stated the obvious, for instance, interesting teachers are better than boring ones; and implied that teacher education programs could not do much about teacher preparation except screen for good human beings. Such research did not provide knowledge about teaching which could serve as the basis for a teacher education program.

In recent years, researchers have examined teacher behaviors in contrast to teacher characteristics. Such an approach, labeled process-product research, identified a set of teacher behaviors (process) which were found to correlate with student achievement (product). Some experimental work with inservice teachers (e.g. Good and Grouws, 1979) offered support to the notion that if teachers do certain things, then students will learn more than if they do not do them. Thus, process-product research has provided teacher educators with knowledge about what effective teachers may do when interacting with students in classrooms.

Should decisions about teacher education be based, then, upon what we know about what effective teachers do? Criticisms of process-product research suggest that the knowledge provided by such research is incomplete. It assumes a one-way, linear relationship between what a teacher does and what students learn. The interactional, reflexive nature of the classroom setting is ignored, as are the mediational effects taking place within the teacher and the student which obviously are not observable. The basic question of when it is that teachers do certain things (which is dependent upon what it is they are perceiving and what that means to them) is left unanswered. As a way of knowing about teaching, process-product research offers an incomplete guide to teacher educators.

The question of how teachers know when to do certain actions from among the range of those possible has initiated a body of research on

teacher thinking. As a way of knowing about teaching, this research assumes a perspective quite different from that of process-product research. It posits that the mental life of teachers needs to be understood because what "they choose to do is directed in no small measure by what they think" (Gage, 1975), and what teachers think is informed by what they know, in the sense of perceiving and putting meaning to those perceptions.

This research interest was encouraged by a 1975 National Institute of Education report entitled, "Teaching As Clinical Information Processing." This report, one of several published as an outcome of the NIE Conference on Studies in Teaching, reflected a changing conception of a human being, from that of a passive responder to stimuli to one who is an active agent "taking account of various things that he notes and forging a line of conduct on the basis of how he interprets them" (Blumer, 1968). The introduction to this report states that "as long as a human teacher plays a central role in making the process (education) work, an understanding of how that teacher thinks and how that thinking can be helped to function more effectively will remain an important item for any agenda of research on teaching."

The support of the NIE, both in terms of identifying and validating the research agenda on teacher thinking, and in terms of requests for proposals, has encouraged studies which have examined the mental life of teachers. Clark and Peterson (1986) offer a framework for organizing this new knowledge in their review of the research on teachers' thought processes. They suggest three categories:

1. Knowledge about teacher planning;

2. Knowledge about teacher's interactive thoughts and decisions;

3. Knowledge about teacher's (implicit) theories and beliefs.

Their third category, teacher theories and beliefs, is described as a "rich store of knowledge" (p. 258) that affects teachers' planning and their interactive teaching. Other researchers have labeled this type of knowledge as practical knowledge (Elbaz, 1983; Connelly & Clandinin, 1985), knowledge-in-use (Schon, 1983), and professional craft knowledge (Calderhead, 1985). Whatever it is called, this type of knowing is often tacit; it is knowledge of and for use; it is dynamic and experiential knowledge, for action and knowing are joined in the actor; and it makes up what teachers "know" about teaching in the specific instances of his or her classroom contexts.

Clark and Peterson (1986) suggest that the teaching process may best be understood when the two domains of teacher thought and action are brought together. It is in the arena of practical knowledge that this "bringing together" occurs. That is, what a teacher knows about teaching is visible through that teacher's actions. The result of those actions is the experience which adds to the "rich store" of practical knowledge available for use in future situations.

Research on practical knowledge is providing a richer conception of teaching than did earlier research programs. More is involved in teaching than being a good person or simply performing certain actions across contexts as a good technician might. Teaching is seen as minded, goal-directed action, whether the goals be implicit or explicit.

Teachers are viewed as professionals who have the knowledge to enable them to orchestrate practical courses of action designed to accomplish their goals in complex situations.

This view of teaching as a knowing act, and of teachers as having and using practical knowledge, has framed a new set of research questions: what is it that teachers know (c.f. Elbaz, 1981); how do they come to know it (c.f. Norton, 1985); how is this knowledge used in teaching (c.f. Conners, 1978). Research set within this framework provides a way of informing teacher preparation programs by providing descriptions of what teachers know and what they know how to do in complex classroom environments. By understanding what teachers know of teaching, their practical pedagogy, teacher educators may be able to design programs which promote its effective development.

II. PROBLEM

As student teaching is the major interactive setting for gaining practical knowledge prior to full time teaching, research needs to be focused on this component of teacher preparation. In addition, what one experiences during this phase of socialization will help to determine what constitutes success and failure in the profession. What a student teacher "knows" as a successful lesson, and "knows" as ways to bring about such a lesson is determined, in no small way, by the interactive setting through which such practical knowledge is gained - his or her student teaching.

There is no generally accepted model or template with which to compare when determining the success or failure of a classroom lesson. Success is in the eye of the beholder - what is perceived and noted, and what that means and how it is valued depends upon whom is doing the seeing. This holds true for teacher educators as well as student teachers, parents, principals, and teachers.

A successful lesson would seem to be a general goal toward which a teaching episode would be directed. It makes sense to say that student teachers would act in ways they had knowledge of to bring about what they perceived as a successful lesson. This implies, then, that a student teacher's planning as well as her interactive teaching behavior, what she notes as well as how it is interpreted, are all aspects of the practical knowledge of teaching which are directed toward reaching the general goal of a successful lesson.

If this is so, then what a student teacher "knows" (perceives and interprets), and "knows how" to enact as a successful lesson is important to describe. This study, set within the framework of research on the practical knowledge of teachers, is an initial entry into that area of research.

III. PURPOSE

This research was undertaken to explore a student teacher's practical knowledge of success in those classroom lessons which she teaches. As practical knowledge is developed through experience, and as

student teaching is the primary source of experience prior to full-time teaching, student teaching was selected as the locus of the study.

This study's major purpose is to provide a description of the practical knowledge held and used by a student teacher as she plans for and teaches what she believes are, and values as, successful lessons.

IV. RESEARCH QUESTIONS

The questions which guided this research were designed to provide a description of a student teacher's practical knowledge of success in classroom lessons. Specific questions were posited which examine the interaction between the domains of student teacher thought and student teacher action as they relate to the focus of the study.

1. What personal constructs or implicit, valued beliefs provide the orienting framework used by a student teacher to determine success in classroom lessons she teaches?
2. In what ways is a student teacher's interactive teaching behavior related to, or minded by, her personal constructs of a successful lesson?
3. How does a student teacher's practical knowledge of success interact with her planning for classroom lessons?
4. What image of a successful lesson is portrayed by a student teacher's metaphoric language?
5. In what ways is a student teacher's interactive teaching minded by her image of a successful classroom lesson?

V. NEED FOR THE STUDY

Practical knowledge of teaching, that knowledge developed and sharpened through the experience of teaching, is the primary determinant of whether a teacher can effectively carry out the tasks of teaching. It is not through lack of content knowledge that teachers fail, but through lack of practical knowledge (c.f. Sternberg and Caruso, 1985). The form and content of practical knowledge is of great import to teacher educators. As things are presently structured, student teaching is the greatest source of practical knowledge and the last opportunity for teacher educators to carry out their responsibility. There is need, therefore, for studies that describe the development of practical knowledge during the critical period of student teaching.

It seems fair to assume that one of the goals, albeit implicit, of teacher education programs would be to develop in future teachers a prototypical image or construct of a successful lesson which would be consonant with accepted practice, research and theory. Such a prototype would inform what Buchman (1983) calls "wise action" in the classroom.

Munby (1983) has argued that research on teacher thinking has not paid sufficient attention to teacher beliefs and "repertories of understanding," and that their significance to an understanding of teacher decision making and teacher thinking "cannot be overemphasized." The present study will make explicit these aspects of practical knowledge as they relate to the identification of a successful lesson by a student teacher.

There is evidence that experienced teachers hold images of good teaching which guide their planning and interactive behavior (Elbaz, 1981; Morine-Dershimer, 1983; Munby, 1985). Whether such images are held by preservice teachers as they begin their student teaching, and whether they function in the same manner as with experienced teachers can only be estimated given the current state of knowledge. This study will examine this important issue.

VI. ASSUMPTIONS

The following assumptions guided this research:

1. Teaching acts are minded actions. Teachers note things, make indications to themselves, and determine their significance for their line of action.
2. Teachers have some access to their practical knowledge of teaching which can be reported in words.
3. It is possible to identify some of what a teacher knows about teaching by inferring that knowledge from the acts of teaching carried out by that teacher.
4. A successful lesson (however it may be described) may be assumed to be an implicit goal of those classroom lessons planned and implemented by a student teacher.
5. Kelly's Repertory Grid, as modified by Munby (1982), provides information about how a student teacher views a successful lesson, and how she makes sense out of or constructs her instructional setting.

VII. DELIMITATIONS AND LIMITATIONS

This study is delimited to a single instance of the phenomenon to be explored, that is, the practical knowledge one student teacher has of successful classroom lessons. In addition, a student teacher who would teach at the elementary grade level was selected as this is the level of schooling with which the researcher is familiar. The final delimitation is the selection of successful lessons as the focus for the description of practical knowledge. Therefore, there is no claim made that this description provides a complete and total rendering of either one student teacher's practical knowledge in all its forms and applications, or all student teachers' practical knowledge of success.

Hargreaves (1984) has expressed concern about studies of teacher's knowledge on the grounds that the data may be too situation-specific. This may be a limitation of the present work, although data were collected over the entire 16 week period of student teaching. It is also true that practical knowledge is visible only in the specifics of its use, so it seems that concerns about it being too situation specific are not appropriate in this case. Finally, it is not a question of whether a student teacher uses the same practical knowledge every time she has what she describes as a successful lesson. It is assumed that practical knowledge is modified in its use as the results of its use are noted.

A further limitation might be the imposition of the researcher's views upon the data. In order to decrease this possibility, several steps have been taken:

1. All data have been retained and may be examined by other researchers;
2. There is no suggestion made that the student teacher was aware of her practical knowledge of a successful lesson prior to discussions about it, but she was informed of the purpose of the study and cooperated in its completion;
3. Multiple methods of data gathering were implemented; and
4. The researcher was aware of this problem, and sought to overcome it by using substantial quantities of data to support any claims.

VIII. DEFINITIONS

For the purposes of this research, the following definitions of key terms were utilized:

Practical knowledge - that knowledge held by a teacher which may be largely unarticulated, but which guides that teacher's work (Elbaz, 1981). It is differentiated from other forms of knowledge in that it is used in practice and mediated by practice. Practical knowledge is thus seen as dynamic, modifiable, and personal.

Image - Elbaz (1981) identifies images as a category of a teacher's practical knowledge. Images meet the above criteria, but, in addition, they may be thought of as personally held, unarticulated views of how good teaching should look and feel, that is, how a particular learning

activity ought to be experienced. Images, according to Morine-Dershimer (1983), "may be most revealing of deep-seated teacher beliefs" (p. 25). Connelly and Clandinin (1985) describe the connection images have with an individual's past, present and future:

> It (the image) reaches into the past, gathering up experiential threads meaningfully connected to the present. And it reaches intentionally into the future and creates new meaningfully connected threads as situations are experienced and new situations anticipated from the perspective of the image. (p. 198)

Constructs - Kelly described constructs as "templates" through which one perceives the world (1955). Fransella and Bannister (1977) elaborate on this definition by writing that "each of us invents and re-invents an implicit theoretical framework which, be it well or badly designed, is our personal construct system."

Teaching episode - a teaching episode is defined by the informant for this study. That is, whatever is seen by the student teacher as the beginning and ending of a teaching segment will be the episode for analysis. It is accepted that these teaching episodes will be of varying lengths, and will be comprised of several different teacher/student activities.

IX. PROCEDURES

The framework within which this research is carried out is that of an exploratory single case study. The phenomenon explored is the

practical knowledge a student teacher holds and uses in determining successful classroom lessons. The context for the study is the student teaching experience as this is the primary occasion for the development and use of practical knowledge before full-time teaching.

The design of the research is based on a principle of De Corte's (1979) large-spectrum approach. Several methods and techniques should be used in studying the same object in order to overcome technique specific artifacts. Selection of this design, also called triangulation of data sets (see Morine-Dershimer, 1983; Denzin, 1978), seemed particularly appropriate in this research for the following reasons:

1. There is no accepted methodological approach for research on practical knowledge;
2. Multiple data sets would encourage multiple comparisons and improve the validity of the study; and
3. A review of the literature suggested that practical knowledge had many aspects which could best be described by using different probes to explore the different aspects.

Three methods of data collection were used over the course of the 16 weeks of student teaching. The first of these was a modification of Kelly's Repertory Grid (Munby, 1981) which was administered prior to and immediately after student teaching. The second method involved a series of classroom observations over the 16 week period which were carried out in the manner of ethnographic description. Finally, complete classroom lessons were videotaped and both unstructured and stimulated recall interviews were held.

All interviews were tape recorded and transcribed for analysis, carried out according to the approach suggested by Morine-Dershimer (1983). Each data set was examined in turn and then combined to provide a complete description.

X. ORGANIZATION OF THE STUDY

This study is made up of six chapters. Chapter I contains an overview which includes a brief description of how the study fits into emerging research on teacher education, why is is important, and how it is to be carried out.

Chapter II identifies the areas of relevant literature and reviews the research which provides the scholarly context for the study.

Chapter III describes the procedures used to complete the study and specifies how the methodology was enacted. Particular attention is focused on the rationale for a single case study.

Chapter IV presents the data which is analyzed in Chapter V.

Chapter VI concludes the study, and includes the summary, conclusions, and implications for future research.

CHAPTER II

REVIEW OF RELATED LITERATURE AND RESEARCH

I. INTRODUCTION

> Lowyck (1984) has suggested that: because each theory on teaching rests on the validity of the concepts, it is an important task to analyze seriously the meaning of the terms. One of the main problems of putting research results together in a consistent theoretical framework is the divergent use of concepts; different terms are used for the same phenomenon or the same concepts grasp a totally different reality. ...It is an important task for researchers in a developing field of study, to handle very precisely the meaning of the used concept. If not doing so, a lot of investigation results will be inadequate in their contribution to theory building. (p. 73)

The first problem for this researcher, therefore, is to explicate the meaning of the term "practical knowledge" and to show how this term is related to or different from the other possible choices. Such an explication enables other researchers to identify the object of this study with precision and facilitates comparisons across studies.

The second problem to be considered in this review is that of identifying and summarizing those research studies which provide some description of the practical knowledge of teachers as that term has been specified. This means selecting certain studies which are determined to

be about practical knowledge, irrespective of what the original researchers may have used as their term of choice in the study.

The final area to be considered in this review concerns the focus of the practical knowledge selected for description in this study, that is, a student teacher's knowledge of successful classroom lessons.

II. THE PROBLEM OF PRACTICAL KNOWLEDGE

Practical Knowledge As A Concept

Freema Elbaz (1981, 1983) was the first researcher to articulate a conception of teachers' knowledge which she termed "practical knowledge" in her case study of a single teacher (Clandinin, 1985). According to Elbaz (1981), teachers hold and actively use knowledge, which may be largely unarticulated, to shape the work situation and to guide their teaching practice, and it is this holding and using of the knowledge that marks it as "practical." She defines practical knowledge in the following way:

> This knowledge encompasses firsthand experience of students' learning styles, interests, needs, strengths and difficulties, and a repertoire of instructional techniques and classroom management skills. The teacher knows the social structure of the school and what it requires of teacher and student, for survival and for success; she knows the community of which the school is a part, and has a sense of what it will and will not accept. This experiential knowledge is informed by the teacher's theoretical knowledge of subject matter, and of areas such as child development, learning

and social theory. All of these kinds of knowledge, as integrated by the individual teacher in terms of personal values and beliefs and as oriented to her practical situation, will be referred to here as 'practical knowledge.' (Elbaz, 1983, p. 3)

Elbaz (1981), obtaining her data from a series of unstructured interviews carried out over the course of two years, identified three structural forms which describe a teacher's practical knowledge: rules of practice, practical principles, and images. According to Clark and Peterson (1986) these forms "provide a particularly useful framework for thinking about the research on teachers' implicit theories and about the dynamics of those theories in use." (p. 290)

These three terms, according to Elbaz (1981) are meant to "reflect varying degrees of generality in teachers' knowledge," (p. 49) and are therefore described as organized in a somewhat hierarchical manner. Thus "rules of practice" are "brief, clearly formulated statements of what to do or how to do it a particular situation frequently encountered in practice. ...[They] guide the methodical implementation of the teacher's purposes, which may or may not be articulated." (Elbaz, 1981, p. 61) "Practical principles" are broader and more inclusive statements which "embody purpose in a deliberate and reflective way. The statement of a principle enunciates, or at least implies, the rationale that emerges at the end of a process of deliberation on a problem" (Elbaz, 1981, p. 61). And, finally, on the third level are "images" described by Elbaz (1981) as being "at once the least explicit and most inclusive

of the three." she goes on to describe this level of practical knowledge:

> ...the teacher's feelings, values, needs, and beliefs combine as she formulates brief metaphoric statements of how teaching should be and marshals experience, theoretical knowledge, and school folklore to give substance to these images. Images serve to guide the teacher's thinking and to organize knowledge in the relevant area. The image is generally imbued with a judgment of value and constitutes a guide to the intuitive realization of the teacher's purposes. (p. 61)

It should be noted that, according to Elbaz (1981), all three levels of practical knowledge are used in the service of a teacher's purpose, whether that purpose be articulated or not. Therefore, teachers are seen as engaged in goal-directed activity and they hold and use their knowledge in relationship to these goals.

Before moving away from Elbaz's (1981) seminal work, it is important to note that, in Elbaz's view, practical knowledge is reflexive and dynamic, and is "held in an active relationship to practice and used to give shape to that practice." (1981, p.48).

Another perspective on what teachers know is provided by Lee Shulman (1986), in a paper entitled "Those Who Understand: Knowledge Growth in Teaching." Shulman discusses what he calls "teacher knowledge," or that domain-specific knowledge of content, pedagogy and curriculum (among other areas) that enables teachers to carry out the acts of teaching. Three forms of teacher knowledge are presented by Shulman: propositional knowledge (principles, maxims, and norms), case

knowledge (prototypes, precedents, and parables), and strategic knowledge (professional judgment or decision-making in the particular context). Shulman's "teacher knowledge" is clearly within the parameters of the meanings associated with "practical knowledge." However, he does not discuss purpose or where beliefs and values enter in, although the relationship between Shulman's first two "forms of teacher knowledge" and Elbaz's (1981) "rules of practice and practical principles" is clear.

Additional description of practical knowledge as held and used by teachers is provided by F. Michael Connelly and D. Jean Clandinin (1985), who have expanded upon Elbaz's (1981) research, particularly in their research on images. These researchers continue with the phenomenological perspective provided by Elbaz by focusing on the experiential mode of practical knowledge. And, as experiences are an individual phenomenon, they add the word "personal" to practical knowledge. Clandinin (1985, p. 362) writes that "personal practical knowledge is knowledge which is imbued with all the experiences that make up a person's being."

Connelly and Clandinin (1985) explained their use of the term "knowledge" to mean that

> body of convictions and meaning, conscious or unconscious, which has arisen from experience, intimate, social and traditional, and which is expressed in a person's actions. We use the term "expression" to refer to a quality of knowledge rather than to its more common usage as an application or translation of knowledge. (p. 137)

The purpose of inquiry within the framework provided by Elbaz, Clandinin, and Connelly is to describe what it is a teacher "knows" about teaching, or the "personal and existential matrix" (Clandinin, 1985, p. 363) of domain-specific practical knowledge.

Metaphors and Images as Practical Knowledge

Clandinin (1985) has built upon Elbaz's (1981) definition of image as a component of personal practical knowledge. She conceptualizes "images" as the result of the imaginative processes by which "meaningful and useful patterns are generated in practice." These images are available to guide us in making sense of future situations, but are derived from personal history or "from a narrative of experience." (p. 363)

Clandinin's (1983, 1985) research program aims to describe the personal practical knowledge of teachers, in particular their images, through the study of a teacher's practice and her personal reconstruction of her experience during that practice. To carry out her research, Clandinin was a teacher assistant (participant observer) for three half days a week from April to June and again from September to February and held two interviews with the teacher who is the primary focus of her 1985 paper. Clandinin's study illustrates how one teacher's image of the "classroom as home" embodies her personal and professional experience and how, in turn, the image is expressed in her classroom practices and in her practices in her personal life. Elbaz

(1981) identified image as an aspect of practical knowledge. Clandinin extends this by providing a description of how classroom practice is minded by such images.

Munby (1985) reports on a continuing research project on metaphor in the language of teachers. He describes his concern as "understanding what professional teachers know and how they know, and not with what they do." (1985, p. 26) He contends that there is no clear and agreed-upon conceptual approach for studying professional knowledge. In his view, the examination of metaphors in teacher's ordinary speech holds promise as a way to represent and understand this knowledge.

The basis for Munby's perspective is found in Lakoff and Johnson's (1980) work on metaphor. They (1980) suggest that: "Our ordinary conceptual system, in terms of which we both think and act, is fundamentally metaphoric in nature." (p. 3) They further write:

> The concepts that govern our thought are not just matters of the intellect. They also govern the everyday functioning. Our concepts structure what we perceive, how we get around in the world, and how we relate to other people. Our conceptual system thus plays a central role in defining our everyday realities. If we are right in suggesting that one's conceptual system is largely metaphorical, then the way we think, what we experience, and what we do everyday is very much a matter of metaphor." (p. 3)

In his 1985 paper, Munby describes how an academic mainframe computer is being used in his research and how metaphorical figures are located in his data bank (comprised of interviews with eight

middle-school teachers) through computer search. Specific metaphorical figures are identified as they appear in the interview data of two of these eight teachers.

Munby suggests an interesting extension of his work which seems to have direct relevance to this research. He suggests that as the preservice teacher:

> grapples with inputs from the university curriculum and his or her experiences in school classrooms, the language used to speak about professional practice will show a shift from a relatively unorganized and metaphorically "flat" expression to something quite complex and metaphorically rich. Such a study could begin to map the development of professional knowledge and theories and to trace the professional's emerging capacity to construct these by means of reflection upon action. (p. 28)

Munby's research concerns can be related to Elbaz's "images" which have been defined as "brief metaphorical statements of how teaching should be" (1981, p. 61). Both Munby and Clandinin refer to Lakoff and Johnson's (1980) work with metaphor as part of the framework within which their research is located. So although Munby speaks of "metaphor in professional knowledge" and Clandinin of "image in personal practical knowledge," their perspectives are similar.

Morine-Dershimer (1979) uses the term "image" to refer to a teacher's <u>a priori</u> mental plan or set of expectations which is carried into the interactive phase of the lesson and "which appears to guide interactive information processing" (p. 85). Through the use of

"planning interviews" carried out before the start of a school day, and stimulated recall interviews after the lesson had been completed, Morine-Dershimer identifies three categories of teachers dependent upon the amount of "teacher perceived discrepancy between plan and reality" (p. 85).

1. "image oriented" with little or no discrepancy between teacher plan and classroom reality

2. "reality-oriented" with minor discrepancy between teacher plan (mental image) and classroom reality

3. "problem-oriented" with a more pervasive discrepancy between teacher and classroom reality was perceived (p. 86).

Related to Morine-Dershimer's analysis of "image" is a study by Parker and Gehrke (1986) which analyses data gathered by audio stimulated recall interviews with 12 elementary teachers. From this analysis, they developed three "hypotheses grounded in the data."

The first of these is that "teachers' interactional decision making (IDM) is embedded in classroom activities." According to Parker and Gehrke, "teachers behaved in a manner that seemed to her likely to bring an a priori image (a teacher's cognitive representation of what a particular learning activity ought to be like) into reality" (p. 234). Their second hypothesis is that "moving learning activities forward to completion, or to the fulfillment of a teacher's image of an activity, is a primary teacher intention during interactive teaching" (p. 235). And finally, the third hypothesis states that "decision rules and routines support teacher intentions to move learning activities forward to completion" (p. 235).

Both Morine-Dershimer (1979) and Parker and Gehrke (1986) describe "images" as tacit rather than overt, and hold that such images exist as "plans" or "cognitive representations" of how lessons "ought to be". In neither case are these images described, nor are they discussed as metaphoric in nature, nor is their experiential basis explored. In addition, Elbaz, together with Clandinin and Munby, would not subscribe to the notion that some a priori structure of the mind (the image) somehow drives the action, but rather they would insist that the image is embodied in the action. By comparison, it seems that Elbaz's notion of image is the more inclusive than that of Morine-Dershimer. However, it seems clear that in large measure, both conceptualizations are similar: images are mostly unarticulated representations of the "ought to" or value aspect of practical knowledge, and they serve as guides for a teachers' interactive perceptions and her actions.

It is particularly interesting to note that later work from Morine-Dershimer (1983) shows a continuing interest in imagery, particularly as expressed in teacher language. In a study of two teachers which used three methods of collecting data (classroom observation, repertory grid interviews and stimulated recall), Morine-Dershimer (1983) identifies teacher imagery in the one case as a metaphor of "teacher as an effective combatant," (p. 42) and in the other as "teacher as running the good race" (p.52). In Morine-Dershimer's study, she indicates that this type of analysis "yields information relative to teachers' implicit beliefs" (1983, p.

10). In the present study, the imagery present in student teacher's language is interpreted as providing information on that teacher's image, the third level of Elbaz's classification system, (which by her definition includes implicit beliefs) as a form of practical knowledge.

Summary of Research on Metaphors and Images

It can be stated that previous studies have demonstrated that experienced teachers hold and use images which both guide their thinking and organize their knowledge into relevant areas. In addition, the metaphoric language of teachers may provide insight into their image. Of particular interest to this study, is that the researchers who have examined "image" (as they might variously define it) agree that it identifies how a teacher "knows" what teaching or classroom lessons ought to be, that is, how a successful lesson is experienced. No research has been located on the images of success of preservice teachers.

Knowing-in-Action as Practical Knowledge

It seems clear that Donald Schon (1983) is referring to a related form of knowing when he discusses the term "knowing-in-action, the characteristic mode of ordinary practical knowledge" (p. 55). He ascribes the following properties to "knowing" in this sense:

> *There are actions, recognitions, and judgments which we know how to carry out spontaneously; we do not have to think about them prior to or during their performance.

*We are often unaware of having learned to do these things; we simply find ourselves doing them.

*In some cases, we were once aware of the understandings which were subsequently internalized in our feeling for the stuff of action. In other cases, we may never have been aware of them. In both cases, however, we are usually unable to describe the knowing which our action reveals (p. 54).

Schon (1983) describes knowing-in-action as ordinarily tacit in that "every competent practitioner can recognize phenomena for which he cannot give a reasonably accurate or complete description" (p. 49). In Schon's view, knowing-in-action tends to become increasingly tacit, spontaneous, and automatic as a practitioner experiences many variations of a small number of types of cases and is therefore able to "practice his practice." A practitioner thus

> develops a repertoire of expectations, images and techniques. He learns what to look for and how to respond to what he finds. As long as his practice is stable, in the sense that it brings him the same types of cases, he becomes less and less subject to surprise. (p. 60)

Schon does not explicate his use of "image" in this paragraph, but even its common sense meaning would show its relationship to <u>image</u> as it has been described in the prior section. "Techniques" seem similar to Elbaz's use of "rules of practice" (what to do or how to do it) and "expectations", as they imply purpose, maybe related to all three of Elbaz's levels of practical knowledge. Knowing-in-action, then, is

practical knowledge as it is made visible through the practitioner's professional acts.

There is a further aspect of knowing-in-action as Schon identifies the concept. He suggests that how practitioners frame a problem, that is, how they determine what elements to attend to and how to organize those elements within the problem frame, represents their professional knowing-in-action.

Elbaz, Clandinin and Connelly, and Munby in their research program aim at describing the form and function of a teacher's action-relevant knowledge (her practical knowledge) while Schon is interested in the study of reflection-in-action or the process by which a practitioner may improve his/her practice by becoming "a researcher in the practice context" (p. 68). As a consequence of this, Schon does not primarily attempt to describe what it is that a practitioner knows how to do, his/her "repertoire of expectations, images, and techniques," (p.60), but rather acts as a consultant in helping the practitioner confront and examine his/her own practice.

Day (1984) applies Schon's approach in his research which describes how an English teacher, working with a researcher-consultant (Day) comes to confront and question his own thinking and behavior, and as a result starts to test out ways of resolving the discrepancies between his educational statements of what he believes and his classroom practices ("knowledge-in-action"). The main focus of this research, like Schon's, is professional development rather than identifying the professional knowledge that teachers use to carry out their teaching tasks.

The single study located that directs its attention to the development of professional knowledge in student teachers (their "knowledge-in-action" in the classroom) is that research being carried out by Russell (1986). He describes his study as having as its "central theoretical perspective" Schon's work in The Reflective Practitioner (1983). In his report of preliminary findings on the four student teachers he has observed and interviewed, Russell writes that the "data collected and interpreted to date are rich in suggestions about the potential of Schon's categories of knowledge-in-action and reflection-in-action as an analytic framework" (p.14). He suggests that there were "moments of reflection during practice teaching assignments, but there was little to indicate that reflection was a major theme" (p. 15).

In this preliminary report, Russell does not identify what it was his student teachers learned to do. His focus was on "reflection-in-action" and how it may serve professional development in student teaching. He suggests the importance of student teaching for the development of "knowledge-in-action," but how this knowledge may be described as it relates to a student teacher's experience of a successful lesson is unexamined.

Summary of Research on Knowing-in-Action

The two studies reviewed here that concern teachers' knowing-in-action, when taken together with Schon's work with practitioners from other fields, indicate that it is possible to identify at least some of what is known (the practical knowledge of a

teacher) by examining what a teacher does during the everyday actions of teaching. Schon's work also implies several levels of knowing-in-action, two of which are propositional in nature (expectations and techniques) and the third (images) more holistic.

In the writings of Elbaz, Connelly, Clandinin, and Schon, there is no separation of theory, on the one hand, and practice, on the other. Practice is a reflection of theory, and theory is implicit in the practice: theory and action are united. Clandinin refers to the teaching act as "narrative (theory)-in-action," while Schon (Argyris and Schon, 1977), call a practitioner's acts "theory-in-use." Both these phrases attribute the same meaning to the term "theory," that is, it is to be interpreted as the representation of a teacher's practical knowledge while engaged in a teaching act and, as such, it could as well be termed "practical knowledge-in-action."

Teachers' Implicit Theories and Beliefs as Practical Knowledge

The theory analogy, when it is applied to research on teacher thinking, is used to emphasize the relationship between a scientist carrying out the actions of science by observing, forming hypotheses, and experimenting and the corresponding activities of the teacher in carrying out the actions of teaching; perceiving, explaining relationships and causes, forming hypotheses in the form of expectations, acting on the basis of these hypotheses (Bromme, 1984). Implicit theories of teachers are seen as propositional knowledge in

this analogy, or as a series of rules and principles which inform teacher acts and which may be informed by teacher acts.

Clark and Peterson (1986, p. 285) describe implicit theories as a part of the "psychological context in which a teacher plans and decides." That is, if one were to list a teacher's implicit theories (assuming that were possible), there would still be other components needed for a complete description of this "context." This additional, more holistic component must include the non-propositional aspects of a teacher's practical knowledge. Clark and Peterson (1986, p. 287) write of "theories, beliefs and values" while Elbaz (1983), as discussed previously, provides the more inclusive notion of a teacher's "images," which also include the unarticulated values and beliefs of the teacher. Elbaz (1981, p. 61) suggests that such images help provide a "guide to the intuitive realization of the teacher's purposes." In this sense, beliefs may be seen to organize a teacher's implicit theories, that is, because a teacher believes something, she "knows-how" (or learns how) to enact the experience.

Several researchers have used "teacher beliefs" in a manner which does not clearly differentiate this term from "teacher implicit theories" (Clark and Yinger, 1977; Nespor, 1984; Munby, 1982; Olson, 1981). However, it should be noted that "beliefs," in the sense the term is used herein, refers to a teacher "believing in something" and therefore is value-laden, while the term "implicit theories" has no such connotation. In addition, at the structural level of practical knowledge, beliefs, as incorporated into metaphorical images, represent the least explicit and most inclusive category.

Research on Implicit Theories

Clark and Yinger (1977) in an earlier review of research on teacher thinking, include a section on "teachers' implicit theories" in which they identify four studies which they describe as "more eclectic than the other material reviewed" and as demonstrating "little consensus" (p. 301) other than "the belief that teacher thinking and teacher behavior are guided by a set of organized beliefs, often operating unconsciously" (p. 301). (Note the use of "organized beliefs" as indicating the same concept as "implicit theories.") These studies were separated out into their own category because they did not concern cognitive processes, for example, decision-making. Rather, they attempted to describe the content with which these processes are enacted or what a teacher "knows."

The most recent review of literature on teachers' thought processes (Clark and Peterson, 1986) includes nine studies. five additional ones since 1977. These are described under the general title of research on "teachers' implicit theories" (p. 288). While suggesting the "eclectic" nature of these studies, Clark and Peterson (1986) chose to group all of them together without distinguishing between the object of the research. Therefore, the different researchers represented in this review used several different models or theoretical assumptions about teachers' professional knowledge. This leads to great difficulties in comparing the diverse findings of such research.

Clark and Peterson (1986) recognize this problem and write that "it is difficult to synthesize a clear and unequivocal set of conclusions" (p. 291) from these studies but they nonetheless suggest the following:

1. Teachers do seem to hold implicit theories about their work and these conceptual systems can be made more explicit;

2. Even within what appear to be relatively homogeneous groups of teachers there is wide variation in the content and orientation of teachers' implicit theories;

3. Studies suggest that relatively few principles of practice (three to six) are needed to describe a teacher's implicit theory of teaching;

4. Studies raise the possibility that conflict between teachers' implicit theories about good teaching with those of administrators or curriculum developers may explain historic and continuing difficulties in implementation of educational innovations; and

5. Elbaz's analysis of teachers' practical knowledge, especially concerning the three structural forms of practical knowledge (rule of practice, practical principle, and image), holds promise as an organizing conceptual system for future research and modeling of teachers' implicit theories and belief systems in use (pps. 291-292).

Additional Research on Teachers' "Psychological Context"

Since Clark and Peterson's chapter was written (the latest research reviewed was dated 1983) there have been additional research reports in the literature which would seem to describe teachers' implicit theories and beliefs in the general sense used by Clark and Peterson (the

"psychological context in which a teacher plans and decides"). It should be remembered that the researcher whose work is being reviewed may well have termed his/her research object something other than "implicit theories and beliefs." In each case, the term selected by the researcher will be briefly explained in order to facilitate interpretation.

Tabachnick (1983) reports on a continuing study of "teacher perspectives," defined as "the ways in which teachers think about their work and the ways in which they give meaning to these beliefs by their actions in the classroom" (p. 4). Teacher perspectives: (1) involve actions, not merely dispositions to act as in the case of attitudes; (2) are defined in specific contexts as opposed to the more global ideologies (Tabachnick, 1983).

Tabachnick reports on a two year longitudinal case study of four teachers beginning with their student teaching experience and continuing through their first year of teaching. Information was gathered through classroom observations and interviews. The first part of the study identified 17 "dilemmas of teaching" which emerged from the data collected during the student teaching experience of his 13 informants. Some of these dilemmas which seem related to the focus of this study are: (1) teacher-pupil control over pupil learning: high--low; (2) the teacher's role: what to teach; (3) the teachers role: how to teach; and (4) teacher versus pupil control over behavior; high--low (pp. 83-87).

Tabachnick's work indicates that student teaching did not result in substantial changes in the teaching perspectives that the student teachers brought to the experience, except in the case of three students who chose to "comply strategically to the demands made upon them in their work settings" (p. 5). He did find that students became more articulate in expressing and more skillful in implementing the perspectives which they possessed in "less developed forms" (p. 5) at the beginning of their student teaching experience. This study would seem to indicate that either student teaching is not a strong enough intervention to change fundamental beliefs about teaching, or that student teaching is experienced by an individual so as to support whatever prior beliefs may exist.

In another study which used student teachers as informants, Pope and Scott (1984) examined how student teachers' beliefs about the nature of knowledge and his/her related theories of learning affect classroom practice. They identify views which seem to represent the "four major philosophical traditions (of epistomology): realism, idealism, pragmatism and existentialism and suggest that each would imply a different educational practice" (p. 62) on the part of the student teacher who held the view. Their contention is that a teacher educator will "need to come to an understanding of the role these perspectives play in relation to classroom practice" (p. 72).

Fogarty, Wang and Creek (1983) collected stimulated recall data on three experienced and five novice teachers. They identify three main categories of prior knowledge reported as used during classroom instruction: important curricular content, pedagogical principles, and

student history. Their analysis suggests that the use of prior knowledge during instruction is an important aspect of experienced teaching that is not as well developed in novice practitioners. When novice teachers do report using prior knowledge, it is applied most often when dealing with social behavior of specific children within the category of student history. Experienced teachers show no such pattern.

A second difference noted in this study between experienced and novice teachers was that novices did not implement as large a variety of instructional actions in response to the performance cues presented by their students. The authors suggest that additional research is needed to discover ways in which the main categories of prior knowledge affects the nature and quality of a teacher's interaction.

Calderhead (1984), in his study of inexperienced teachers, six student teachers, and six first year teachers examines the knowledge teachers possess about pupils. Using a variety of methods (interview, repertory grids and stimulated recall), Calderhead identified four major categories in his data. These seem similar to the description Fogarty, Wang and Creek (1983) offer for their "student history" category:

1. knowledge about pupils in general;
2. general knowledge about particular pupils;
3. specific knowledge about pupils;
4. knowledge related to diagnostic/remediation routines.

Calderhead's research suggests that beginning teachers start out with very little of any of these types of knowledge. Student and first year teachers most quickly acquire general knowledge about particular

children while experienced teachers possess all four categories of knowledge. This result seems to support Fogarty's et. al. (1983) finding that novice teachers most often report that they use prior knowledge when dealing with social behavior of specific children.

One study described in the literature explicitly identified the object of research as teacher beliefs. Nespor and others (1984) provided an interim report on a multiple-method (Kelly's repertory grid stimulated recall, classroom observation) study of eight junior high school teachers' beliefs and classroom behavior which has three foci:

1. teachers' perceptions of teaching tasks and processes;
2. how teacher beliefs and behavior are shaped;
3. the constraints on these beliefs by outside forces.

Nespor concludes after an extensive review of the literature, that the search for teachers' beliefs, per se, "may be futile, (for)

> each new sample of teachers, each new school context, and each new methodological procedure is likely to produce a different taxonomy or list of 'beliefs' or 'principles'. (p. 24)

Because of this, Nespor recommends that research be explicitly focused towards the investigation of teachers' beliefs about specific areas of the teaching environment, and that the characteristics of the teachers and their environments which may lead them to enunciate different systems of beliefs be articulated. These recommendations resulted in this researcher focusing on beliefs about success in classroom lessons and in providing a description of the student teaching context.

In the final report of this study (Nespor, 1985), the core set of beliefs of the eight teachers in the sample are presented. Nespor suggests, as a result of this research, that teachers learn from their experiences "not because they lack analytical turns of mind or technical vocabularies, but because they employ a strategy of thought well suited to habitually dealing with the entangled domains they work in" (p. 170). He maintains that teachers rely on their beliefs to help them define tasks in this complex classroom environment. To then deal with these tasks, teachers act as "naive empiricists". They construct their repertories of teaching practice by encoding cases according to their particular past uses and effects, and according to the value the teacher places on these.

Summary Of Research On Implicit Theories And Beliefs

Bromme (1984) suggests that, in order to avoid the connotative and denotative meanings attached to the word "theory" (as in subjective theories, personal theories, naive theories, and implicit theories), the approach to research on the teacher's "action--relevant knowledge" should be called research on "expert knowledge" (p. 45). He argues that this term has its antecedents in research on the psychological analysis of the thinking of novices and experts in complex task domains, and thus provides a more appropriate framework for studying teacher cognitions than that supplied by the concept of theory.

This author considers this a valid point, especially after untangling the overlayered, complex uses of the word "theory" in the

literature. Nonetheless, the word "expert" connotes the possession of great ability and competence while "practical knowledge" has no such connotation. Thus one can speak of a student teacher's practical knowledge without implying that she possesses expert knowledge.

It is clear that what Clark and Peterson referred to 1977 as the "eclectic nature" of the studies on teachers' implicit theories and beliefs still is the case in 1987. However, for this researcher's purposes, several conclusions may be drawn:

1. The practical knowledge of teachers includes what other researchers have called teachers' implicit theories and beliefs;
2. There is evidence that changes occur in both the expression of implicit theories and beliefs (Tabachnick, 1983) and in the areas of such knowledge (Calderhead, 1984; Fogarty and Wang, 1983) as teaching is experienced;
3. Teacher beliefs might best be identified in focused studies, rather than in studies which aim to identify all beliefs about everything (Nespor, 1984; Pope and Scott, 1984); and
4. Beliefs may serve to organize a teacher's implicit theories by defining tasks in a complex environment (Nespor, 1985). If something is believed to be the case (seen as), then teachers act according to what they have learned through experience (do as).

Kelly's Personal Constructs As Practical Knowledge

"Constructs" as described by Kelly (1955) and expanded upon by Fransella and Bannister (1977) are also viewed as implicit: "each of us

invents and re-invents an implicit theoretical framework which, be it well or badly designed, is our personal construct system" (Fransella and Bannister, 1977, p. 5). They go on to describe how such constructs (or implicit theoretical frameworks) are related to actions and are modified:

> Thus we are 'scientists' who derive hypotheses (have expectations) from our theories (our personal construing). We subject these hypotheses to experimental test (we bet on them behaviorally, we take active risks in terms of them). We observe the results of our experiments (we live with the outcomes of our behavior). We modify our theory (we change our minds, we change ourselves) and so the cycle continues. (p. 6)

The above quotation makes clear the relationship between a teacher's construct system and a teacher's implicit theories, as this term has been defined. Both refer to knowledge which is contextual in application, propositional in structure, experiential in development, and personal in nature. There is, however, a major difference. Constructs are seen as bipolar categories, the boundaries of which are personally defined according to our experience. We make sense out of our world by simultaneously noting likenesses and differences. Thus a teacher who has a construct of a successful lesson is simultaneously saying this lesson is like another successful lesson in these ways and different from a poor or unsuccessful one.

Once something is construed, that is, perceived in a way which attaches a set of meanings to the perception, then one acts in

accordance with their theories. In other words, each teacher has his/her own interpretation of the reality of the classroom (how it is personally construed), and these professionally unique ways are viewed by construct theory as informing teacher classroom actions.

Ben-Peretz (1984) suggests that teachers are inhabitants of similar worlds - classrooms bear an "astonishing resemblance" to one another (p. 104). In addition, there are some fundamental similarities in the process of teacher training. One might, therefore, expect to find commonalities as well as differences between the construct systems of teachers.

The relationship between constructs and practical knowledge may be seen in what Elbaz (1981) describes as the "personal orientation" of practical knowledge. She writes that:

> These [personal] points of view, and the interpretations which they produce, reflect a personal need to integrate, order, and render meaningful one's experience. The role of purpose and personal meaning in shaping perception, point of view, and interpretation is recognized and elaborated on by diverse theories." (p. 58)

Kelly's notion of personal constructs can be seen as one of these "diverse theories" that elaborate on Elbaz's "personal orientation" of practical knowledge. Munby (1982) states: "Fundamental to the theory (Kelly's) is the assumption that people process events according to a finite number of dichotomous personal constructs which, while individually serving to construct a limited range of experience, are organized to provide a person's unique construction of the world" (p.

217). Identifying a teachers' constructs allows a researcher to "attempt to stand in other's shoes and see their world as they see it, to understand their situation, their concerns" (Fransella and Bannister, 1977, p. 5).

Because constructs represent ways in which people discriminate their environment, they should not be interpreted in the same way as practical knowledge-in-use with its action orientation. If a teacher's constructs of a successful lesson are identified, what is being identified is how a teacher "sees" in the sense of perceives and attaches personal meaning to. In contrast, theories-in-use are implicit in the actions of a teacher, and may be inferred from those actions. That is, a researcher can identify what a teacher knows-how to do by observing that teacher teaching. However, one cannot infer how a teacher interprets a successful lesson from one that is not successful (as a bipolar construct) through the observation of actions, for the same actions could mean different things to different observers.

Review of Research on Contructs

Ben-Peretz (1983, 1984) describes several studies of first and third year students in a teacher education program. She identifies their constructs regarding curriculum materials by having them sort cards with comments on them. It is her conclusion that "three years of experience in teacher education programs (at least in Israel) cause a change in construct systems in relation to curriculum materials" (1984, p. 110). According to Ben-Peretz, constructs regarding curriculum

materials evidence change by becoming more complex and increasing in number as a student proceeds through the teacher training program.

Another use of Kelly's construct theory is demonstrated by Morine-Dershimer's study (1983) of two teacher's views about their own teaching. A modification of the Repertory Grid technique (Munby, 1982) supplied data which was analyzed "to capture the constructs that organize teacher thinking" (p. 33). Morine-Dershimer provides a description of these constructs in her research. One teacher evidenced four constructs: relaxed atmosphere, variety in activities, routine things and negative things. The other teacher had eight categories, four of which (indicated by an *) had only one member: *personal feelings, grading and evaluation of students, discipline, the way a teacher starts the class, *dealing with parents, teachers enjoyment of teaching, the way the class is run, *education of one teacher, *importance of Texas history. Morine-Dershimer suggests that "findings from analysis of these data may be used to test, corroborate, and elaborate findings from other data sets in order to improve the validity of a study" (p. 33).

Several researchers (Nespor, 1984; Munby, 1982; and Morine-Dershimer, 1983) identified experienced teachers' constructs by asking "what would I observe were I to visit one of your classes, assuming that the teaching represented your best?" It may be assumed that the constructs identified through the responses to this question would be the experienced teacher's construction of success in classroom lessons she teaches.

Summary Of Literature On Teachers' Constructs

The earliest research to which Clark and Peterson (1986) refer in their list of research about teachers' implicit theories is that of Bussis, Chittenden, and Amarel which was reported in 1976 and which was informed by Kelly's construct theory. Since then, various researchers have used Kelly's theory with some modification of the repertory grid to come to know the templates a teacher uses to view and make sense of her world.

There is some evidence that a teacher education program may foster a more complex set of constructs about curriculum materials as a preservice student moves from first year to third year status (Ben-Peretz, 1984). It also appears that experienced teachers do have a limited number of constructs (as that word has been conceptualized above) which they use to interpret phenomena in personally meaningful ways (Bussis, Chittenden, and Amarel, 1976; Munby, 1982; Olson, 1981; Morine-Dershimer, 1983; Nespor, 1985). Whether or not a student teacher's constructs of success in classroom lessons are similar to those of experienced teachers has not been explored. Finally research has not been located which investigates the interplay between the constructs of success in classroom lessons held by a student teacher and her interactive classroom teaching and planning.

The literature reviewed uses the concept of construct as equivalent to implicit theories. It may be better understood as the more inclusive term. That is, one's constructs provide the "implicit theoretical

framework" (or set of beliefs, as used by Nespor) through which one constructs or organizes the world. Implicit theories are then formulated through experience in particular contxts: as we observe the results of our behavior, we learn how to achieve our goals.

III. THE PROBLEM OF SUCCESS IN CLASSROOM LESSONS

According to Griffin (1981), most of what takes place in student teaching may be generally described as socialization. Research on the process of socialization into any field has emphasized the importance of the neophyte developing a notion of what constitutes success and failure with respect to the tasks of the profession (Becker and Carper, 1955; Bucher and Stelling, 1971; Friebus, 1977). This, coupled with what seems to be a sensible assumption that the goal of any teaching episode would be to have it be successful, points up the relevance of success in classroom lessons as a topic of study.

However, research on this topic is very limited, and of the several studies identified, only one was directly concerned with conceptions of success in teaching as held by student teachers. The others either dealt with experienced teachers' perceptions of success or were indirectly concerned with the issue which came up during the course of studying some other phenomenon. All of these studies will be reviewed in turn, beginning with those which deal with success in classroom lessons as perceived by experienced teachers, proceeding to those studies indirectly concerned with success for either experienced or student teachers, and finally describing the one study which used

student teachers as the informants about success. It should be noted that none of these studies was concerned with the totality of practical knowledge a student teacher holds and uses in relation to success in classroom lessons, but rather attempted to identify the cues which a teacher uses to determine whether or not a lesson is successful.

Jackson (1968), as part of his larger study on classroom life, interviewed a set of teachers in order to "find out how teachers know when they were doing a good job" (p. 119). His analysis led to his positing that teachers differentiate between the primary goals of teaching (student expressions of interest and enthusiasm, quality of students' contributions to the class) and the ultimate goal (student learning or achievement). Whether or not pupil involvement is maintained thus becomes the primary determinant of a lesson's success. Doyle (1986) similarly writes that a teacher's primary concern is that of maintaining the flow of activity during a lesson by gaining the cooperation of the students in class.

Related to the Jackson study, is a more recent one by Harootunian and Yarger (1981) which asked teachers to list events in their teaching that they regarded as successes, however they understood that word. Several results from their questionnaire are noteworthy. First, most teachers defined their success in terms of their pupils' behaviors rather than cognitive categories, such as "positive student attitude" rather than "students learned to read the paragraph."

Both of these studies demonstrate that experienced teachers use indications of pupil involvement as the index of success during

classroom lessons. In addition, both these studies take the teachers' views of success to be important.

There has been one study (Housner and Griffey, 1985) reported in the literature which explored the differences between experienced and inexperienced teachers in their planning and interactive decision making, and which incidently dealt with notions of success. Housner and Griffey found that experienced teachers focused their attention "most frequently on individual student performance cues (it was a physical education lesson) and implemented more instructional changes in response to these cues than to any other category of cues" (p. 52). In contrast, inexperienced teachers "most frequently attended to student interest cues and implemented most of their instructional changes in response to this cue" (p. 52). As a result, the primary interactive strategy for inexperienced teachers was to "keep the class on task and interested" (p. 52).

This study was limited by the size of the class (only four students) and by the laboratory setting, but it is interesting to note that the primary concerns of the inexperienced teachers are the same as those identified for experienced teachers in the Jackson (1968), Doyle (1986), and Harootunian & Yarger (1981) studies. All of these studies seem to indicate that a successful lesson is one during which the students are perceived as "busy, happy, and good" (Placek, 1983, p. 46).

There are several studies which indirectly provide some insight into a student teacher's conception of success in classroom lessons.

The first to be discussed was done by Gallusso (1984) and was designed to examine the thoughts of 10 student teachers during the act of teaching by categorizing these thoughts (as identified during stimulated recall interviews) into major areas of concern. According to Gallusso (1984), student teachers selected the content, the materials, the delivery format, and the pupils' tasks in the preactive phase of teaching. He goes on to write that "nearly all of the decisions they made afterward concerned keeping the lesson on-track or alive, and maintaining the climate and the learning tasks to assure all pupils were motivated and participating" (Gallusso, 1984, p. 11).

It seems that this study of student teachers supports the notion that the cues used to determine the success of a classroom lesson are pupil participation cues. Similar results were obtained in a study by Friebus (1977), who was interested in identifying the agents of socialization involved in student teaching. In this study, Friebus interviewed 19 student teachers every other week over the course of their quarter of student teaching. He reports that the "overwhelming referent" used by student teachers when determining success of a lesson is the pupils:

> "If the pupils appeared to be paying attention, seemed enthusiastic, or responded to questions, the lesson was deemed successful" (p. 266).

As part of another study (Driscoll, Kauchak, and Stevens, 1986) designed to examine the influence of research on effective instruction on student teachers' thoughts and behaviors, 12 student teachers were

asked if the excerpts shown from videotapes of their teaching segment were successful at the beginning, middle, and end of the lesson. Most of the student teachers felt they were successful and responded to the question "How can you tell?" by referring to what is by now familiar: pupil "on task" behavior, pupil answers to questions, and to what they perceived as pupil interest.

Placek (1983) suggests that student teachers conceive of a successful lesson as one during which students are "busy, happy, and good" (p. 46). In her study, which used the critical incident technique (subjects are asked to identify a specific instance of success in teaching and a specific instance of nonsuccess in their teaching experience and are then asked to describe the instance in some detail), she found that the subjects' responses fell into three major categories. The first was that the students enjoy themselves, second that students learn something, and the third category was high participation levels. Success is therefore related to the immediate and observable happenings during the course of the lesson.

Interestingly, in Placek's study, success in classroom lessons was considered to be indicated by student enjoyment, student participation, and student learning, but nonsuccessful events were not entirely defined as a lack in these three categories, but rather a nonsuccessful lesson was one that had discipline or control problems.

Summary of Research on Success

What is it that teachers use as indicators of success in classroom lessons is a question which has not been asked very frequently by

researchers. Most often, researchers have had their own model or view of what success in teaching means. When the question is asked, even indirectly, both teachers and student teachers indicate that they use the interactive context to make judgments. Their pupils therefore serve as the referents. Whether they are acting in ways that can be interpreted as being "busy, happy, and good" becomes the criteria used for deciding on the success of classroom lessons.

Of course, one teacher's "busy, happy, and good" may not be the same as another teacher's. We have no idea how a successful lesson looks, or what is going on that leads a student teacher to view the pupils as "busy, happy, and good." Perceptions and meanings vary depending upon the knowledge, experience, and values one holds. We simply do not know what it is a student teacher learns as she enacts what she "knows" will result in a successful lesson and experiences the results of that enactment.

IV. CONCLUSIONS

It is clear that teachers do know something which is domain-specific, and is therefore not known by others who are not teachers. One of the initial problems which this study presented was precisely what to call this domain-specific knowledge. Was it a student teacher's construct of a successful lesson? Should it be called a student teacher's implicit theories of success in classroom lessons or, perhaps, her beliefs? All of these terms as described above have been

used by one or more researchers when referring to Clark and Peterson's (1986) "psychological context." They describe this context as:

> composed of a mixture of only partially articulated theories, beliefs, and values about (a teacher's) role and about the dynamics of teaching and learning. (p. 287)

After consideration of the possible choices, teachers' practical knowledge was ultimately selected as best describing the concerns of the researcher in this study:

1. It describes that knowledge which is domain-specific as it is used in the practice of teaching;

2. It is knowledge which is experiential in that it is shaped by experience and modified through experience;

3. It is inclusive of implicit theories, beliefs, theories-in-use, personal constructs and may be used to identify that knowledge held and used by teachers in their practical situation;

4. It is largely unarticulated and unexamined, but may be known through the actions of teachers, including discourse;

5. It is personal knowledge which guides teaching practice as a purposeful activity;

6. It is personal knowledge in that each teacher interprets meanings and integrates experience in terms of his/her personal values and beliefs; and

7. Its primary mode is that of knowledge-in-action or minded action rather than requiring the separation of mind and body with its "first the thinking, then the action" duality.

The choice of the term "practical knowledge" structures the object of this research. It has been shown that such research as exists on practical knowledge is diverse, even to the point of what to call that which is being described. In addition, research on any of the levels of practical knowledge of student teachers is very limited. The one study located which focused on a student teacher's "conception" of success only identified the cues used to indicate success.

CHAPTER III

METHODOLOGY

I. INTRODUCTION

Multiple data-gathering methods were used to develop a case study of a student teacher's practical knowledge of success during classroom lessons she taught over the course of her 16 week student teaching experience. Each of the methods offered a different perspective on the case under examination. It is these three perspectives that served to identify, enrich, and validate the final description of the student teacher's practical knowledge of a successful lesson. Munby (1982) recommends, as a result of his study on "teacher beliefs or repertories of understanding," (practical knowledge) that his modification of the repertory grid be used in conjunction with classroom observation and stimulated recall in order to provide as rich a description as possible. This combination of methods provides data on teacher beliefs and constructs and on how they may be represented in classroom interactive teaching. The three methods will be described briefly below, together with a rationale for their use in this particular study.

II. CASE STUDY AS DESIGN

Yin (1983) defines a case study as an "empirical inquiry that investigates a contemporary phenomenon within its real life context when the boundaries between phenomenon and context are not clearly evident

and in which multiple sources of evidence are used" (p. 12). MacDonald and Walker (1975) offer a more succinct definition, "Case study is the examination of an instance in action" (p. 181).

Both of these definitions, although Yin's adds an additional criterion of multiple sources of evidence, demonstrate agreement on two aspects of case study: 1) they are contextual, that is, they are concerned with real-life phenomenon "in action"; 2) some "instance" or representation of the phenomenon of interest is occurring which serves as the case to be examined. Practical knowledge, as the "instance" under examination, is experiential, action-directed, and tied to specific situations. The student teaching experience is the primary context (before regular teaching) in which such practical knowledge is developed and used. Therefore, as this study is examining an "instance in action," the case study was selected as the method of choice.

Another aspect of this study which pointed to the use of a case method is its purpose. Its major objective is to improve our understanding of the practical knowledge of a student teacher by describing that phenomenon's structure. Lijphart (1971) has written that "hypotheses-generating" case studies:

> Start out with a more or less vague notion of possible hypotheses, and attempt to formulate definite hypotheses to be tested subsequently among a larger number of cases. Their objective is to develop theoretical generalizations in areas where no theory yet exists. (p. 692)

Therefore, the nature of the questions asked in this study situate it within the framework of Lijpart's "hypothesis-generating" case studies, and offer support for the selection of a case study methodology.

The Rationale For Using A Single Case

This study represents an initial entry into the area of research designed to describe a student teacher's entire range of practical knowledge of success. In order to identify the elements of that knowledge in as unrestrictive a manner as possible, and to help ensure that the results identified are not artifacts of the methodology, an array of approaches was used. This process increased both the complexity of the study and the process of analysis of the data. For these reasons, it was determined that limiting the study to a single case of the phenomenon would be required.

Pervin (1985) describes idiographic research as an approach to research characterized by "intensive studies of individuals with an eye toward understanding the complexities of individual structures and processes" (p. 362). H. R. Pollio (personal communication, 1986) has stated that this type of research should be considered one which will ultimately involve multiple informants and be carried out over time, but that it always must begin with that first person. Both Pervin and Pollio place such research within the family of research carried out by psychologists like Freud, Piaget, and Skinner for they all practiced the study of the single "organism." This research tradition is mentioned to establish the credentials of single case research, at least within the body of psychological research.

Pervin goes on to note in his article that idiographic research is suggested for the study of "everyday thinking" by several researchers. Practical knowledge, by its definition, is used in "everyday thinking." It is also personally held knowledge shaped by the narrative history of an individual. It seems that the only way to understand its complex structure must, perforce, be through the intensive study of the particular, that is, the individual who has and uses such knowledge.

As this study has as its purpose to describe the multiple aspects of the personal practical knowledge held and used by a student teacher as she experiences success in classroom lessons she teaches, then the only way to understand the complexity of that structure is through the intensive study of its aspects as manifested in the individual. The unit of analysis for this study, a single case of a student teacher's practical knowledge of successful classroom lessons, was therefore defined by the initial research questions.

Other studies on teachers' thinking which have used a single informant include Janesick's (1977) ethnographic research on a sixth grade teacher's "perspective" or the "socially derived interpretation of that which the teacher encounters that then serves as a basis for the actions he or she constructs" (Clark and Yinger, 1977, p. 295), Pittman's (1985) "cognitive ethnography" in which she examines a first grade teacher's thinking about the management of students' behavior and her routine actions in the classroom, a case study of a classroom teacher who made "systematic and conscious preactive and interactive decisions" done by Putnam (1984, p. 5), Clandinin's research on teacher

images (1985), and the research of Elbaz (1981) who, among other things, identified three levels of practical knowledge held by the high school teacher she interviewed and observed.

How The Single Case Was Selected

Individuals selected to be informants in research which aims to investigate a phenomenon have been described as needing only two characteristics: 1) they must have experienced the phenomenon under study; 2) they must be willing and able to talk about it (Pollio, 1986). There are several additional criteria which have been applied in this study:

1. The informant must begin her student teaching experience in August, 1986, at the opening of the school year;
2. The student teacher's cooperating teacher and the building principal must support the study by stating their approval of it, and by accepting the presence of the researcher in the classroom;
3. The student teacher must have completed the ordinary undergraduate teacher preparation program as described in the university regulations (see Appendix B), and she must be of the age of most of her fellow student teachers; and
4. The student teacher must carry out her student teaching in an elementary classroom. Christians and Carey (1981) have described what they call multiple comparisons of the "internalized type," by which they mean the meshing of the experience of the researcher with the research process. As this researcher's experience is in the elementary school, such multiple comparisons are possible.

The informant ultimately selected as coparticipant in this research met the above criteria. In addition, both her college supervisor and her core course professors felt that she would likely have a successful student teaching experience. Furthermore, she seemed verbally expressive during the conversation with the researcher in which this study was described to her. This was done not in order to identify her as a constituent member of a target population, but to properly describe the instance of a student teacher's practical knowledge of success which is under examination. The aim is towards providing information for others who might recognize similarities with other such instances (Stake, 1978).

III. DESCRIPTION OF SPECIFIC TECHNIQUES

"Probing a teacher's knowledge, theories and beliefs may prove to be the most complex task" in the line of research on teacher's interactive thinking, according to Robert Yinger (1986). This is not surprising because such knowledge is frequently tacit and not easily talked about or reflected upon. It is assumed that the task will be no less complex because this study deals with a student teacher's practical knowledge rather than that of an experienced teacher.

Kelly's Repertory Grid

The first method of data collection to be discussed is Kelly's Repertory Grid (1955). Fransella and Bannister (1977) state that Kelly devised the repertory grid technique as a method for exploring another person's "construct system", or the categories that a person uses to make sense of the world, and that it may be considered a form of

unstructured interview. The repertory grid, as a method for exploring personal construct systems, is an attempt to "stand in others' shoes, to see their world as they see it, to understand their situation, their concerns" (Fransella and Bannister, 1977).

Several researchers have used modifications of the repertory grid technique to study teachers' "implicit beliefs and repertories of understanding" (Munby, 1982; Nespor, 1986), their "picture" of their thinking about a classroom activity (Olson, 1981), their beliefs about teaching reading (Duffy, 1977), and the "constructs teachers hold (principles or beliefs) that organize teacher thinking" (Morine-Dershimer, 1983).

In this research, the repertory grid provided data on the "personal construing" (Fransella and Bannister, 1977) or those personally held principles and beliefs that the student teacher uses to determine successful classroom lessons. Ben-Peretz (1984), who has used Kelly's construct theory to examine how student teacher's make sense of curriculum materials, suggests that "one may well perceive teacher thinking as a development of personal construct systems through the experiences teachers have in interaction with their environment" (p. 103).

Munby (1982) has modified the grid approach in an attempt to insure that the perspective of the informant, rather than that of the interviewer is understood. In this modification the grid is not prepared prior to the first interview, rather it is identified from the conversation with the informant. Secondly, his modification suggests a

way to minimize "socially acceptable" responses so that the information reflect not what a successful lesson should be, but rather how it was as experienced by the student teacher.

For the purposes of this study, the repertory grid technique, with Munby's modifications, was used twice; once at the outset of the student teaching experience, and the second time at its conclusion. These grids were factor analyzed (principal components, varimax relation) in order to identify the constructs of successful classroom lessons used by the student teacher.

Stimulated Recall

The second method of data collection which this study uses is that of stimulated recall. This procedure has typically been used in studies of teacher interactive thoughts (Marland, 1977; Calderhead, 1986), teacher interactive decision-making (Shavelson and Stern, 1981), and teachers' implicit theories (Connors, 1978, Morine-Dershimer, 1984). Stimulated recall methodology involves videotaping a lesson, then playing back the lesson to the teacher, asking him/her to stop the tape where decisions are being made. An alternative to this is to ask what the teacher was thinking at the time the tape was stopped. The assumption is made in most of these studies that the videotape cues allow a teacher to recall thoughts as they were occurring.

Yinger (1986) has attacked this assumption in a recent article. He argues that stimulated recall may actually stimulate recall, but it is also just as likely to stimulate a new construction on the part of the viewer (what she thinks she was thinking or perhaps what she is thinking

as she makes sense of the action viewed on the videotape). Yinger (1986) states that it is impossible for either the viewer or the researcher to know which of these two events is taking place.

In addition, the perspective of the video camera is different from the perspective of the teacher as she is teaching. Therefore, the cues which are available are not the same as were available during the original presentation of the lesson. Yinger (1986) says the most striking difference is the view of oneself as seen from the eye of the camera.

Yinger's (1986) final criticism concerns his notion that the "nature of the observer's task in the viewing session is essentially different in character from that in the original teaching event" (p. 18). He feels that there is "the luxury of meta-analysis" in the viewing that was most likely not present in the original event.

These are telling criticisms and would preclude the use of stimulated recall methodology were this study trying to discover a student teacher's interactive thoughts. However, Nespor (1985) suggests that when teachers are called upon to make sense of their actions (as they are in stimulated recall interviews), they make sense "retroactively by invoking their previously unarticulated valued goals" (p. 109). And Yinger (1986) suggests that stimulated recall methodology may be an effective way to elicit teachers' implicit theories and beliefs "as well as their understandings of the specific patterns of behavior or interaction" taking place during the lesson. These two suggestions, coupled with the fact that the video camera was placed so

that the focus was the students in the class rather than the student teacher, provide the rationale for the selection of this technique in this research on practical knowledge.

The corpus of L.'s talk during stimulated recall interviews was coded by L. into the categories provided by her constructs of a successful lesson. In this way, the interplay between L.'s beliefs or implicit repertories of understanding about success and her interactive classroom teaching was made explicit. In addition, this coding process insured that L.'s meanings and interpretations would be used, and rendered the question of reliability of coders moot.

Classroom Observations

The final method of data collecting was the classroom observations by the researcher, followed by unstructured interviews. These classroom visits were accomplished in the manner of a nonparticipant observer. Specific attention was directed toward the physical organization of the classroom, the type of interaction taking place, what was being said and by whom. The purpose was to provide a written statement which reflects the observer's perspective of the occasion of a student teacher's classroom lesson.

This process of classroom observation makes no claims to provide an ethnographic description of the procedures and processes (the "culture") of the student teacher's classroom and its inhabitants. Rather, it allows some comparisons to be made between the perspectives of an experienced teacher (the reseacher) and those of a student teacher. The

interviews which followed these observations were mutual explorations of the unfolding of the lesson in order to examine the practical knowledge held and used in both the image of the lesson and in the actions of teaching.

This combination of classroom observation and interview has been a method for gathering information on teacher thinking (Morine-Dershimer, 1984), teacher's implicit theories or "perspectives" (Janesick, 1979) and in studies of teachers' practical knowledge (Elbaz, 1981; Connelly & Clandinin, 1985). In these studies, and in the study described herein, classroom observation provided first hand information on how teachers use their knowledge, in action and in the specific context of classroom lessons.

In closing, it is worth noting that three data sets provided by the methods described above represent information from two different observers or "instruments" (Morine-Dershimer, 1984). The repertory grid and the stimulated recall interviews are self-report data from the student teacher, although from two alternative perspectives, while the classroom observations provide the perspectives of an outside observer in order to focus on classroom teaching behavior and to reflect on how this behavior may be interpreted as student teacher knowledge made visible. Each of these perspectives, when taken by itself, provides a single lens through which to explore the student teacher's practical knowledge of a successful classroom lesson. Taken together, they present a composite picture, richer in detail and more complete in description.

IV. PROCEDURES

The selection process began with conversations with two university supervisors of student teaching prior to the start of the fall student teaching assignments. The study was explained and the criteria for participant selection were reviewed. Each supervisor made several recommendations of possible participants. These recommendations were then discussed with professors who had been responsible for core course work with the students in order to explore their thoughts about the match between selection criteria and those recommended to participate in the study. The researcher then met with two possible informants, explained the study (its purpose, the time commitment required, what some of the problems might be), and selected the study's informant on the basis of her interest in the study and her ability and willingness to talk about teaching.

By selecting the student teacher (L. from this point on), the cooperating teacher and the context for L.'s student teaching were also determined. The principal of the school and the cooperating teacher were contacted, the research project explained, and permission was given to proceed.

Repertory Grid

Three pilot interviews to complete repertory grids were held by the researcher. The primary purpose of these was to see if persons who had not yet experienced student teaching could describe a successful lesson (or a time they had "taught something"), and to offer the researcher

practice with the process. No modifications were necessary to Munby's (1982) technique.

Specifically, the student teacher was asked to think about a time that she felt that a lesson or teaching experience was successful. She was then asked to describe what the experience was like for her, what she saw, what it meant. These statements were written on cards which served as the "elements" or vertical axis of the grid. The student teacher then grouped the cards in any way she wished, and when the grouping was complete, she was asked to describe why the group was formed as it was, how elements in one group were the same and yet different from the elements in another group. These explanations were recorded and placed on the "construct" or horizontal axis of the grid. The student teacher then completed the grid, using a three digit code to indicate the strength of the associations between the elements and the constructs with "1" being definitely not associated, "2" being neutral and "3" indicating a definite association. This concluded the first interview.

The grid was then factor-analyzed (varimax rotation) and the resulting clusters were shared with L. for follow-up discussion: did she agree with the groupings? what suggestions did she have for naming the identified factors? This second interview, held each time after the factor analysis of the grid, explored what might lie beneath the groupings to probe for the constructs used by the student teacher to identify a successful lesson.

Two repertory grids were completed by L., one prior to and one at the conclusion of her student teaching experience. The use of the

repertory grid technique at the end of student teaching followed essentially the same format. It provided for a comparison over time of the student teacher's constructs of a successful lesson. The total interview time for these four sessions was approximately five hours.

All these sessions were tape recorded and the tapes transcribed.

Stimulated Recall Interviews

Before any video-taping was done, the researcher visited the classroom on two occasions. The first of these was to serve as an introduction of the researcher to the children, and them to her. The second served to familiarize the children of the class with the video-tape camera and all its accoutrements.

Each taping session was of a complete "lesson" as defined by the student teacher. Because this is so, they ranged in length from 12 minutes to 32 minutes. The camera was placed so as to view the children of the class (or group), rather than directed at the student teacher. After the lesson had begun, the researcher left the classroom so as to provide as little distraction as possible. It was hoped that by leaving the camera unattended, the children might not attend to its presence. At the conclusion of the lesson, the researcher returned to shut off the camera and remove it from the classroom.

Four stimulated recall tapings and interviews were held, approximately one every four weeks. The interviews of about one hour took place in the researcher's office and all were held on the day of the taping but one, which was held four days later. It should be noted that all lessons taped were regularly scheduled lessons with the

exception of the last one which L. agreed to make her "most successful lesson of her student teaching experience."

All interviews began by asking L. to describe the lesson as she remembered experiencing it, and to indicate whether she felt it was successful. The interviews then proceeded to an examination of the lesson, her planning for it, and any other issues which might have come up over the course of the conversation. The videotape was then played back with L. being requested to stop the tape anytime she saw something which indicated how the lesson was going, that is, signs of success or non-success. She was also instructed to stop the tape anytime she wished to make a comment on either what she perceived was happening, or on how she was reacting to what she saw.

These interviews were also taped and transcribed. That portion of each interview which resulted from those statements made by L. during the playback of the videotape was analyzed with the researcher by L. in light of the constructs identified during the completion of the repertory grid. This took place over two sessions of 90 minutes each in the researcher's office. The rest of the content of these interviews was analyzed in two ways: 1) L.'s use of language, particularly her use of metaphor, was examined to provide a description of her image of how a successful lesson ought to be (See Elbaz, 1981; Morine-Dershimer, 1983; Munby, 1984); and 2) expressions of L.'s practical knowledge as focused on success in classroom lessons were identified and themes derived from these expressions.

Classroom Observations

The classroom observations and follow-up interviews were conducted in alternation with the stimulated recall videotaping. There were three observations and attendant interviews over the course of the 16 weeks of student teaching. The interviews of about one hour which followed each observation repeated the same format as the first section of the stimulated recall interviews. L. was asked to describe the lesson as she experienced it, and then she indicated whether it was a success or not. Again, each of the three interviews was tape recorded and transcribed.

The ethnographic-like data recorded by the researcher during the course of the lesson was rewritten as soon as possible after observation into narrative form. Diagrams of the classroom were included as well as the patterns of movement of the student teacher and the children. At this point, the researcher's impressions about the lesson were recorded. A brief summary about what the researcher saw going on and what it meant to her as related to a successful lesson was written. This made possible a comparison of the researcher's perspectives of the reality of the classroom with the perspectives of the student teacher.

The follow-up interviews of the classroom observation were analyzed in the same manner and in conjunction with those sections of the stimulated recall interviews which preceded the viewing of the videotape. These data sets were deemed equivalent as they both asked the student teacher to describe her experience of the lesson and make sense of it in a post hoc manner.

In addition to these occasions, the researcher also visited the classroom three times of about an hour each as a participant observer.

During these times, the researcher presented two whole class lessons, and served as an aide. There were no follow-up interviews on these occasions.

IV. SUMMARY

This study used three data gathering methods in order to provide a complete description of a student teacher's practical knowledge of success. Seven classroom lessons, four of which were videotaped and three of which were observed in the manner of nonparticipant observer, were examined during about eight hours of interviews with the informant. Two repertory grids each requiring two interviews for a total of five hours were completed. An interview which served as a retrospective look over the entire 16 week experience, and a final three hour coding session brought the total number of interview hours to 16. The use of different inquiry techniques (triangulation of data sets) in this research required multiple comparisons to occur which increased the validity of the description. In addition, the power of this exploratory case study was increased because the multiple data sets were obtained through both self-reports and the reports of another observer, and because they resulted from the application of procedures which probe the different aspects of what has been called "practical knowledge" in this research.

Calderhead (1985), in a paper which examines how a teacher's professional knowledge might best be conceptualized and investigated, concluded his article by stating:

> Exploratory research, not to mention common sense, tells us that teachers' knowledge structures are complex and gaining access to them is problematic. Appreciating its full complexity, however, will require researchers to engage in explicit and critical exchanges about their assumptions concerning the nature of teachers' knowledge and, given the tentative claims that can currently be made about this knowledge, to ensure that their methods of investigating it are not overly restrictive, allowing a level of exploration that might lead to improved conceptualizations. (p.10)

This paragraph presents two challenges to researchers who would study teachers' professional knowledge (practical knowledge). The first is that the nature of that knowledge, or the object of a specific piece of research, ought to be carefully explicated, and the second is that investigative methods ought to have wide scope. That the first challenge was met is demonstrated in the discussion of practical knowledge provided in the preceding chapter. Calderhead's second criterion, which relates to the methods used in any investigation of practical knowledge, was met through the purposeful selection of the techniques described in this chapter. The design of this study, then, because it recognizes the complexity of the student teacher's practical knowledge of success in classroom lessons she teaches, and acknowledges the difficulty in gaining access to such knowledge in order that it might be described, is made more powerful.

CHAPTER IV

PRESENTATION OF DATA

I. INTRODUCTION

The major purpose of this study was to provide a description of the practical knowledge held and used by a student teacher as she experienced success in classroom lessons she taught. Three methods of data gathering (a modification of the repertory grid [Munby, 1982], stimulated recall, and classroom observation) were used, all of which included interviews with the student teacher.

There are five sections which comprise this chapter. Section II describes the general context for, and provides a portrait of, the seven classroom lessons as enacted by the student teacher. Included in this section is a brief description of the school to which the student teacher was assigned, the floor plan of the classroom, a definition of what a "lesson" is for this student teacher, and an examination of the activities, content, organization and other related facets of each of the seven lessons. Data for Section II are provided by the classroom visits, and by viewing the videotapes of classroom lessons.

Section III presents the two repertory grids as completed by the student teacher, one before and one after her student teaching. Included in this section are the elements and the constructs for both grids as identified by the student teacher, and the results of the factor analysis.

In Section IV the stimulated recall transcript data is examined. An overview of the corpus of student teacher talk during the playback of the videotape of the four classroom lessons serving as the stimulus is presented. The final section provides an overall summary of the chapter.

II. THE SEVEN CLASSROOM LESSONS

An Overview of the School Context

L., the student teacher, was placed in a combination grade two and three, self-contained classroom in a two-story elementary school located in an area of the town composed of single family dwellings. The school is considered a "neighborhood school" by the principal, who describes the students as coming from "working class families," many of whom "have lived in the area all their lives." The school population is mostly white (less than 10% minorities) and has two black teachers.

Although the school is an older one, it is in good repair and has a gym and cafeteria attached. Upon entering the building, one's attention is attracted by two large charts posted across from the office which contain line graphs of achievement test scores for the children in grades three, four, and five over the past three years. Directly opposite these charts is a plaque from the governor commending the school for being a "basic skills first" school.

Mrs. B., L.'s cooperating teacher, is a graduate of the local university, and is currently enrolled in a master's program. She has had 10 years of teaching experience, the last three of which have been

in grade 2 and 3 "splits." She was delighted to have a student teacher because of her combination grade level class. She describes herself as well-organized and energetic.

L. is 21 years old, and is the oldest of two daughters. She describes herself as a good student because she "works hard and is conscientious, not because I'm particularly smart." Her student teaching experience was all she needed for graduation, and although she worked (directing a program for tutoring University employees with reading difficulties), she did not have any classes to attend. She remarked that she enjoyed her classes in education more than her liberal arts classes because she saw and got to know the same people, and because she "got the chance to do things, make things," not that she "minded to write and to study, but anybody would (like them better) because they were fun."

Included in L.'s course of study at the University were 81 hours of general education courses, 27 hours of "methods", 6 hours of field experience, and 9 hours in foundation areas (see Appendix B).

L.'s previous teaching experience was as a life-saver at a pool. She had the opportunity to teach swimming in the afternoons, and chose to do that rather than the "boring" job of watching the swimmers from the station. Such teaching involved no planning as she was directed to teach some aspect of swimming just before she entered the pool with the swimmers. She described this experience as comfortable because "I have been around pools and swimming so much that I could just start. I knew what to do, no problem."

The Classroom Floorplan

The arrangement of the children's desks and other classroom furnishings did not change over the course of the 16 weeks of L.'s student teaching. The changes that did take place were in the set of "free time" activities (set up by Mrs. B.) located on the table in the back corner of the room, and in the display of the children's art. There were no other examples of children's work present in the room during this period of time. The classroom gave the impression of being quite full, with only four feet or less of border between the children's desks and the walls of the room. The exception to this was the wall which had the windows, but this was also filled with the teacher desk, L.'s table, a tripod chart, bookcase and another small table. The diagram below indicates how the room was arranged. Where L. was at the outset of each of the seven lessons is indicated by the small numbers (1 - 7) on the diagram (Figure 1).

Components of a Classroom "Lesson"

The episode for analysis has been designated in this study as a classroom lesson, however that term may be understood by the student teacher. This means that all videotaped segments and all classroom observations were of complete lessons as experienced by L. during the course of her student teaching. These seven lessons evidenced certain similarities, which when taken together with L.'s comments, explicate L.'s personal meaning of a classroom "lesson."

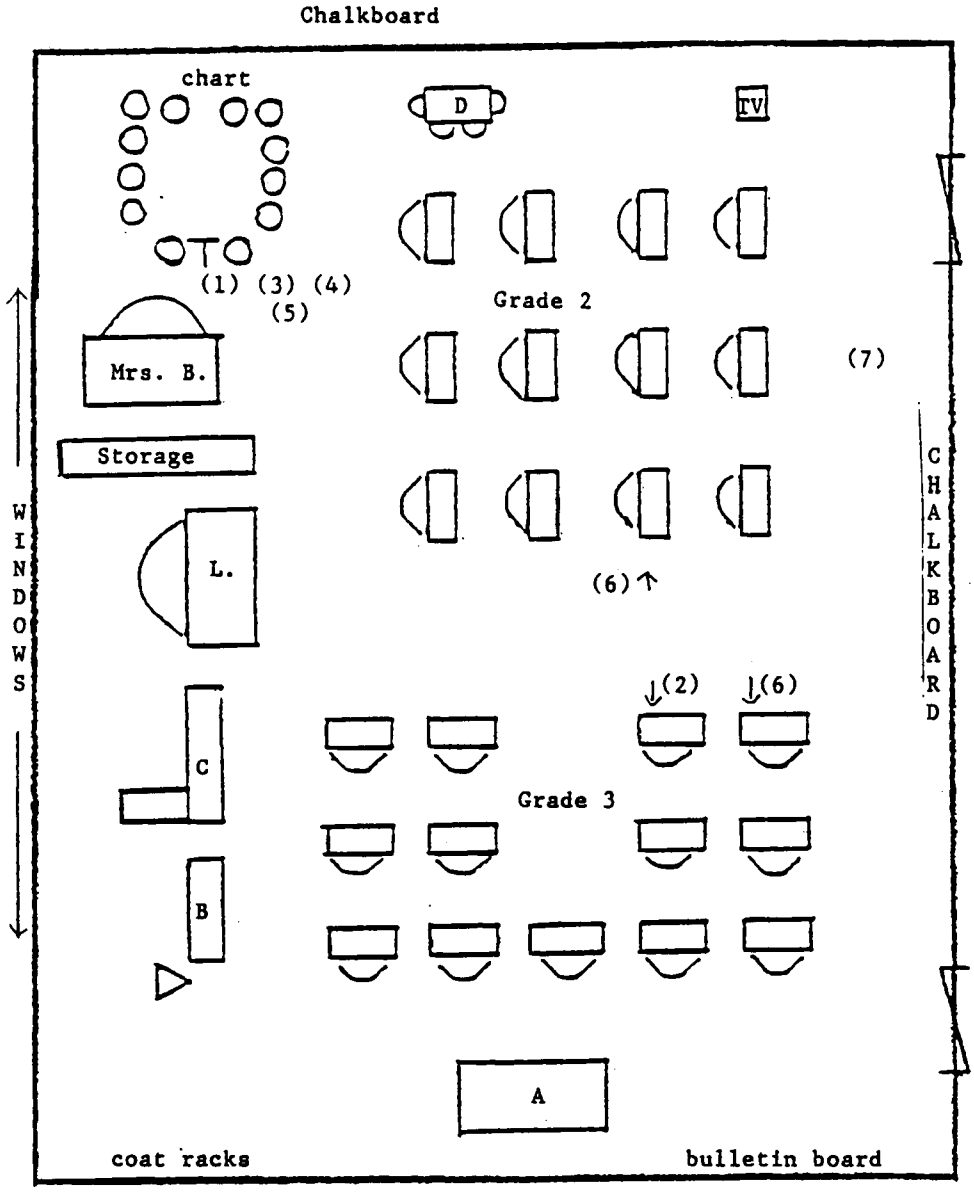


Figure 1. The Classroom Floorplan

KEY:

△	Easel on tripod
▭	T.V. on stand
A	Table with independent activities
B	Bookcase for children's use
C	Teacher storage
D	Table with record player and earphones
○	Student chairs in group area
(1)-(7)	Location of L. at outset of lessons
Mrs. B.	cooperating teacher's desk
L.	Student teacher's desk

There were two occasions when L. spoke directly about her interpretation of classroom lessons. Early in the study, she was asked what a lesson was to her, and she responded:

> I have no idea. Just, I mean, I guess it is anytime you get up and try to teach and someone learns because you taught a lesson.

It is worth noting that there is an implied learning outcome or objective ("someone learns") involved for something to be a lesson as far as L. is concerned. In addition, there is a real, if somewhat nonconfident, expectation that teachers have to do something for a lesson to happen (:get up and try to teach"). It seems likely that L.'s initial response of "I have no idea." reflects the fact that, although she had taught "lessons" by this point, she had never given verbal expression to these experiences until asked a direct question.

Later in the study, L. described a social studies lesson as "read a couple of pages in the book, answer some questions, turn in their work." The social studies text was criticized for always setting up lessons in exactly this pattern. Although L. perceived such lessons as somewhat problematic, all of the lessons but one in the total sample had precisely the same components: teacher gets up and goes to a teaching station; children read from a text book (silently and/or out loud); teacher asks questions; selected children respond; teacher assigns work to students; teacher returns to desk.

The one lesson that was different was that lesson planned by L. to be "the most successful" of her student teaching. This lesson did not use a text book and so did not have children read. There were, however, similarities between this lesson and all the others. L. got up and went

to the front corner of the room ("you get up"). She set the agenda, asked questions and called on students to respond ("try to teach"). In addition, it ended with a worksheet assignment (an indication of whether "someone learns"). Although they may have been enacted a little differently, it seems that this lesson retained the same basic components of her other classroom lessons.

Attention should be directed toward what was not considered in L.'s interpretation of a lesson. For example, she did not consider either the length of the lesson or the number of children involved as crucial to the definition. Furthermore, L. did not use any of the terms which might be associated with a more formal outline of a lesson as determined by many lesson plan formats. Concepts such as "establish set" or "motivation," "instructional activities," "monitoring," "closure," were absent from her description. There were no qualifying statements such as "it depends upon what I'm trying to teach," or "different content areas have different kinds of lessons." A lesson was defined in very general terms, across content areas, and L.'s enactment of her definition followed the same pattern in each of the seven lessons examined in this study.

A Portrait of the Seven Lessons

The chart (Figure 2) presents an overview of each of the seven lessons which comprise the total of those either videotaped or observed over the course of L.'s 16 weeks of student teaching. It should be remembered that all of these lessons (but one) were part of the regular

Date	Grade	Curriculum Area	L.'s Evaluation	Sequence of Activities
9/4	2	Health	"went well"	Move to group, child reads text, ask questions, child answers, repeat to end of section, draw faces in group, assign workbook pages.
9/18	3	English	"O. K."	Stands, student reads, ask question, students respond, repeat to end, assign task, return to desk, L. moves around students as they work, returns to desk.
10/2	mixed	Reading "for enjoyment"	"went well"	Move to group, ask question, children read to find answer, call on one to answer, repeat to end, draw picture of "who said it."
10/16	2	Reading	"O. K."	Move to group, child reads title, ask question, children read to answer, repeat to end, oral practice, children read in pairs in various places, L. rotates to pairs, assign seat work.
10/30	2	Reading	"good lesson, not, like, most successful but good"	Move to group, child reads title, ask question, children read to answer, repeat to end, do workbook pages in group, correct in group.
11/6	3	Social Studies	"Successful for S.S. - for any other area O. K."	Teacher stands, moves. Child reads text, teacher asks questions student answers, repeat, teacher gets globe, asks questions, child responds, assign questions in text.
	2	Social Studies	Same	Same but no globe. Teacher returns to desk.
11/20	whole class	Science	"It was successful."	Teacher moves to front, asks questions, children respond, teacher gives game directions, play game, teacher provides information and uses chalkboard, teacher asks questions, child responds, assigns work sheets.
(This is L.'s "most successful" lesson.)				

Figure 2. Overview of L.'s Seven Classroom Lessons

schedule maintained by L. during her student teaching. An examination of this chart will provide the reader with a general picture of the lessons.

Some additional details will serve to sharpen the picture of these lessons. All of the lessons, but for the last one, were begun by L. asking students to "open their (content area) books to page __." All of the lessons, but for the last one, involved students reading from the text. They answered questions which were supplied by the teacher either before the reading took place or after she had had some child read a passage aloud. All of the lessons, but for the last one, were carried out by L. with the appropriate teacher's manual in her hand. All of the lessons, but for the last one, used the text's workbook or questions in the text itself for the independently done seat work. (L. selected the worksheets from among those in a set of duplicator masters for the last lesson.) In all of the lessons, it was assignment of this seatwork which signaled the end of the lesson. Finally, all of the lessons, including the last one, were teacher directed in that the interaction was between student and teacher, the questions came from the teacher, the tasks were established by the teacher, the teacher was "up in front" of the group or class.

In summary, the seven lessons demonstrated a consistency in approach and in the design of the activities which took place. How these lessons were enacted seems congruent with L.'s definition of a lesson: you get up, try to teach, someone learns something. At this point, L.'s "trying to teach" involves few options. Her teaching

repertoire seems limited to a teacher-centered approach of didactics and practice, and her evaluation of "someone learns" depends upon responses to content questions and seat work assignments.

III. THE REPERTORY GRIDS

The Process, A Review

Munby's (1982) procedure required two interviews for each of the two grids completed. The first interview resulted in the identification of the elements of a successful lesson (the horizontal or element axis). These elements were then grouped into categories (the vertical or construct axis) and the resulting grid filled in. The second interview examined the results of the factor analysis of the associations represented by the grid. During this interview, the informant and the researcher worked together in order to understand the factors and eventually to label them.

The First Grid

During the first interview, held prior to student teaching, 31 elements were identified in L.'s talk which served to differentiate her experience of the lesson she selected as successful from one that was unsuccessful. When these elements occurred during the course of the interview, the researcher wrote them down in the order they were presented. L. then grouped these elements into four categories, and named them. These categories and the labels L. applied are shown in Figure 3.

1. Things I Did:
   - thought to give him something to do
   - checked what he was doing
   - is there not anything I can do?
   - walking around, observing
   - I was straight forward, directive
   - it worked!
   - I didn't know how it went (the game was played)
   - gave more clues or hints
   - experiential learning with the blocks
2. Things I Felt:
   - total chaos
   - not used to grade level
   - comfortable
   - knew what I was doing
   - nervous
   - in control
   - had authority
3. Things Kids Did:
   - couldn't do math
   - other things rather do
   - off task
   - anything but looking at math
   - they didn't know the words
   - look at you like a teacher (as if you were one)
   - no one knew the answers
   - worked at own pace
   - had answers at the end of class
   - asked many questions, didn't understand (the game)
   - doing, manipulating materials
4. Things Kids Felt:
   - maybe he had been discouraged
   - no pressure

Figure 3
First Repertory Grid: Categories And Elements As Grouped By L.

The 31 elements (presented in their original order, not as L. grouped them) and the four categories were placed on the grid. L. then completed it as shown in Figure 4. Note that "1" indicates that L. identifies the intersection of element with construct as "not associated," "2" as "neutral," and "3" as "definitely associated."

A principal components factor analysis, varimax rotation, was carried out. This resulted in the identification of a single factor, and so rotation was not possible. The factor pattern for the single factor is presented below:

variable 1 ("things I did")	0.21527
variable 2 ("things I felt")	0.00000
variable 3 ("things kids did")	0.99440
variable 4 ("things kids felt")	0.99440

Variance explained by this factor was 2.023994. Final communality estimates were, for the total, 2.023994. This indicates that 100% of the variance in L.'s responses on the grid are accounted for by this factor represented by the elements grouped under "things kids did" and "things kids felt."

The second variable ("things I felt") was described as a constant on the program log. This would seem to indicate that this variable was equally present in all of L.'s responses to the items on the grid.

The second interview began by explaining that the researcher and L. were going to explore what might lie underneath the grouping (or factor) so that it might eventually be labeled. The first thing L. noted was that she could only "guess" what kids felt depending upon what they were doing, so it didn't surprise her that these two categories should "come

	CATEGORIES			
ELEMENTS	THINGS I DID	THINGS I FELT	THINGS KIDS DID	THINGS KIDS FELT
COULDN'T DO ASSIGNMENT	1	1	2	3
RATHER DO OTHER TASKS	1	1	3	3
CHILD OFF TASK	1	1	3	3
THOUGHT TO GIVE HIM SOMETHING	3	3	2	3
ANYTHING BUT LOOKING AT MATH	2	1	3	3
MAYBE CHILD COULD BE DISCOURAGED	1	1	2	3
CHECK ON WHAT CHILD IS DOING	1	1	3	3
AS LONG AS CHILD DOING TASK	3	3	3	3
IS THERE NOT ANYTHING I CAN DO?	3	3	2	3
WALKING AROUND OBSERVING	3	3	3	3
STRAIGHT FORWARD DIRECTIVE	3	2	3	3
"DOING" -MANIPULATING MATERIALS	3	3	2	2
IT WORKED!	3	3	3	3
TOTAL CHAOS - MINE	3	3	3	3
THEY DIDN'T KNOW CONTENT	3	2	3	3
LOOK AT YOU LIKE A TEACHER	3	3	3	3
NO ONE KNEW THE ANSWERS	2	2	3	3
I DIDN'T KNOW HOW IT WENT	3	3	3	3
NOT USED TO GRADE LEVEL	3	3	1	3
I GAVE MORE CLUES - DIRECTED	1	1	3	3
I DIDN'T KNOW WHAT WAS HAPPENING	3	3	3	3
IT FELT COMFORTABLE	3	3	3	3
I KNEW WHAT I WAS DOING	3	3	3	3
NERVOUS	3	3	3	3
AT OWN PACE	3	3	3	3
CHILD HAS ANSWERS AT END OF CLASS	3	3	3	3
MANY QUESTIONS ASKED - THEY DIDN'T UNDERSTAND	3	3	3	3
IN CONTROL	2	2	2	2
NO PRESSURE	3	3	3	3
EXPERIENTIAL	3	3	3	3
AUTHORITY OF TEACHER	3	3	3	3

1 - not associated
2 - neutral
3 - definitely associated

Figure 4. Completed Repertory Grid #1

Note: Elements are presented in the order they appeared during the interview.

out" grouped together. In her mind, both of these categories were associated with the factor she ultimately labeled as "Signs of learning happening."

L.'s discussion of this "signs of learning" factor indicated that one referent for the success (or lack thereof) of a classroom lesson was the child in the classroom. She stated:

> when there is a child who isn't working, doesn't understand what's going on, like, doesn't know...then you do not have a successful lesson.

At this point in the interview, L. seemed comfortable with the label she had given to the factor. She remarked that she could "see how all of these things (the elements with the categories) were interrelated" because:

> I could think, 'this kid is off task' but it could be because I'm wandering around the room, distracting him, so right there it's a 3 (definitely associated with "things I did").

By viewing elements as having possible associations with several categories, L. may be indicating that her constructs (beliefs) are in a formative stage, or perhaps they are, as yet, undifferentiated. To this point, what may be stated is that the categories which L. generated to classify the elements of her successful/unsuccessful lesson are very general, are concerned with self and the students, and are few in number.

The Second Repertory Grid

A second repertory grid was completed by L. at the conclusion of her student teaching experience. For this grid, L. identified four categories under which she placed the 25 elements she had talked about during the interview. The categories and elements (as she grouped them) are displayed in Figure 5.

The 25 elements (in their original order) and four categories were placed on a grid and L. again indicated the degree of association with a 1, 2, or 3 in the appropriate grid box (see Figure 6). Principle component analysis with the varimax rotation resulted in the identification of two factors. The rotated factor pattern is as follows:

	FACTOR 1	FACTOR 2
v. 1 (things kids did to make me feel successful)	0.88899	0.24207
v. 2 (things I did to make me feel successful)	-0.16562	-0.78619
v. 3 (things kids/I did thru unsuccessful lesson)	-0.20776	0.80006
v. 4 (conditions of the lesson)	-0.87844	0.30439

Variance explained by each factor is factor 1=1.632556 and factor 2=1.409443 (or 54% and 46% respectively).

Factor 1 is composed of two categories which seem associated in some way to L.: "things kids did to make me feel successful" and "conditions of the lesson." Similarly, factor 2 is composed of "things I did to make me feel successful" and "things kids/I did through the unsuccessful lesson." Each of these factors has one negative loading and one positive loading which results in a bipolar factor.

1. Things Kids Did That Made Me Feel Successful:
   - immediately participated
   - kids enjoyed it
   - kids motivated
   - participated
   - listening
   - on task (looked it)
   - enthusiastic, excited
   - most understood
   - eyes were on me
2. Things I Did to Make Me Feel Successful:
   - enjoyable to learn
   - fun to learn
   - a game, not the same approach
   - worksheets were more fun-type
   - gave kids a chance to talk (to each other)
   - I worked hard, was motivated
3. Things Kids And I Did Through The Unsuccessful Lesson:
   - not really interested
   - not acting good ("right')
   - off subject
   - just get through lesson
   - not something I organized
4. Conditions Of the Lesson:
   - comfortable
   - lack of pressure (not on basic skills test)
   - different from ordinary
   - not on skills test
   - worksheets not critical

Figure 5
Second Repertory Grid: Categories And Elements As Grouped By L.

	CATEGORIES			
ELEMENTS	THINGS KIDS DID TO MAKE ME FEEL SUCCESSFUL	THINGS I DID TO MAKE ME FEEL SUCCESSFUL	KIDS DID/I DID THROUGH UNSUCCESSFUL LESSONS	CONDITIONS OF THE LESSON
NOT REALLY INTERESTED	1	1	3	3
ENJOYABLE TO LEARN	3	3	1	3
COMFORTABLE	3	3	1	3
LACK OF PRESSURE	1	3	1	3
PARTICIPATED	3	3	1	3
FUN TO LEARN	3	3	1	3
ON TASK-LOOKED IT	3	3	1	3
DIFFERENT FROM ORDINARY	1	3	1	3
NOT SOMETHING I ORGANIZED	2	2	2	3
NOT ON SKILLS TEST	2	3	1	3
A "GAME" NOT SAME KIND OF APPROACH	3	3	1	3
WORKSHEETS - CONSERVING ENERGY	1	3	2	2
ENTHUSIASTIC - EXCITED	3	3	1	3
MOST UNDERSTOOD	3	3	1	3
IMMEDIATELY PARTICIPATING	3	3	1	3
KIDS ENJOYED	3	3	1	3
KIDS MOTIVATED	3	3	1	3
GIVE KIDS CHANCE TO TALK	3	3	1	3
NOT ACTING GOOD	3	3	1	3
OFF SUBJECT	1	1	3	3
GET THROUGH LESSON	1	1	1	3
MOTIVATED; I WORKED HARD	1	3	3	3
WORKSHEETS NOT CRITICAL	2	2	2	2
EYES ON ME	3	3	3	3
LISTENING - KIDS	3	3	3	3

1 - not associated
2 - neutral
3 - definitely associated

Figure 6. Completed Repertory Grid #2

Note: Elements are presented in the order they appeared during the interviews.

After the grid was factor analyzed, L. returned for the follow-up interview during which these results were explored. Of the two factors, the second was easier for her to discuss. She saw the relationship between the two factors as an inverse one. The more she did "to make" herself feel successful, the less the actions of the children and the teacher could be related or associated with an unsuccessful lesson. And, in the same manner, the more the things the kids and L. did that could be identified as indicators of an unsuccessful lesson, the less associated with it would be the things she does as a teacher which would lead her to feel successful. The factor was labeled by L. in a manner which retained its bipolar nature: things done during a successful/unsuccessful lesson. Of course, this factor label does little more than combine the original two categories by using a slash. However, it does indicate the bipolarity of the factor, and that L. discriminiates a successful from an unsuccessful lesson, in part, by what is "done" during the course of that lesson.

The other factor required a considerable struggle to interpret by both the informant and the researcher. L. stated that it seemed that the two categories ("conditions of the lesson" and "things kids did to make me feel successful") "look like they should go together":

> If the lesson is comfortable and all those other things, then, I think that...it seems that... the kids would act-would do things to make me feel successful.

As a result, she found the negative correlation problematic.

However, when the researcher asked her if that meant that a lesson would be necessarily unsuccessful when she felt more pressure, less

comfortable, and when the lesson was ordinary, and its content was on a skills test. L. replied that this was not the way it was. She believed that such lessons could, in fact, be viewed as successful, and described one that she had taught in math which covered content on the basic skills test, and so put a lot of pressure on her. She remembered feeling "Oh, PLEASE get this...come on, now" and felt success when the children indicated they "got it.".

After additional discussion, L. exclaimed:

> Wait...if the kids are doing things that make me feel successful then I don't think about the conditions of the lesson. They are not associated. But, if the kids are acting, are doing things like in an unsuccessful lesson, then the conditions of the lesson could have...maybe the conditions of the lesson have something to do with...with the kinds of things I do in the lesson. It's easier to, of...I don't know.

The researcher then asked, "Well, do the conditions of the lesson have something to do with the kinds of things you do as the teacher?" L.:

> Well, if it is a fun lesson, not on the skills test, like, then the kids can play a game or not have to just read and answer questions. They can learn things, but in a fun way...you don't have to follow the book so much.

Further discussion did not result in a label for this factor, and L. decided that maybe her two original categories should be used.

L. indicated that the word "comfortable", which was included in the "conditions of the lesson" category, was directly related to the "things

kids did to make me feel successful" category. She stated, "I'm not going to be comfortable if they (the students) are not participating or doing those other things." This statement indicates both the importance of feeling comfortable to L. and also the importance of the students to her feelings of success in a lesson.

It is interesting to note that L. did not associate some categories which might appear to others to be related. "Conditions of the lesson" might on the face of it seem to have a strong association with "things I did that made me feel successful." It would make logical sense to say that because the conditions of the lesson relieved L. of her curricular concerns, she was able to do a type of activity that made learning enjoyable (and which resulted in the children doing things that made her feel successful). However, these associations did not appear on L.'s grid. This could be because the conditions of this particular lesson (which she planned as her "most successful") are not a necessary component for L.'s constructs of success. They were artifacts of this particular lesson, but not all successful lessons.

At the conclusion of this interview, L. observed that her categories seemed to be about the same as she remembered for the first grid. This perception was accurate, with the exception of one category each time. The first grid had a separate category "things I felt" which was identified as a constant in the factor analysis. This reference to feeling seems to be incorporated into the second grid in the categories "things kids did that made me feel successful" and "things I did to make me feel successful." The second grid may have added the phrase "made

(or make) me feel successful" which was unarticulated but influencing L.'s responses in the first grid.

In addition, the second grid added "conditions of the lesson" as a category. The categories referring to teacher and children "doing" those things associated by L. with both successful and unsuccessful lessons remain present in both grids.

IV. STIMULATED RECALL DATA

Review of Process

Four classroom "lessons" were videotaped in their entirety. Three of these were viewed the same day by L. in the office of the researcher. The fourth was viewed four days later. She was given the direction to stop the tape when something indicated that the lesson was successful or not successful, or when she wanted to comment on something. The transcriptions of these interviews were then analyzed by coding the entire corpus of her talk into the construct categories identified during the repertory grid interviews. This coding was done by L. during two one and one half hour work sessions with the researcher. One additional category, "Other," was required in order to account for all the data.

Each of these categories is presented below, together with a sample of the interview data as coded by L. during the work session. Beside each category is L.'s description of how she interpreted the category. The complete, coded interview data is presented in Appendix C.

Categories and Exemplars of Coded Data

Other. L. described this category as representing those parts of the interview which were "off the subject of success or not of the lesson, those things which I can't really remember, and those parts where I was describing what I meant or sort of giving reasons for what I was doing."

"Describing what I meant" and "sort of giving reasons" seem to represent the theories L. was using to explain her actions. Therefore, she was asked to indicate which of her statements under "Other" represented these components of the category. An "*" marks these in the data provided below.

*It was a happy lesson, so it was okay to be a little distracted, so they wouldn't get in trouble by it. (11/24)

-So they wouldn't trip over the wires. It makes me nervous. (10/30)

*C. can't read good so she only gets to read the titles. (9/9)

Conditions of the lesson. "The situation, or those things that just sort of were because of the way the lesson was set up."

-We hadn't talked about energy so I wasn't concerned that they weren't getting it. (11/24)

-It was a happy lesson. (11/24)

(This category had the fewest entries. None of the other interviews had examples of this category of data.)

Things kids and I did through unsuccessful lesson. L. suggested that "Kids and I' be replaced with the word "Someone," and that the

category be considered for the unsuccessful part of any of the lessons, as no lesson was described as unsuccessful overall.

-It was hard to concentrate with the band playing. (10/30)

-Other people's hands are not up. (10/2)

-He was just talking and disturbing me and everyone else. (9/9)

Things I did to make me feel successful. "Only if something was major or significant that I did was it put in this category. I used it sparingly to describe the best things."

-Total interest. I didn't use the word percent and tried drawing the pie to show them. (11/24)

-They paid, I think, real good attention. (10/30)

-Kind of an objective was to enjoy the story, and I wanted to know if they did enjoy it. And evidently they did. (10/2)

Things kids did to make me feel successful (#5); Things kids did (#1); Things kids felt (#2). L. decided that these grid categories should be done jointly. "If it's a 1, then that indicates that the lesson is successful and that makes me feel successful (#5). You can't tell how kids feel, you have to see what they are doing, so these go together." (#1 and #2)

-Total interest. So concerned with how much energy Russia uses. (11/24)

-Everyone's eyes on me. (10/30)

-They look like they're with me, they look like they're pretty much paying attention and listening." (10/2)

Things I felt. "Many of these don't say how I felt, but you can tell from what I say how I was feeling."

-I was getting tired of going through it. (11/24)

-They (the band) are killing poor old Aunt Rhodey. (10/30)

-You know, I hate to put a mark by their name, too, because this is like the first or second day we had done this, I felt bad. I felt like not doing it, but I did. (9/9)

Things I did. "These are sort of, like, the regular things that I did during a lesson."

-I just wanted to remind them. (11/24)

-I was just waiting for them to get done. (10/30)

-That's my notes. I took them out of the book. (9/9)

Summary of Stimulated Recall Data Presentation

During the stimulated recall interviews, L. was asked to examine the playback of four classroom lessons for indications of success. When the category of OTHER was added, L.'s entire corpus of talk was able to be coded into categories. These categories were only somewhat modified from the original ones she generated for her repertory grids. The additional category of OTHER included L.'s descriptions or explanations of what she saw going on as the lessons progressed. Such post hoc theory-building accounts for much of her commentary in this category.

The final categories as determined by L., together with the percent of comments entered into that category, are as follows:

1. Things I felt (8%);
2. Things I did (16%);
3. Things kids did to make me feel successful (9%);
4. Significant or the best things I did to make me feel successful (4%);
5. Things someone did through the unsuccessful parts of a lesson (12%);
6. Conditions of the lesson (2%); and
7. Other (49%).

Only the interview on L.'s last lesson had talk which was placed in category 6, and only this last lesson had no interview segments in category 5. Also, only the first lesson transcript had no members of category 3 or category 4. All of the stimulated recall lesson transcripts, however, had many examples of the "Other" category.

V. SUMMARY OF CHAPTER

This chapter presents selected data from the classroom observations and the videotapes of L.'s lessons in order to provide a description of the setting for the study. A portrait of how the seven lessons were carried out demonstrates a consistency in L.'s teaching strategies which holds true across content areas and groups of students. L.'s definition of a lesson as "get up, try to teach, someone learns" seems an appropriate description of what she does during a lesson, with the "try to teach" section involving didactics and practice.

Data from the repertory grids, together with the results of their factor analysis, present L. as having a few very general categories with

which to organize the interactional elements of successful lessons. The verbs used in these categories are either "did" or "felt" with the exception of the category "conditions of the lesson," which has no verb.

The final data presented were the results from the categorizing of the stimulated recall interviews, completed by L. after the transcripts were available. The entire corpus of L.'s talk made during the playback of the videotapes of her classroom lessons was able to be included in the categories provided by her constructs of successful lessons. The one exception was for those comments which were placed into a general category of "Other." An examination of this last category will show that it is, by far, the largest category. Most of the items in it are explanations or descriptions which contain L.'s theories about students, about texts, about what is going on at the moment in the classroom.

The data have been presented in this chapter in general terms. The following chapter examines this data, together with that provided by the interviews and observations of L. teaching, in the specific terms of the research questions.

CHAPTER V

ANALYSIS OF THE DATA

I. INTRODUCTION

The research questions which directed this inquiry into a student teacher's practical knowledge of success in classroom lessons provide the structure for this chapter. All relevant information from the data sets (interviews, stimulated recall, classroom description, and repertory grids) is utilized for each question. Starting with one set, the other data sets are examined in turn to test, extend, or revise the initial findings. This process helps to insure that the descriptions provided are not artifacts of any one data-gathering technique.

II. CONSTRUCTS OF SUCCESS

Constructs As Practical Knowledge

A brief reiteration of the meaning of the term construct as it has been specified in this research, and of its relationship to the more general concept of practical knowledge will serve to orient the reader to the analysis of the first two research questions. A construct has been described as a personally held, implicit theoretical framework that student teachers (in this case) use to process, or make sense of, events in their world. How a student teacher perceives and gives meaning to these perceptions, or how such experiences are construed, is viewed as an elaboration of the personal orientation aspect of practical knowledge.

In this research, L.'s constructs provide insight into how she personally perceives and interprets her classroom lessons, or how she knows success. In addition, L.'s constructs of success are viewed as related to her interactive teaching, although in a tacit manner. Depending upon her purposes, L. acts according to her personal construing of her experience, observes the outcomes (success or not) of her actions, and modifies her constructs as may be required.

Statement of Question

What personal constructs or implicit, valued beliefs provide the orienting framework used by a student teacher to determine success in classroom lessons she teaches?

The completion of the two repertory grids and the related interviews provided the initial data set for the analysis of L.'s constructs of success in classroom lessons. For the first of these grids (see Figure 4, page 75), completed before her student teaching, L. used four very general categories to group the elements of a successful/unsuccessful lesson, as identified by her. These four categories all had "things" as the object, "felt" or "did" as the verb, and either "I" or "kids" as the subject. There were:

1. Things I did;
2. Things I felt;
3. Things kids did; and,
4. Things kids felt.

Factor analysis of the first grid identified one factor operating in her responses to category 3 and category 4, which L. labeled "Signs of learning happening." This factor accounted for all the variability in her responses to the elements on the grid. It could, in fact, be considered an alternative category label as L. stated that she really was unable to tell how the kids felt without referring to what they did. It was this 'doing' that she interpreted as indicative of whether or not learning was occurring.

Several of L.'s constructs of a successful classroom lesson may be distinguished from her first repertory grid. The first of these is that a classroom lesson is successful when the children may be interpreted by L. as learning something. That is, they <u>can</u> do the assignment, they are on task, the <u>are doing</u> the assignment, they know the answers, they don't ask many questions which indicate they don't understand, they look at you as if you were a teacher, they work at doing the assignment, even if at their own pace.

L.'s second construct of success is that a classroom lesson is successful when she describes herself as feeling in a certain way. In her words, she "feels comfortable," is "in control," "has authority," and "knows what she is doing." It is unsuccessful when L. feels "total chaos," when she is "not used to the grade level," when she "doesn't know what is happening or how the activity was supposed to go," and when she "is nervous."

The final construct to be identified from L.'s first set of repertory grid interviews is that a classroom lesson is successful when

she does things (or takes some action) as the teacher. Examples of these actions include giving the child something he can do, checking to see what the child is doing, being straight-forward in giving directions, giving more clues so that the answer is known, giving the child something to manipulate.

The relationship between L.'s definition of a classroom lesson and these constructs of a successful lesson is evident. What was missing from her initial definition of a lesson, but is included in these constructs of success, was any mention of what she might be feeling during the lesson. This seems not surprising. When L. defined a lesson in the abstract, it had only three components: get up, try to teach something, someone learns. A successful lesson, in the particular, must add a fourth - how L. feels.

The Second Repertory Grid

During the second set of repertory grid interviews, completed at the conclusion of L.'s student teaching experience, four categories of elements were identified (see Figure 6, page 79). Three of these retained the same language pattern as L.'s first set of categories: "things" was the object; "did" was the verb; and either "the kids" or "I" was the subject. Thus the categories were:

1. Things kids did to make me feel successful;
2. Things I did to make me feel successful;
3. Things kids/I did through unsuccessful lesson.

However, there was a fourth category, "conditions of the lesson," which seemed quite different from the others. The five elements which L. included will elaborate this category: comfortable lesson, lack of pressure (not on the basic skills test), different from ordinary, not on skills test, worksheets not critical. This category seems to represent L.'s recognition of possible constraints (or the lack thereof) in selecting the kinds of activities children will do during the course of a lesson.

This interpretation should be applied with caution, however. The factor analysis resulted in two factors being identified. One of these was composed of "things kids did to make me feel successful" and "conditions of the lesson," but the first category was positively correlated with the factor and the second negatively correlated. It was also possible for L. to describe a time when she felt a lot of pressure, when the lesson topic was on the basic skills test, and when how the kids did on the worksheet was very important, and yet she felt the lesson was successful. The primary determinant of this success was that the kids learned, as indicated by their responses to her questions.

After considerable discussion, L. was not able to label this factor in a way which was satisfactory to her, and finally suggested that the two original categories be used. It was during this discussion that L. pointed up the relationship between "comfortable" and "things kids did to make me feel successful" as a category. To L., it is not possible to be comfortable if the students were not participating and doing the other things placed in that category. It seems that the relationship is as follows: students raise hands, immediately

participate, seem motivated, listen, look on task, act enthusiastic and excited, seem to understand, and watch the teacher. This set of behaviors makes L. feel "comfortable" which, in turn, serves to indicate a successful lesson to her. The continuing importance of the students as referents of success for a lesson is emphasized.

The second factor identified was composed of the categories "things I did to make me feel successful" and "things kids/I did through an unsuccessful lesson." The bipolar nature of this factor posed no conflicts for L. as she stated that it made sense to her that the more she did to make herself feel successful, then the less things could happen which relate to an unsuccessful lesson. She labeled this factor "Things done during a successful/unsuccessful lesson."

The second repertory grid, and its attendent interviews, suggests that the following constructs were used by L. to discriminate successful lessons.

1. A classroom lesson is successful when L. feels comfortable as a result of what the students are doing over the course of the lesson. If she perceives that they are participating, enthusiastic, on task, and that they understand the content, then she feels comfortable and the lesson is successful.
2. The more things L. does which results in her feeling successful, the less the children and she do things which are associated with an unsuccessful lesson. These things include working hard and being motivated, providing children the chance to talk, designing a game, and making the occasion enjoyable and learning fun.

3. Conversely, the more the students and L. do things associated with an unsuccessful lesson, the less L. does things which make her feel successful. Things associated with an unsuccessful lesson include students not acting 'right', students not really interested, responses from the students are off the subject, the feeling that the teacher just wants to get through the lesson (have it be over), and the lesson not being organized by L.

4. A classroom lesson may be successful when certain conditions apply. These are: it is comfortable; there is a lack of pressure because the content is not on the basic skills test; it is different from the ordinary lesson; and worksheets may not be required. However, only "it is comfortable" is critical to having a successful lesson. The other elements seem related to how L. decides on the student activities for a lesson, but their presence does not preclude a successful lesson. In the end, a lesson is successful if it is comfortable to L., and she will not be comfortable if the students do not participate, do not seem motivated, seem to be off task - if they do not seem to be learning.

Constructs In Interview Data

Analysis of the interview transcripts was undertaken in order to identify themes relating to success as identified during L.'s discussion of her seven classroom lessons. One of these themes, which is also represented as a construct in both repertory grids, concerns L. feeling comfortable as one way of determining the success of a lesson.

Throughout the series of interviews, L. returned to this theme, elaborating on it in a variety of ways:

> "Any time that I start kind of like stumbling over, or I don't feel comfortable with it or I don't understand what I'm doing that it seems like I'm out of control..." (9/9)

> "If you got that lesson planned and you've got the stuff down that you want to say and stuff, you feel in control and you feel comfortable. You feel that everything is going smooth." (9/9)
> "As long as I'm comfortable, I don't ever feel that there is chaos." (9/9)

> "No, I think I get a strong positive feeling. Everything's going along well. You feel comfortable saying...a lot of this is just conversation, like today, I could feel comfortable saying 'Well, what did you think?' And anytime you feel comfortable and you can just talk, you don't have that negative feeling." (10/2)

> "This lesson was more well planned and I was more familiar with it. Maybe I was just more comfortable with it." (11/24)

It is clear from the above that L. frames a successful lesson partly in terms of what she describes as a feeling of being comfortable. To L., being comfortable is related to feeling that the lesson is proceeding smoothly, and that she is in control of the lesson, in large part because she knows what to expect.

Comfortable, as identified through the repertory grids, was attached to L.'s interpretation of how the students in her class are

participating and whether or not they may be seen to be learning. The interview data extend this by providing information on another facet of "feeling comfortable." It has to do with L.'s being able to anticipate, or to expect what is to happen which results in L. feeling "in control". According to L. "I feel like I'm the one who is supposed to be controlling the group, the pace, and everything." (10/12) L. will feel comfortable when she "knows" ahead of time what will occur during the the lesson. Part of this knowing is based upon her lesson planning and her expectations of how things will go during a lesson, but part of it is based upon her becoming more familiar with what might occur as she experiences more lessons.

"Things I Did" In the Interview Data

A second construct which was identified on both repertory grids, although in a slightly different form, was that if a lesson was to be successful, then L. had to do certain things during its course. Such things as providing children with a chance to talk, making the occasion enjoyable and fun, providing children with something they can do, and giving "clues" so that the answer may be known were included in things that she did during a successful lesson. The interview data provided additional description for this construct. It will be seen that L. identified certain actions with a successful lesson, almost in the manner of "To have a successful lesson, I ought to do these things with the children." Some specific examples from the interviews, again produced chronologically, will demonstrate this.

"I planned it to where the children could answer out loud. And afterwards they did a worksheet, back at their desks." (9/4)

"And I just thought I'd do things like she (her cooperating teacher) does them." (10/2)

"I get the question right out of the book, they're right there." (10/16)

"I looked around at their faces to see if they understand this." (10/16)

"You know, our motivation, doing something besides the book. And they loved it!" (11/6)

"I did things for them to learn, but I wanted them to have fun, too." (11/24)

As these segments from her interviews indicate, L.'s description of the things she did which were associated with a successful lesson appear to be in the form of explanations for her teaching practice. When the results of her practice "made me feel successful" (in L.'s words), the interview provided the occasion for articulating what it was that she had done.

A new component of the things L. does during a successful lesson is displayed in her later interviews. Here she talks about wanting the student to have fun as well as to learn, and about her doing something other than assigning textbook pages. An additional example, taken from

the interview held after her last lesson, shows that L. viewed doing things that were fun and yet fostered learning as somewhat oppositional:

> "The lesson was not supposed to be like, to really learn a whole lot of things...it was supposed to be something really fun. I wanted them to have a good time just as well as learning something." (11/24)

It seems possible that L., as her student teaching drew to a close, began to view a successful lesson as one which required her to do things that students could enjoy, as well as learn from. This meant, to her, that something other than the textbook format could be used with the class. However, L. imposed a caveat on doing this by stating that one should remember that the lesson "was not supposed...to (have the students) really learn a whole lot of things." (11/24)

"Things Kids Did" In The Interview Data

It will be remembered that L. used "things kids did" as a construct in her first repertory grid, and as a component of a construct in her later grid. It was these things that children did (or did not do) during the course of a lesson that L. associated with learning, and therefore, with a successful lesson. In addition, if the children did not do certain things during the course of a lesson, then L. would not feel comfortable, and the lesson would not be successful.

This construct is reinforced in the interview data. L. continually used the children and their actions as referents for the success or not of her classroom lessons. There were frequent comments

about number of hands up during the lesson, eagerness to respond, students looking like they are paying attention, the ability of the students to repeat the major points of the lesson, how students seemed to enjoy the lesson, the number of correct answers, how they could do the assignment correctly, and so forth. All interview transcripts contained such statements, and served to emphasize the importance of "things kids did" as a way of viewing success.

It should be noted that whether the children behaved in appropriate ways ("acted right") was not an element in this construct which was used to indicate a successful lesson. L. believed that these children always behaved, and so did not consider such actions as discriminating successful lessons from those that were not. In her words:

> "If bad behavior happened all the time, and then I had a class - I had a lesson where everyone behaved, that would make it a good lesson, but since everyone always behaves, that has nothing to do with it." (10/16)

Conditions Of The Lesson In The Interview Data

The interview data served to corroborate the decision to consider the construct labeled "Conditions of the Lesson" as an artifact of L.'s final lesson rather than as something she used to identify successful lessons over the course of her student teaching. There were no comments from any of her other interviews which indicated that successful lessons depended upon there being a lack of pressure (on her) because the

content was not on the basic skills test. In addition, L. does not indicate in her interviews that a successful lesson needs to be enacted in ways different from the ordinary lesson, or that a lesson is successful when it does not end with worksheets. It does seem, however, that L. selected activities for her last lesson which she believed would result in the children enjoying the lesson and having fun, and that this was done, at least in part, because the lesson was in science and therefore not on the basic skills test.

The content for this last lesson was selected by L. when she was deciding on, and planning for, her "most successful lesson." At some level, L. seems to be saying that her most successful lessons are those during which the students have fun and really enjoy what is going on. This indicates that the lesson needs to involve something other than reading a text and answering questions. However, to this point, those lessons can only be planned for those times when she doesn't have to be concerned with her students learning content for the basic skills tests. L. says it best in her interview after the "most successful" lesson":

> "I just think they're fun. And if you had no one looking over your shoulder to see if you finished the book or to see if you were doing every single page of the thing. It would be nice to do all those lessons like that and not have to go straight by the book and you don't have to worry about if they pass the basic skills tests and things like that." (11/24)

Constraints In Interview Data

L. identifies two constraints which influence her selection of activities for lessons she teaches. These are the outside persons (including the cooperating teacher who grades the student teaching) who "look over your shoulder," and the need to worry about students passing the basic skills tests. There is an additional constraint evident in her interview data, that of time.

> "Oh, I think because ideally if a teacher could plan out every single lesson from scratch everyday. If I could go home every night and I had, you know, all the time, or if I had a day between every day I had to teach, it would be great to plan all these things." (11/24)

This researcher originally thought that it was these constraints working in concert which limited L.'s selection of lesson formats to reading the texts and answering the questions. They may work to do that, but the evidence also suggests that L. carried out her lessons in ways which allowed her to feel in control of the situation so that the lesson held no surprises for her.

> "Everything went fine. I didn't see any problems anywhere; things went pretty much as I expected." (11/24)

> "Anytime that I started kind of like stumbling over or I don't understand what I'm doing then it seems like I'm out of control. (9/9)

> "Everybody's paper turned out terrific. Better than I expected so that makes me think it's even a better lesson." (10/16)

The first two constraints may be called external or contextual constraints, although their influence might vary depending upon the individual. The third seems to be a personal constraint in that it is particular to L. and is a consequence of her knowledge of situations. That is, in order to hold no surprises, L. must, perforce, be able to anticipate what will happen over the course of a lesson. The similarity of her lessons, even the "most successful" lesson, could reflect L.'s belief that a successful lesson allows her to feel "in control." To feel in control, at least at this point, means that L. will not vary her lessons to any great degree. Certainly the portrayal of her seven lesson presented earlier supports this view of the effect L.'s personal constraint has on her lesson format.

Practical Knowledge As Oriented To L.'s Practical Situation

Practical knowledge is used and modified in experience. The situation in which L. was located during her student teaching provided the parameters of that experience. Evidence in the interview data suggests that L.'s practical knowledge of success in classroom lessons was oriented toward her interpretation of her practical situation - her know-how (or learn how) was oriented to the context of her cooperating teacher's classroom.

> "Mrs. B. has everything highlighted (in the teachers' manuals) that she thinks is important." (10/16)

> "It (L's perfect classroom) would be a lot like the one I'm in now. I would do it a lot like Mrs. B. does it, because she...we are a

lot alike. It would be organized and structured pretty much." (10/16)

"Things (during her solo time in the classroom) go just like when she (Mrs. B.) is there except that I'm there." (11/6)

"If I'd have gotten with someone who was disorganized, I would have died. And I just thought I'd do things like she does them. One thing is because we are so much alike and another is that you just can't help picking up things that they do." (10/2)

L's practical knowledge was, in this sense, constrained by her practical situation. Her know-how could include only that knowledge which she used, and as she saw herself like Mrs. B., she "just thought (she'd) do things like she does them."

Statement of Question

In what ways is a student teacher's interactive teaching behavior related to or minded by, her personal constructs of a successful lesson?

The stimulated recall data and the data from the classroom observations were the primary sources for analysis for this question. These data were presented earlier. It is the purpose of this section to provide description of the relationship between L.'s "thoughts" (her constructs) and L.'s "actions" as expressed by her interactive teaching.

Review Of Method

The stimulated recall technique was used in this study to elicit L.'s implicit, previously unarticulated beliefs, or her personal

construing, of success in classroom lessons. Entire lessons were videotaped with the focus of the camera being the students, not the teacher. L. then viewed these tapes and was asked to stop the tape and comment when she saw or heard something that indicated that a lesson was successful or not successful. Thus it was interactive behavior (language and action) which L. perceived as indicating success which was the stimulus for her comments during the viewing.

The entire corpus of L.'s talk during these interviews was coded into her construct categories, with the exception of those comments coded "Other." This category was mostly composed of L.'s explanations and descriptions (L.'s theories) about what was occurring during the lesson. As this is so, this category does not seem to reflect L.'s comments on what she was perceiving that indicated the lesson was a success. Rather, such comments seem to be statements of rationale or L.'t attempt to make sense of what is going on in a post hoc manner. The following provide a sample of comments coded "Other." Appendix C provides the complete listing.

> "I didn't want their excitement to get to where I can't control them anymore." (11/24) (This comment explained why L. had just reminded the children to "keep the noise down a little," even though she had just remarked how quiet they were.)
>
> "Those books are unbelievable. If you did everything the books said, you could spend all day in reading. They are really good." (10/30) (This was stated to explain why she followed the manual.)

"Here they are getting a chance to tell what they may have thought, you know, get a little idea from other people and get their ideas organized instead of just saying go back and draw it." (10/2) (This explains why L. asked the reading group who might have said something in the story.)

All L.'s other talk could be coded into the same categories she used in the repertory grids. This indicated a consistency between the implicit framework she used to construe success in classroom lessons, and the things she noted that she and the children do and feel during interaction which indicate success. This consistency is also evidenced in the use of certain categories for particular lessons represented by the transcripts of the stimulated recall interviews.

For example, the "Conditions of the Lesson" category was used only for the last lesson, although it was available for L. to use for any of the lessons during her coding work session. It is possible that she remembered that this category was developed by her during the second repertory grid after her student teaching was completed, and that perhaps she ought not to use it to code earlier lesson transcripts. However, by the time the coding took place, several months had passed since L. had completed the last repertory grid interview. In addition, the directions given for the coding stated that she could use any category. This seems to offer support for saying that L.'s constructs of success are congruent with her perceptions of the interactional behavior of herself and the students in her class.

Additional support for this view comes from L.'s use of the category she described as representing "major or significant" things she did during a lesson which indicated it was successful. She did not use this category at all for her first lesson. It was during this lesson that she "was driven to" putting a check mark by the name of one student because "he was just talking and disturbing me and everyone else." (9/9) This was the only lesson in the entire corpus which involved disciplining a child in any way. It seems possible to conclude that L. did not perceive herself doing any major or significant things which represented success to her because of this incident. By way of comparison, L. used this category most frequently for her last lesson, or the lesson she planned to be the "most successful" of her student teaching.

Classroom Observation Data And Constructs

Classroom observation data provided another means of looking at the relationship between L.'s personal constructs of success in classroom lessons and her interactive teaching. L.'s lessons have been portrayed as the teacher stands up, tries to teach something (didactics and practice) and someone learns (pupil response to questions and/or worksheets). When these things happen in ways that are expected, L. "feels comfortable" and "in control," and the lesson is described as successful.

This pattern for the interactive portion of the lesson reflects L.'s three major constructs of success. Success is when L." (1) does things (stands up, has the children open their texts, asks questions,

gives directions); and then (2) the children do things that indicate that they are learning something (respond, look interested, give the correct answer, seem enthusiastic). L. then (3) feels a certain way (comfortable) and the lesson is construed as successful.

It may be assumed that L. uses a teacher-directed, didactics and practice strategy that is mostly textbook based because this approach achieves her goals. To this point in her teaching career, L. seems to have a limited number of teaching strategies that she "knows" (can expect) will result in classroom interaction that she views through her constructs as indicating success. In her words:

> I plan for it (the lesson) to be successful. I don't really plan for anything to go wrong. I never really think about that, or that they might not catch on. Usually I pretty much plan that, yeah, they are going to like it, and, yeah, they're going to catch on. (11/6)

III. PLANNING AND PRACTICAL KNOWLEDGE OF SUCCESS

A relationship between L.'s practical knowledge of success and her planning has been implied in earlier sections. This section specifically examines L.'s planning, its several forms and its purposes, in order to determine how L.'s practical knowledge of success was served by her planning activities.

Statement Of Question

How does a student teacher's practical knowledge of success interact with her planning for classroom lessons?

L. was able to describe three different lesson plans:

1. Those done for her coordinator from the college - "planned out by the TIM model that I would turn in to the coordinator. And they are of no use to anyone really. You know, you write out this nice lesson plan, but you really don't make one for yourself." (11/24)

2. Specific lesson plan with questions - "It was just the kind of a lesson plan just to help me out. Like questions I wanted to ask, the rules of the game in case I forgot. Things like that." (11/24)

3. Book plans - "you can look down in the plan book and know exactly what pages that you will be doing. Just kind of so that when you get up, you can sit at your desk and say 'O.K. students, get out your English books and turn to page 362 and we will be going over it in a minute.' It's more or less just a stay on target type of plan." (11/24)

L. indicated that the coordinator's lesson plan was not of any practical use to her during her interactive teaching. It was prepared in order to fulfill expectations related to her student teaching experience, and it is not seen as helpful in the "real world" of her classroom. The observational data collected for this study seem to support L.'s perception. She did not appear to follow the steps of the model during her classroom lessons, preferring instead to follow the particular manual's directions or her own more scripted approach.

It was this more scripted approach that L. used during her first lesson and her last (the most successful) lesson for this research. According to L., this planning format could be based upon a text by "just going by the book." (9/4) However, this type of plan required that L. write down "little notes, like begin reading on page such and such," and included questions which were to be asked and even specific children to call on at specific times during the lesson.

L. described this form of lesson plan as helping her to organize things and "organize helps to make it (the lesson) smooth...because if you're not, you will be confused and the lesson will be a failure." (11/24) In addition, this lesson plan allowed L. to know what as going to occur next as the plan was implemented:

> The lesson plan that I just used, it takes the place of the book. Because the other lesson plans you have the book to tell you what to do, in case you get confused. This way I had the paper to tell me what to do in case I needed it." (11/24)

The third type of lesson plan consisted of writing down the page numbers from the textbook into the lesson plan book. These plans had two purposes:

> First off for the principal if he ever walks in, second is that you always know where you are. You feel organized. You know you have all the plans laid out for the whole week...you feel that things can just float right along and you never have to say 'gosh, what is next?' (11/24)

According to L., Mrs. B., her cooperating teacher, "kind of showed me how she planned that first week. And she showed me how she put the page

numbers down and I pretty much went by the suggested lesson plans they have there (in the textbooks)." (11/06)

L. decreased her use of a more scripted lesson plan as she became more familiar with the layout of the textbooks, with the exception of the last lesson which had no text:

> But now that I'm familiar with the books, I can glance over it and find the questions, find the answers, no problem at all. I'll know what to do right off the bat. A lot of it is becoming more familiar with the books. (11/06)

Within their specific contexts, both the scripted and the page number lesson plans allowed L. to feel comfortable during the course of a lesson and thus to perceive the lesson as successful. L. was able to articulate this relationship.

> "This lesson was more well planned and I was more familiar with it. Maybe I was just more comfortable with it." (11/24)

On another occasion, L. stated that "anytime it's not the way you planned, you do feel uncomfortable and even out of control." (9/9)

Evidence indicates that L. held certain expectations as a result of planning lessons either by format 2 or 3. She expected children to answer back to her questions (9/9), that some things would excite the children (11/24), that some parts of the lesson might cause problems with knowing correct answers (11/24), that everybody would participate (9/9), that some parts would be read out loud by certain children (11/08). In L.'s case, these expectations took the form of her "seeing

things happening" (10/2), that is, planning provided L. with the opportunity to anticipate how the lesson would go:

> "How I thought it would go was already played in my head and it pretty much went that way." (10/2)

L.'s lesson plans, either page numbers in the plan book or scripted by L. herself, provided a "previewing" of the lesson as it was to be enacted. This preview was minded in the form of expectations about the classroom lesson, which, when congruent with what she perceived to be happening interactively, made L. feel comfortable and in control. Such a sequence demonstrates that lesson plans, as used by L., were the medium for translating L.'s constructs of success into teaching strategies that, when carried out as expected, resulted in success.

The format of a lesson as described by L. (get up, try to teach, someone learns) is reiterated in her comments about lesson plans. That is, she talks about how she has learned where the questions are in the book (or she writes her own questions), so she can 'try to teach,' and, finally, she identifies where the answers are and/or what work book pages are to be assigned so she knows 'someone learns'.:

> Before I say that (take your books out) I...look over the page to see what we're going to do. I look at it one more time when I'm moving up to the front of the room, to make sure I know the questions...what we're doing. (11/6)

IV. IMAGE AND PRACTICAL KNOWLEDGE OF SUCCESS

Image As Practical Knowledge: A Review

In this research, an image has been conceptualized as the broadest, most inclusive form of L.'s practical knowledge. It is in L.'s image of success in classroom lessons that her feelings, values, needs, and beliefs combine. L.'s image is generated in practice and acts to organize her knowledge about that practice. Further, her image serves as a guide to her teacher thinking, both in terms of making sense of future situations and in the realization of her purposes in the present. Finally, L.'s images are implicit. That is, she herself never articulates her image of a successful lesson. Rather her image may be identified by the researcher through an analysis of the metaphoric language which L. uses during the course of her interviews.

Statement Of Question

What image of a successful lesson is portrayed by a student teacher's use of metaphoric language?

The initial impression received by this researcher upon analysis of L.'s use of metaphoric language was of movement. She frequently spoke of things "going well," or that "they went well," of "getting on with the task." She talked of "giving step by step instructions," and "skipping over words" and "turning papers in." In lessons, she was "driven crazy" (by the band) or "he drove me to put a mark by his name" (by the misbehavior of the student) or even "I would be driven nuts" (by papers "piling up all around").

However, the image of a successful lesson as movement did not account for all the aspects of a successful lesson which seemed present in L.'s metaphoric language segments, although a successful lesson somehow involved movement. The researcher then considered the orientational metaphors in the corpus, thinking that perhaps these might offer some insight into L.'s image of a successful lesson, when taken together with her movement metaphors.

Indeed, scattered throughout the interviews were such segments as "just stand up there," "you're up at the teacher's desk," "called him down," "get the stuff down (as in knowing what to do)," "felt silly up there," "up there 10 minutes," "moving up to the front of the room," and "in case I got up there and forgot." These seem to indicate that during a lesson, a teacher ought to be 'up' in the literal sense of 'up front.' It also represented to the researcher the meaning of 'up' in the sense of a position of authority, as in 'up on top' particularly as pupils are 'called down' when they are in trouble.

At this point, the researcher began to develop some initial theories about L.'s image of a successful lesson. Perhaps the teacher as a maestro directing a performance from the orchestra (or the children) would work. But on bringing this notion back to the data, it could be seen that there were additional metaphoric segments which did not seem easily incorporated into this image of a successful lesson. For example, the movement metaphors seemed to indicate getting from one point to another, and there were many indications in L.'s metaphoric statements of a defined path for that movement: "on track," "back on

the track of learning," "going along in the lesson," "stay on the work," "stay on him to keep him in line," and "had it all laid out to do."

The general metaphor ultimately selected by the researcher seems to account for these and other metaphoric segments in the corpus of L.'s speech. L. herself never articulated this metaphor as her image of success in classroom lessons. Rather, it was inferred from the interview data by the researcher as a method of explanation.

L.'s Image Of Success

To L., a lesson is a journey, and a successful lesson is a journey that follows its path in good time, despite obstacles. There are several additions components which serve to enrich this basic metaphor of Lesson As A Journey. L. sees herself as the tour guide, up front, pointing out necessary information. She has an itinerary which defines the path that the journey will take, and, like all journeys, there is a starting and an ending point.

This statement of L.'s image of a successful lesson misses the flavor that L. provides through her use of language. Each of the major components of her image is presented below with examples of L.'s metaphoric segments taken from interview transcripts. The researcher did not decide which segments represented successful or unsuccessful parts of lessons. L.'s perceptions as expressed during the course of the interviews provided this differentiation.

Lesson As Journey

When It Is Successful	When It Is Unsuccessful
going smooth	falling apart
just floating along	stumbling over myself
going along	just getting through the lesson
skip over some words	stumble over a few words
it went well	nothing went right
fast pace	hit panic inside

Comment: L.'s use of movement words is apparent. A successful lesson goes someplace, while one that is unsuccessful has impediments which she "stumbles over" or "just gets through." She perceives a lesson as having a coherence, or some organization that may "fall apart" when things do not go as she expects ("nothing went right").

L. As Tour Guide

For A Successful Journey	For An Unsuccessful Journey
step by step instruction	getting a little drawn out
in control	out of control
go through the lesson	she doesn't know what's going on
start the questions	they had to be pushed to do it
they can't get by with it	see how much they can get away with
you're giving the lesson	caught me off guard
kind of in charge	can't leave them that long
have to keep up with them	
I get to take them	
I really go on about it	

Comment: L. views herself as in a position of authority, as the one to "start" the journey, and to be "in charge" as they proceed "step by step." As the tour leader, she "keeps up with them" during the journey in order that no one "gets by," or "gets away." L. sees that it is the responsibility of the tour guide to "give" her tour, much as one would give an object. This aspect of the metaphor Lesson As Journey provides insight into how L. interprets her role of teacher. She is the person in control. She "gives" information to a group of children as she takes them through the process of a lesson, even if they need to be pushed.

The Path Or Itinerary

A Successful Journey	An Unsuccessful Journey
went right by the health book	didn't go according to anything
on track	gets off base
all laid out what to do	didn't plan on being so lost
stayed on him to keep him in line	he was kind of lost
back on the track of learning	off the task
can't really stray from the texts	just something off my head
they are good to stay on what they are doing	she is off what we're doing

Comment: That there is a clearly defined path for this journey is evidenced by L.'s use of an off/on dichotomy in these metaphoric segments. This path is for both L. and the students. That is, she has it "all laid out" in advance, and will become "lost" herself if she

moves away or "gets off base." The students must also keep "in line' and "on the track" or they will "get lost" or be "off" what they are supposed to be doing. This path may well be determined by the textbooks for L., as she "can't really stray" from them.

Start And Stopping Points For Successful Journey

The starting point was always indicated in L.'s talk as standing up there, or moving up front. For L., this included moving to the teacher's seat in the group lesson area. The journey ended when the students indicated that they were finished with the assigned tasks, or when the last thing on the itinerary was completed. Some of L.'s metaphoric segments which indicated the successful end of the journey (lesson) are: "they got the stuff down now," "they picked up on it," "go back to do this," "as far as learning something," "she's the first one finished," "I'm waiting until they all finish reading." The journey was over when the students were "finished" with it: she "gave" her tour and students "picked up on it" or "stuffed" it down. The journey went "as far as" necessary for the students to learn something (at least in L.'s perception).

There are two additional aspects of L.'s image of Lesson As A Journey. As with all journeys, there appear to be obstacles which get in the way of its successful completion. Again, the movement metaphors are evident: "push it to a point of getting a mark by his name," "drive me crazy," "there was a big lull, let's get on with it," "waste too much time." In L.'s words, "you may have noticed that this "class moves," and anything that interrupted this movement served as an obstacle on the journey.

Finally, it should be noted that in L.'s image of a lesson, it is not a free journey for the children. They have to "pay attention." This requirement was evident in all the transcripts from all the lessons: "they paid real good attention," "they are paying attention to what she is saying," "the class paid attention great!" "I expect everyone to pay attention."

Statement Of Question

In what ways is a student teacher's interactive teaching minded by her image of a successful classroom lesson?

This question explores the relationship between how L. conceptualizes successful classroom lessons (her 'thoughts') and how she enacts that conceptualization with students (her 'actions'). To provide an answer, data from the stimulated recall interviews and the classroom observations were examined. Occasions were identified when L.'s interactive teaching (her practical knowledge-in-action of teaching) seemed to be an expression of her image of Lesson As Journey.

Image In Classroom Observation Data

L.'s lessons made use of two types of activities: group instruction or whole class instruction. While groups were meeting with her, the other students remained at their seats working on assignments. Such an activity pattern limited opportunities the children may have had for interrupting the movement of the lesson, either by slowing it down or by getting it off the track. By limiting the activity types to teacher-directed group or whole class formats, L. limited the risk of lessons going in ways she didn't expect or couldn't anticipate.

Structuring the lessons so as to have teacher-to-student or student-to-teacher response patterns also increased the likelihood of students being seen as paying attention. Because L.'s questions required recall, no discussion was generated, and the next question came quickly after the previous one. As a result, there were many questions asked during the course of these lessons, and many opportunities for students to raise their hands and "give" answers.

Finally, this activity pattern decreased the occasions for student misbehavior. There were few transitions, and little student to student interaction, except during the energy game during the last lesson. (However, this game was not meant to be teach content.) The design of the setting for her lessons acted to help L. "keep the students in line," and "on task."

This picture of L. as a teacher is in complete congruence with her metaphoric image of herself as tour guide whose role it is to move the group along the path of the lesson. As she believes that a teacher ought to be up front, starting the questions, taking the students along, and keeping them on track, she has implemented a way to teach which supports this approach: group lessons of didactics and practice. L. has the know-how necessary to anticipate and thus be in control of, what was going to happen during the course of such lessons. Things go smoothly, she feels comfortable, and the journey is successful.

L.'s image of Lesson As Journey also seems to be expressed in her use of either her scripted lesson plans or the appropriate teacher's manual. One or both of these were in her hand or near by during all of

the lessons in this corpus. These plans functioned as her itinerary. They indicated how to start, what questions to ask, and where the lesson was to end. They marked the path the lesson was to take and indicated where the points of interest were. They provided the structure for the journey and thereby decreased the likelihood that L. would be "lost" during the lessons. The know-how L. used to teach was incorporated into these plans. Each of these (but for the last lesson) was developed directly from, or was a part of, the teacher's manual of her classroom texts. In a very real way, then, L.'s knowledge of teaching strategies, as evidenced both in her metaphoric language and in her practice, was developed through her experience with using the teacher's manual.

One additional thing that L. knows about teaching lessons is that the teacher has a location. L.'s image of herself as tour leader and being up front finds literal expression in the way she always stood up and moved either to the front of the group area or the front of the class as a signal for a lesson to begin. Her early statement about a lesson as "teacher stands up, tries to teach, someone learns" is reiterated in her image and in her behavior during class.

Image In Stimulated Recall Data

Analysis of L.'s comments made during the viewing of the videotapes of her lessons identified three areas which seemed minded by her image of Lesson As Journey:

1. She viewed her interactive behavior in ways consistent with her belief that children must pay attention to have a successful lesson;

2. Her comments demonstrated that she had developed general knowledge of specific children which assisted her in keeping the lesson moving and on track; and

3. She framed the lesson in terms consistent with her image of Lesson As Journey.

L. viewed attention as the price students paid during a successful lesson. When she stopped the tape, it was often to comment on those things she interpreted as meaning the students were attentive. For example, L. stopped the tape at a time when she was teaching a group reading lesson. All the children were looking at her, or at their books, and all but one had his or her hand up. She commented:

> Everybody is paying attention. Everybody's keeping up. People are just perfect. I mean what more could you ask for that's not there? I think it continued like that, and I hope so. (10/2)

By way of comparison, L. stopped the tape during another lesson at a point when the students were either looking at her or looking at each other. Of the eleven pupils in the group, three had their hands up. Her comment on whether the lesson was going successfully or not:

> O.K., not bad, but when I think of a good lesson I think of smiling kids, everybody raising hands. But right now, I'm not too impressed. (10/30)

One of the things about which L. had knowledge was that children can be focused on the task at hand if the teacher calls on them. It was important to her image of a successful lesson that students pay attention. Thus she stopped the videotape on one occasion and noted that she had called on a student because "I wanted to be sure he was paying attention." (10/2)

A second way in which L.'s image of a successful lesson minded her classroom interaction was the manner in which she applied her general knowledge about specific children to keep the lesson moving and children on track. During the course of a group reading lesson, L. stopped the tape to remark that "C. can't read good, so she only gets to read the titles." During another reading lesson, a student was asked to read the title Then and Now. He missed both "then" and "now" which L. supplied to him. She explained:

> He has trouble reading, so I just give him the words, so we can go on with the lesson. (10/16)

In both these cases, L. put precedence on the movement of the lesson rather than on teaching individual children how to read, or even using the information diagnostically for future teaching. Things that interrupted the smooth flow of the journey were to be overcome in as swift a manner as possible.

Another example of how L. worked to keep the lesson moving along its path is provided when she stopped the tape to comment when a child was telling a story about his aunt:

> I don't know about that. It's O.K. to let him talk every now and then (because he is shy). Sometimes it gets a little long.

L. also used her knowledge of individual children to indicate when to move on to the next part of the lesson. On one occasion she commented, "I watch P. and C. P. finishes quickly and so does C." (9/9) During another lesson, L. said, "She's the key person as to when we start. She's the one I watch." (10/30) This kind of know-how

enabled L. to maintain the pace of her journey, together with helping to ensure that "everybody's keeping up." (10/2)

The final way in which L.'s image of a successful lesson was expressed in her interactive teaching was in the manner she framed her comments about her own classroom interaction. As she viewed the videotapes, she noticed and remarked on the kinds of things which were consistent with conceptualizing a successful lesson as a journey, and herself as tour guide:

As A Journey:

To indicate the journey is over - "Yes, that's all they have to do." (9/9) "It was a good lesson. They learned. They paid, I think, real good attention." (10/30)

To ensure a smooth pace - "Look at the way he hands papers out." (9/9) became "I hand out my own papers." (10/2) "It was getting a little drawn out and I had to just come out and say it." (11/24) "This reading group is already too long. They didn't have time to do that, too." (10/30)

L. As tour Guide:

Being in control - "I didn't want their excitement to get to where I can't control them anymore. (So I say) things like that to remind them I'm still the teacher."

Standing up front - "Two or three people have something to tell after the lesson and I always stand there and listen." (10/30)

Moving through the lesson - "I was waiting for them to get done. I was thinking, 'Hurry, hurry!'"

This sampling of responses made by L. when she stopped the videotape during the stimulated recall viewing indicates that she was attending to aspects of these lessons which are consonant with her image of Lesson As Journey. Such conceptual framing represents her practical knowledge-in-use: she knows how to look for certain things, she knows how to interpret what is perceived, and she knows a successful lesson when she experiences it.

CHAPTER VI

SUMMARY, FINDINGS, CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS FOR FURTHER STUDY

I. SUMMARY

Teacher education programs have been under attack. Such diverse groups as state governmental bodies, private foundations, and teacher educators themselves have evaluated the effectiveness of teacher preparation programs, and determined that changes must be made. These changes, whether they be in program content, program organization, or program process, ought to be informed by what is known about teaching.

Research designed to formulate a body of knowledge about the teaching process has been carried out under a variety of perspectives. The most recent of these, research on teacher thinking, views teachers as active agents who implement practical courses of action to accomplish their goals in the complex environment of a classroom. Research from this perspective aims to identify what it is that teachers know that enables them to carry out the tasks of teaching.

What teachers know, in the sense of the know-how they have of teaching, has been conceptualized as teachers' professional practical knowledge. Such knowledge is 'practical' as it is formed through practice or through the experience of teaching. It is also 'practical' as it is used in practice with the mostly tacit expectation that certain purposes will be achieved. Finally, it is 'practical' in the sense that teachers use such knowledge in the every day business of teaching.

It is practical knowledge that enables teachers to perform the acts of teaching. Evidence suggests that teachers fail not from lack of content knowledge, but from lack of practical knowledge. Descriptions of the development of that knowledge should be of great importance to teacher educators.

Such development occurs, at least initially, during the experience of student teaching. It is this phase of teacher preparation that teacher educators need to examine if they are to understand what it is that teachers will know how to do as first year teachers. It seems appropriate to assume that one of the things teacher educators would want a first year teacher to know how to do is to enact a successful lesson. To this point, there has been no research done which describes either what student teachers know as successful lessons, or what they know how to do to bring about such lessons.

Present recommendations for improvement in teacher education programs include some which mandate change in student teaching, and others that suggest the addition of internships. Both of these are experiences which develop practical knowledge of success in classroom teaching. If such experiences are to result in the kind of know-how necessary to inform good teaching, then teacher educators need to understand the ways in which these practicum experiences serve to develop practical knowledge. The purpose of this study was to begin to provide such an understanding.

The Problem

Experienced teachers have been shown to possess practical knowledge of a propositional nature (implicit theories or expectations) and of a more holistic nature (images, implicit valued beliefs). This practical knowledge translates into teacher action in planning and interactive teaching strategies. No study could be identified by this researcher that described what a student teacher knows as a successful lesson (in the sense of perceives and interprets), nor has the know-how used by student teachers to enact such lessons with pupils been examined. As a result, teacher educators do not have knowledge of how or what practical knowledge of success is developed during the experience of student teaching.

Furthermore, research on student teachers' knowledge of success has only examined those interactive cues that student teachers use to determine the success or failure of their lessons. The practical knowledge that is used to frame these cues and to give them meaning, and the know-how student teachers gain to achieve their valued goals in lessons they teach is not examined. Because of this, possible connections between student teacher thought and student teacher action have been left undescribed in such studies.

This exploratory study was an initial entry into the research needed to generate such descriptions of the phenomenon of practical knowledge, specifically as it is held and used by a student teacher to determine success in classroom lessons. As teacher educators gain knowledge of what is learned during the student teaching component of

teacher preparation, it becomes more possible for them to design effective experiences.

Procedures

A single case of the phenomenon under study was selected from among those student teachers who entered their student teaching experience in August, 1986, at the University of Tennessee, Knoxville. The exploratory nature of the study was explained to the informant who agreed to take part. Her student teaching placement was in a combination grade two and three in a community school which is part of the city school system.

Because of the complexity of the structure of practical knowledge, and because researchers have not identified a single best method to examine this structure, three data collecting techniques were used. The resultant data sets provided for multiple comparisons among them in order to enrich, confirm, or disconfirm the final descriptions. This process reduced the possibility that any results were artifacts of any one technique used to collect the data.

Repertory Grid Technique

In this research, the repertory grid was used in order to examine the student teacher's personal orientation of practical knowledge. That is, this technique identified the student teacher's implicit and valued beliefs and understandings which she used to make sense out of her experience of success in classroom lessons. The student teacher

completed two grids, one at the outset and one at the conclusion of her student teaching. The process was the same each time:

1. The student teacher was asked to think about a time she experienced success in teaching a lesson or in teaching something to someone;

2. She was then asked to tell the researcher about the experience. Probes were provided when necessary in order to obtain a complete description;

3. As the student teacher talked about her experience, the researcher wrote down brief phrases which the informant was using to describe the lesson. These became the elements (or horizontal axis) of the grid;

4. At the conclusion of her description, the informant was asked to group the elements in any way she wished, and to talk about why she grouped them as she did. The resulting categories thus were labeled and these labels became the constructs (or vertical axis) of the grid;

5. This interview concluded with the informant filling in the grid with a (1) meaning that the specific element and construct were not associated, (2) indicating that the association was neutral, and (3) indicating that they were definitely associated;

6. The grid was then factor analyzed, principle components, varimax rotation;

7. The resulting factors were discussed during a second interview with the informant. She was asked to comment on the results and to name the factors; and,

8. All interviews were tape recorded and transcribed.

Stimulated Recall

Data collected by means of this technique were used to provide insight into the informant's implicit beliefs and understandings about classroom lessons as they occurred. In this way, the relationship between a student teacher's thoughts (how she 'knows' success) and her actions (what she 'knows how' to do) was explored. There were four lessons videotaped, one every four weeks. The camera was placed so that the focus was on the pupils in the class rather than on the student teacher.

Three interviews were held on the day of the taping, and one took place four days later. They all followed the same format. The student teacher was asked to describe the lesson as she experienced it, and to state whether it was successful. Then the videotape was viewed with the direction, "Stop it anytime you see something that indicates how the lesson is going, or when you want to comment on something." All interviews were audio-taped and transcripts taken from the tapes.

All student teacher talk during the course of the replay of the videotape was coded by the student teacher into her construct categories, with the exception of those coded 'Other.' All sections of each interview that occurred prior to the viewing of the videotape were analyzed together with the interviews held after the classroom observations.

Classroom Observations

Classroom visits were made by the researcher approximately every other week for a total of six visits. Three of these were in the manner

of participant observer. Approximately an hour was spent each time either helping in the classroom or presenting lessons. These occasions served to have the children become familiar with equipment and the researcher, and to give the researcher a feeling for the class. The other three visits were in the manner of non-participant observer. At these times, complete lessons carried out by the informant were the focus. Data from these visits were used to provide the researcher with direct information on how the informant used her practical knowledge of success in action and in the specific situation of her classroom.

The three visits carried out in the manner of a non-participant observer were followed by interviews. These interviews followed the format used in the beginning portion of the stimulated recall interviews. That is, the informant was asked to describe her experience of the lesson and to state whether it was successful. These interviews were also taped and transcribed. Thematic analysis and analysis of the informant's use of metaphoric language were carried out on these transcripts in conjunction with the first portion of the stimulated recall interviews.

II. FINDINGS

Each of the findings is presented below by question. When taken together, they provide a description of the practical knowledge one student teacher used to understand and enact successful classroom lessons.

Question: What Personal Constructs Or Implicit, Valued Beliefs Provide The Orienting Framework Used By A Student Teacher To Determine Success In Classroom lessons She Teaches?

The framework used by L. to know if a classroom lesson she taught was successful may be summarized by means of the following diagram (see Figure 7). Only a brief indication of each construct is provided. For a more complete explanation, the reader should refer to the descriptions provided in the analysis section. It should be remembered that all the lessons in the corpus were teacher planned and teacher directed. In addition, they consisted of teacher moving to teaching station, teacher asking questions, children responding, teacher assigning practice (or didactics and practice).

In this diagram, L's constructs are identified by capital letters. These constructs are meant to describe the implicit theoretical framework through which L. views one aspect of her world, that of successful classroom lessons. These constructs should be imagined as lenses, for it is through her constructs that L. perceives and interprets her experience of classroom lessons.

The construct labeled 'Conditions of the Lesson' requires additional explanation. This construct was identified during the set of repertory grid interviews which came at the conclusion of student teaching. It may be an artifact of the student teacher's last lesson, which was a science lesson. However, data suggest that L. did identify certain conditions in her classroom situation which may have influenced her selection of classroom activities.

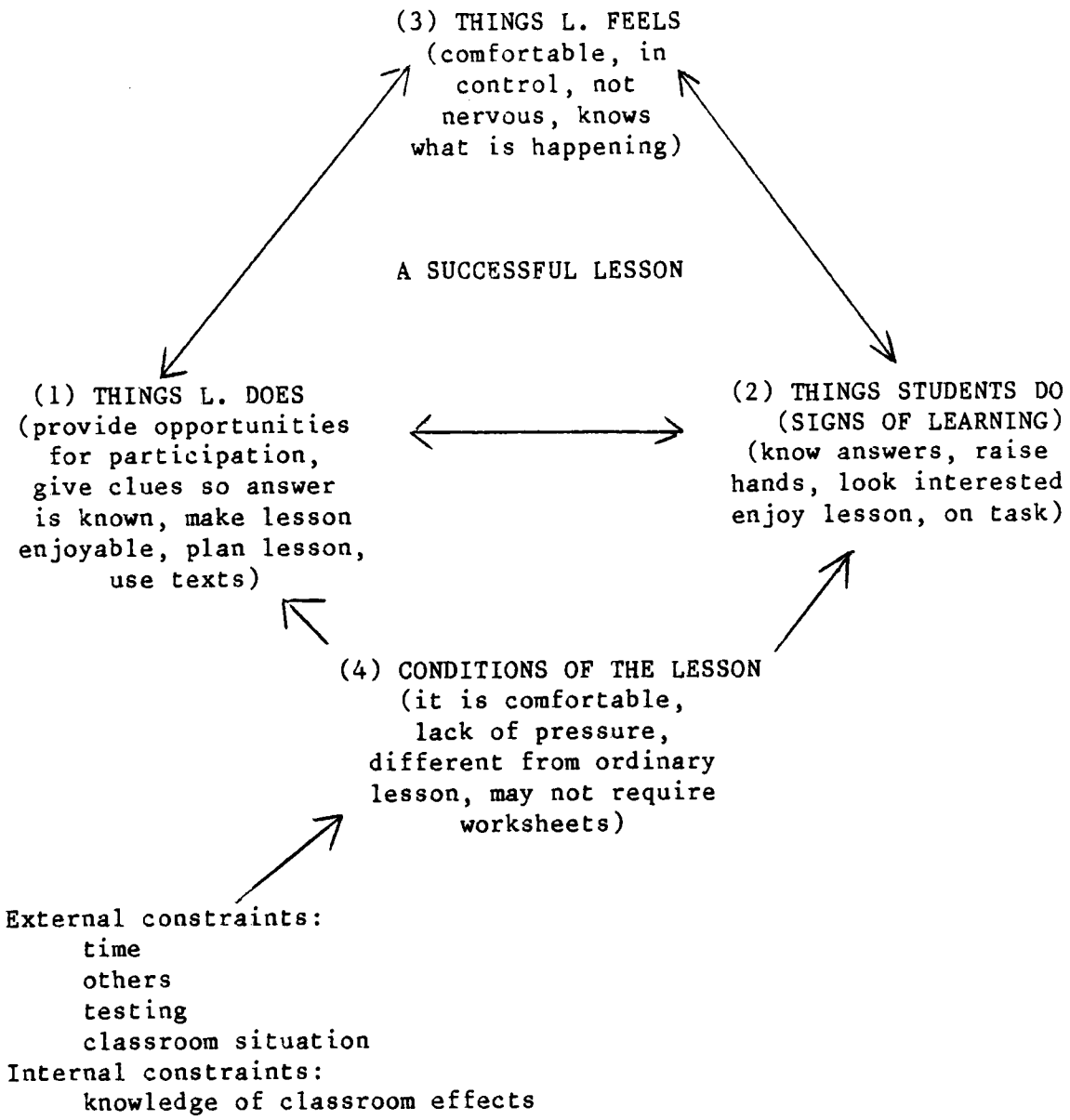


Figure 7
Constructs L. Used To Determine Success Of Classroom Lessons

Note: Constructs (1), (2), and (3) are necessary and sufficient for L. to perceive and understand a successful lesson. If L. perceives a decrease in her constraints, then construct (4) may be used by L. as she construes both her actions and those of her students.

When the lesson was about something on the basic skills test, when she felt time pressures both in planning and class time, and when she viewed others as having specific expectations about her lessons, then L. followed the teacher's manual to determine her lessons. When these conditions applied, she was best able to anticipate (to know) what classroom effects resulted from lessons composed of didactics and practice. This prevented surprises during the lesson, and the student teacher felt in control and comfortable. In this way, the student teacher oriented her practical knowledge to the practical situation in which she was teaching.

Question: In What Ways Is A Student Teacher's Interactive Teaching Behavior Related To, Or Minded By, Her Personal constructs Of A Successful Lesson?

The data indicated that L.'s know-how of interactive teaching was limited by those things which she anticipated (or hypothesized) would result in certain student effects during classroom lessons. If the perceived response matched L.'s expectations, then she felt comfortable and the lesson was successful. L. "knew" a successful lesson when she experienced it by means of her implicit constructs. They identified what she attended to during a lesson, and what those perceptions meant to her. L., then, "knows how" to achieve a successful lesson because her prior experience has enabled her to formulate expectations based on her constructs: if I move up front, follow the manual (or the plan), ask questions, then the students will raise their hands, look interested, seem to learn. I'll feel comfortable and the lesson will be successful.

The data support the first finding that a limited number of constructs frame L.'s view of success in classroom lessons. Such a finding is extended by suggesting that she knows how (or learns how) to do those things interactively which bring about a lesson which may be viewed as successful by her. Even the last lesson, planned to be her most successful, found L. doing the same kinds of teaching behaviors, and interpreting student responses during the lesson in the same way. L.'s interactive teaching "know how" was found to be shaped by the way she construed success in classroom lessons she taught.

Question: How Does A Student Teacher's Practical Knowledge Of Success Interact With Her Planning For Classroom Lessons?

To L., planning provided an occasion to rehearse her classroom lessons prior to implementation with students. She quite literally saw herself going through the business of teaching the lesson. Because this was so, classroom lessons held no surprises for her - they proceeded smoothly.

"Feeling comfortable," "knowing what to expect," and being "in control" were important elements to L.'s construct of success that was labeled "things that I felt." L.'s planning strategies allowed her to map out a route in advance which she knew, through her experience, would likely result in her feeling this way. This was accomplished either by writing out a brief script for the lesson, or, as she became more comfortable with the format of the textbooks, by writing down page numbers for each lesson and reviewing the text before she moved up to teach the lesson.

At this point in her teaching career, L. has knowledge of a limited number of strategies, or in the words of her construct, "things I do to make me feel successful." Her experience has taught her that a didactical, teacher-directed approach will bring about certain valued results ("things kids do to make me feel successful"). L.'s planning strategies represent her practical means for achieving this goal.

Question: What Image Of A Successful Lesson Is Portrayed By A Student Teacher's Use Of Metaphoric Language?

L.'s metaphoric language portrayed an image of Lesson As Journey. A successful lesson was one that she was up in front of, or in control of, as it moved smoothly along in her predesigned path (an itinerary mostly delineated by the texts). She required that the students "pay attention" which they indicated by "giving right answers," or by looking at her and putting their hands up - they were perceived as being "on the track of learning." By way of comparison, an unsuccessful journey was one that got "off base" so that L. and/or the students were "lost." Instead of being smooth, it was one in which L. "stumbled." The students did not seem to "pay attention," rather they "got away from her."

L.'s planning strategies are clearly important to her enactment of a successful journey. Her plans, either the brief scripted form or those provided in the textbook, allow her to know where the journey is going: she plans so that she does not become "lost." The analysis of L.'s metaphoric language enriches the description of planning provided by her interview data. Both these sources support the notion that, for L., a successful lesson is one that holds no surprises.

Question: In What Ways Is A Student Teacher's Interactive Teaching Minded By Her Image Of A Successful Classroom Lesson?

Both the classroom observation data and the stimulated recall data provide examples of how L.'s actions of teaching are minded by her image of Lesson As Journey. L.'s teaching strategy of group or whole class didactics and practice serves to limit children's "getting out of line" during lessons, while increasing their number of responses to questions. This means to L. that they are "paying attention." It is primarily the teacher's manual that provides L. with the itinerary for her journey. Through its use, she is able to perceive that the students are "on the track of learning" as they answer questions and complete written assignments. Lessons are started with L. literally getting up and moving to her teaching station, and they are over when the children indicate that they are "finished" (with the journey).

L. has knowledge of specific children that she uses to keep the lesson moving. She watches some students for an indication of when to go to the next phase of the lesson, others to see if they are paying attention. Some children are given less complex tasks because they are perceived as having academic trouble. This allows the lesson to proceed smoothly and without interruption along its preordained path.

Finally, L.'s conceptualization of Lesson As Journey provides her with a way to examine and understand her own interactive teaching. The videotapes of the lessons were stopped at points which suggest that L. noted aspects of her lessons which were consonant with her image.

II. CONCLUSIONS

The findings of this study suggested two classes of conclusions to the researcher. These are presented as: (1) hypotheses generated from the data which are specifically related to the research questions; and (2) statements which confirm or disconfirm conclusions from other related literature.

Hypotheses Generated From The Data

The findings, generated from the data, led to the development of hypotheses about the form and content of student teachers' practical knowledge of success in classroom lessons. These hopotheses are offered tentatively, for the researcher recognizes that additional studies may either confirm or disconfirm them. No claim is made that these hypotheses present a complete theory of student teachers' practical knowledge of success. However, it is claimed that the data supply enough evidence to suggest these hypotheses for the purpose of contributing to the construction of such a theory. (See Glaser and Strauss, 1967, pp. 39-40.)

1. Student teachers hold a limited number of constructs which they use to interpret success in classroom lessons.
2. A lesson may be described as being more or less successful depending upon the closeness of the match between the elements of student teachers constructs of success and what is experienced during the course of a lesson by them.
3. Student teachers' constructs of success in classroom lessons evidence change over the course of student teaching.

a. Such constructs increase in number.

b. Student teachers increasingly orient their practical knowledge of success in classroom lessons to the practical situation.

4. Student teachers act in ways they anticipate will result in an interactional classroom lesson that they construe as successful.

a. Student teachers develop lesson plans which enable them to anticipate or expect what is going to happen during the lesson.

b. Student teachers use interactive teaching strategies that they have learned (have reason to expect) will result in successful lessons.

5. Student teachers hold an implicit image of success for classroom lessons they teach.

a. Analysis of student teachers' metaphoric use of language provides a way to make their implicit image of success in classroom lessons explicit.

b. Student teachers understand success in classroom lessons in terms of their experientially derived image.

6. Student teachers have practical knowledge of success in classroom lessons. They have the know how (or they learn how) to do those things which will result in successful lessons, as they understand them to be. This includes, but is probably not limited to, the know-how to interpret behavior of specific children, the know-how to plan, the know-how to organize and understand their perceptions of the classroom, the know-how which enables them to anticipate what will happen as a result of their actions.

7. There is congruence between what student teachers know (perceive, understand, and value) as identified in their constructs and images of success, and what student teachers know how or learn how to do in their planning and interactive teaching behavior.

8. The student teaching experience serves to provide student teachers with knowledge of effects. The parameters of this knowledge are provided by the practical situation in which the student teacher is located, by what the student teacher perceives as successful lessons, and by what the student teacher does to accomplish such lessons.

Conclusions Which Confirm Or Disconfirm Other Research

1. Classification of practical knowledge of student teachers:

Of the three classification schemes present in the literature (Elbaz, 1981; Schon, 1983; Shulman, 1986), Schon's most closely describes the data from this study. In his view, practical knowledge consists of a repertoire of expectations, images, and techniques which practitioners develop as they practice their practice. The data from this study confirm this classification scheme.

Discussion. In the specific case of practical knowledge of success, student teachers, guided by their image of success in classroom lessons, and through experience, develop expectations about the effects of certain classroom-related actions (their techniques). When these expectations are met, student teachers feel in control and comfortable. The lesson is perceived as successful.

Elbaz's classification of the types of practical knowledge implies knowledge of results (expectations) in that she describes teaching actions as purposeful. In addition, her "rules and practice" and "practical principles" have the same propositional, if-then, nature as is understood by the use of the word "expectations." However, data from this study point up the importance of expectations qua expectations to a student teacher's knowledge of success. This word seems to best describe that knowledge and, at the same time, avoids renaming the same concept.

Images are not discussed in Shulman's classification scheme for practical knowledge. His "propositional knowledge" and "case knowledge" are both aspects of knowledge of effects or expectations. Both imply "if this, then do this, which will result in achieving these valued goals." It is the focus of propositional and case knowledge which seems to distinguish them from each other, with case knowledge having the larger focus. Without the concept of image (or some comparable concept), Shulman does not account for the knowledge which provides for this focus (or the framing of a situation). Schon's categories incorporate such a framing component.

2. Student teacher interactive knowledge of success:

If pupils are perceived as participating, being interested, and enjoying the lesson, then student teachers experience a successful lesson.

Discussion. Research done with experienced teacher suggests that these teachers use indicators of pupil involvement to identify successful lessons (Jackson, 1963; Harootunian and Yarger, 1981).

Socialization studies (Friebus, 1977) carried out during student teaching, as well as two other studies (Housner and Griffey, 1985; Placek, 1983) that have examined how student teachers interpret the success of their lessons, have had similar results - the pupils are used as the referrents. This present study also found this to be the case. It is in the perception of pupil involvement that student teachers' practical knowledge is used, both in framing what is to be perceived, and in giving those perceptions meaning. (Practical knowledge is also used when student teachers do things in ways they anticipate will result in pupil involvement.)

3. Maintaining the activity flow of a lesson:

Student teachers gain and use practical knowledge that minimizes the possibility that their lessons will get off track and not move smoothly forward to completion.

Discussion. Other researchers (Doyle, 1979, 1986; Parker and Gehrke, 1986) have concluded that experienced teachers act in ways designed to move learning activities forward to their completion. Such management of the class activity flow represents practical knowledge in use. Student teachers also have (or learn) such knowledge which enables them to enact their image of a successful lesson in interaction with pupils. This is done primarily by planning for and enacting a single task environment that maximizes teacher control and provides many opportunities to perceive direct pupil responses. Such task environments also decrease the likelihood of pupil misbehavior by limiting transitions and student-to-student interaction.

4. Student teachers' metaphoric images:

The language of student teachers contain metaphoric segments which, when analyzed, make visible their implicit images of successful lessons. All successful lessons are image-oriented in that there is little experienced discrepancy between student teacher plan, student teacher perceptions of classroom reality and the particular image of success held by the student teacher.

Discussion. Other researchers have identified images in experienced teachers (Clandinin, 1985; Morine-Dershimer, 1979). This study extends these findings to student teachers, and supports the related finding that teachers' interactive teaching and their planning acts are minded by their images of success in classroom lessons.

This study did not confirm the notion that student teacher language would be "relatively unorganized and metaphorically flat" (Munby, 1985). Examples of metaphoric language were present at the start of student teaching and these examples directly related to the image held by that student teacher. This indicates that some form of an image of a successful classroom lesson was present at the outset of student teaching, although it may have been incomplete. As a result of this research, Clandinin's (1985) conception of image is supported: images are derived from an individual's personal history, and are available to that individual to guide sense-making in future situations.

IV. IMPLICATIONS

This research was designed as an exploration of the phenomenon of a student teacher's practical knowledge of success. Its aim was to begin to describe the form and content of a student teacher's practical knowledge, with the hope that future studies would take up the task until the structure of the phenomenon was revealed. It was not intended, nor should it be implied, that this single study describes the practical knowledge of success in classroom lessons held by all student teachers. Rather, it should be viewed as an initial study whose aim is to develop theory for additional studies to examine.

Given the above, the following implications are offered tentatively. It will be noted that all of them concern the process of teacher education. They are organized into two sections: (1) those implications that concern teacher preparation prior to student teaching; and (2) those that concern the process of student teaching.

Teacher Preparation Prior To Student Teaching

It is frequently claimed by teachers that their preparation program was too theoretical, and that what they learned there was of no use in the real world of teaching. This claim may reflect the fact that teachers recognize the importance of experience to the development of practical knowledge, and that it is practical knowledge which empowers them to teach. This study suggests ways in which theory and practice may be united.

Knowledge of effects or the forming of expectations is one important aspect of a student teacher's practical knowledge. L. felt comfortable and the lesson was successful when she was able to anticipate what would happen: she experienced no surprises. This suggests that teacher educators ought to provide preservice teachers with the opportunity to practice their practice under planned conditions. That is, several different classroom activity formats could be selected for examination. What each of them implies about how pupils learn and how knowledge is organized could be discussed (See Joyce and Weil's Models of Teaching, 1986). Then, as part of field experience, the preservice teacher could design and implement such a lesson with children. These lessons could be videotaped and discussed in small groups. Such questions as these could guide the discussion: what did you expect? when were your expectations met? when they were not met? when did you feel comfortable? and what did you learn to expect with this lesson format?

A second area in which what is taught in teacher education classrooms could become more real to student teachers is that of classroom planning. L. planned a single mode of learning activity which consisted of didactics and practice. She believed that the format required by her college coordinator was of little practical use, and developed her style of lesson planning. She either wrote out a script which indicated what she was to say, questions she was to ask, possible answers, even who to call on at certain points, or she followed the plans in the teacher's manual which seemed to provide the same information to her.

This finding suggests several alternatives available to those who teach lesson planning:

1. Teach students how to use the teacher's manual to write lesson plans in the format approved by the preparation program;

2. Recognize that student teachers make use of scripted lesson plans and adjust the approved format to more closely resemble what is practical; or

3. Demonstrate how lesson plans are related to interactive teaching and that they reflect the ways that teachers view success in classroom lessons. The alternative plans and planning formats could be provided which teach the same content. Discussion of the practical knowledge represented by such plans could follow.

Finally, all the components of practical knowledge could be made less implicit (and less mysterious) if such things were talked about during the preparation of teachers. That teacher educators have images of success in lessons they teach, that educators view lessons through the framework of their construct system, that one of the things experience teaches is knowledge of effects - all these could be talked about during class sessions. It would be possible to analyze specific teaching models, direct teaching for example, to see what images and constructs of success are implicitly promoted by this teaching approach.

As a result of such discussions, preservice teachers could come to examine their own practical knowledge (images and constructs) of success. They could evaluate such knowledge in terms of how it would be enacted with pupils. They could compare it to what is best for pupils, for themselves, for the profession. Such reflection would encourage

conceptual flexibility and a meta-awareness of practice when student teaching is experienced. It would also provide a shared language between college supervisors and student teachers to assist in reflection. And it would help bridge the gap between the teacher preparation classroom and student teaching.

Student Teaching As Teacher Preparation

The implications from this research for the student teaching component of teacher preparation affect both the cooperating teacher and the college supervisor. As things are presently structured in student teaching, if the cooperating teacher has an image of success that is sufficiently dissimilar from that of the student teacher, the student teacher either has to comply with the different image or run the risk of a less than successful student teaching experience. If, however, they could talk about what indicators of success they each are using, if they could discuss how the planning they do results in pupils behaving in certain ways, in other words, if they could examine their practical knowledge, then such reflection could result in conceptual change.

The practical knowledge gained during student teaching is limited by the experience one has. This research suggests that there is a version of the self-fulfilling prophecy at work with practical knowledge. That is, student teachers need to be able to anticipate what will happen in order to have a successful lesson, therefore they do certain things which they know (anticipate) will result in certain effects. These effects match their expectations of how a lesson ought to be experienced, the student teacher feels comfortable, and the lesson is

viewed as a success. Cooperating teachers could enrich that experience by allowing student teachers the chance to fail. This means that student teachers need to plan lessons that they haven't experienced in order to run the risk of having the unexpected happen without fearing reprisal (either from pupils becoming unmanageable or through evaluation). Student teaching then becomes true practice of alternative practices rather than practicing the same thing over and over whether it be for 12 weeks, 16 weeks, or a full year.

In order for cooperating teachers to perform such activities, they would need to be familiar with the aspects of practical knowledge of success. This implies a specialized inservice program. They would also require some recognition for the additional responsibilities they would have as professionals, perhaps released time or some additional salary. Finally, these cooperating teachers would need to demonstrate their abilities to point out alternative ways of framing success, to provide alternative meanings to what is perceived, and to suggest alternative means to reach success as it is conceptualized by the student teacher. This view of the responsibilities and capabilities of cooperating teachers points up their importance to the process of student teaching: in a very real sense, they establish the parameters of a student teacher's practical knowledge of success. It is not possible to learn teaching know-how that is not experienced.

V. RECOMMENDATIONS FOR FURTHER RESEARCH

This was an exploratory study undertaken to begin the description of student teachers' practical knowledge of success. Much additional work is needed before the hypotheses generated in this study reach saturation. The author encourages other researchers to continue this inquiry into student teachers' practical knowledge in order to confirm, modify, or disconfirm any of the hypotheses or conclusions presented herein.

It is also recommended that additional studies continue in the use of multiple data collecting techniques, at least until the relationships between and among the various aspects of practical knowledge as described in this research are confirmed: are classroom acts minded by images? do student teachers perceive interactive teaching through the framework of their constructs? do student teachers plan in ways which they anticipate will result in bringing their image to life? All these interrelationships are posited in this study. All of them need additional description.

Additional research is needed on specific populations of student teachers. For example, such theoretical sampling could examine the practical knowledge of success of persons who return for teacher certification later in life, or those who student teach in inner-city schools, or those who are thought to be excellent student teaching candidates. The differences and similarities between and among such student teachers would be illuminating to theory generation.

Finally, the longitudinal study of a student teacher through the first year of teaching would provide insight into how practical

knowledge of success develops in the real world of teaching. Some questions which could guide such research include: What, if any, changes occur in the image of success during the first year of teaching? Do first year teachers gain additional 'know-how' to enact their image? How does their practical situation interact with their practical knowledge of success in classroom lessons?

Practical knowledge of success in classroom lessons enables a teacher to carry out the tasks of teaching in ways that are valued by that teacher. Descriptions of that knowledge provided by studies such as those suggested above would add to the body of knowledge used by teacher educators in designing effective teacher preparation programs.

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APPENDIXES

APPENDIX A

INFORMED CONSENT FORM

INFORMED CONSENT FORM

Rte. 1, Box 330
Louisville, TN 37777

Address of Student Teacher

Dear _____:

I very much appreciate your willingness to work with me as we explore your student teaching experience. As you know, I am interested in finding out how you interpret what you see during the course of teaching lessons.

You may be assured of anonymity as all videotapes will remain in my possession, and you and I will be the only ones to see them. These tapes will be retained for a period of one year and then erased. In addition, the transcripts of our interviews will not have any names, nor will any identifying characteristics be present. Of course, no names will be included in my dissertation or any other paper associated with this study.

Thank you again for volunteering to participate in what will be a mutual exploration of some aspects of your "practical knowledge" about teaching. If you wish to withdraw from the study, you may do so at any time simply by notifying me of your decision.

If you have any additional questions, please do not hesitate to ask me, if you prefer, you may ask them of Dr. Jerry Bellon (Room 117, Claxton), who is my major advisor for this study.

Please return the bottom section in the envelope provided to indicate that you received this letter and agree to work with me.

I received the information letter from Marcia Keith and agree to work with her in this study.

_____
(name)

_____
(date)

APPENDIX B

CURRICULA FOR ELEMENTARY TEACHERS

I. Curricula for Elementary Teachers

A. Grade 1 through Grade 8
(certification for grades 1-8)

GENERAL EDUCATION .....81 hours
Communications (13 hours)
English 1010 or 1011; 1020; 1031 or 1032 or 1033 (English 1019 may be required for some students); Speech 2021 or 2311.
Health and Physical Education (15 hours)
P.E. 3450 (3), School Health 3610 (3), P.E. activities (4), P.E. electives (2-3 hours) and. Health elective (3) from Public Health 1110, 3000, 3210, School Health 3410, 3510.
Humanities (12 hours)
Literature, 8 hours; Art Education 3500 or Music Education 3500 (4 hours).
Mathematics (9 hours)
Mathematics 2110, 2120, 2130.
Natural Science (16 hours)
8 hours in biological science. Recommended series are Biology 1210, 1220 (1230) or Botany 1110, 1120). 8 hours in physical science. Recommended series are Physics 1410, 1420 (1430), or Geology 1410, 1420, or Astronomy 2110, 2120 (2130), or Chemistry 1110, 1120 (1130).
Social Studies (16 hours)
U.S. History (8 hours—it is recommended that the history course be taken at the sophomore level). Social institutions (4 hours). Geography (4 hours).

CORE PROFESSIONAL COURSES.....9 hours
Educ. C & I 3010*, 3020*, 3030*.

ELEMENTARY EDUCATION COURSES.....49 hours
Educ. C & I (Methods): 3260*, 3268*, 3270*, 3280*, 3281*, 3350*, 3351*, 3719*, 3720*, (27 hours); Educ. C & I (Field Experience): 3511, 3512*, 3513* (6 hours); Educ. C & I (Student Teaching): 4810*, 4820*, 4100* (16 hours). SELECT TWO
Add: 2010, 3511, 12 and 3513(6)

SPECIALIZED COURSES.....33 hours
Educational Psychology 3430; Educational Psychology 3100; Art Ed. 3100, 3150; Music Ed. 2100, 3110; Educ. C&I 3510; Special Ed. 3333; C&I 4303; C&I 4240; C&I 4750.

ELECTIVES .....18 hours

TOTAL MINIMUM REQUIRED.....191 hours

APPENDIX C

REPERTORY GRID INTERVIEWS AS CODED BY CATEGORY AND INTERVIEW DATE

REPERTORY GRID INTERVIEWS AS CODED BY CATEGORY AND INTERVIEW DATE

OTHER - This category was comprised of those things L. identified as unrelated to the success or not of a lesson, those things she said she forgot what they referred to, and her theories (which are marked with an *).

(11/24)

* In this class, it's too noisy if anyone moves, because we're so used to them being quiet.

* I didn't want their excitement to get to where I can't control them anymore.

* Things like that to remind them that we are still in school and that I'm still the teacher.

* It's never gotten too noisy.

* It was not as much control that I would have kept it.

* If it's too noisy, I don't see how anyone could concentrate.

* People were not doing what they were supposed to be doing, they were off task, so it was too noisy.

- I did not like the experience at all...I don't know if noise had anything to do with it or not.

* It's too quiet if you're in a lesson and you're asking questions and no one is participating.

- Yes, it is going pretty good.

* It was a happy lesson, so it was okay to be a little distracted, so they wouldn't get in trouble by it.

* It's a good thing that second and third graders have no conception of time.

- When I tried to pick up everyone's money, I thought it took a half minute to do that.

* She is so mean too, but on camera you'd think this child was so nice.

- The answer was you did not like the fact that if you didn't get as much money as someone else, I mean just by chance, then the game was no fun because you were dead and you couldn't participate anymore. It really took no skill to play...it was just chance.

- Kids came in and said they needed two people to talk to the newspaper.

* No, first it kind of caught me off guard because I wasn't really expecting it, but it was no big deal.

- I shouldn't have stood so close (to the microphone).

- K, the one in the blue, second grade.

- I don't know.

* Maybe it's a habit, you know we always say before we go back, you know we make sure that everyone is quiet and working. That's just a kind of the thing to say. They're not really loud or too loud.

- I guess someone was talking, I don't know. I don't hear them.

- I could have made the lesson last, you know, until time to go.

- I think it might have been noise, cause I hear talking but it's not our class.

* You can tell this is the end of the day, cause they're moving around a lot.

(10/30)

- So they wouldn't trip over the wires. It makes me nervous.

* Yes, they have like little steps to motivate the kids to keep reading.

- I'd say K and C are finished now...well, C. is still reading. N. looks like he's finished.

- No. They were all just sitting there being good, like always.

- Yes, I probably shouldn't say that.

* She can read okay, you know. She's not dumb, she doesn't care. I think she's been really babied. I think her Mom treats her like a little baby. Sometimes she'll turn in work and you won't know one word on there...she's had to do work over 10 or 15 times.

* I'm sure (that I'll get kids like that in my class.)

* I hope that I'll have enough time when I have my own class that I can make them redo it until they get it right. I guess I'll just have to take time, because I'm making her do it.

* Because this is a controlled reading group, and you're not allowed to read, you know, you read one page at a time, you have to stay up and keep up and they're not supposed to go on. I think P. is reading ahead. He's either reading ahead or playing or something. I think he's reading ahead.

* It's really funny, you would think that for someone who reads as slow as she reads, would not be very bright, but she is a sharp little girl. Makes read good grades and she's afraid she'll miss a word.

- She reads well. Real smart little girl.

- It's broken down like one day they have workbook pages, the charts, and next day they have the story, and then they have vocabulary books that they do two pages a day on those. These reading books are great. And then there's...they only learn like six new words in the story and they'll learn four of them and then they learn how to learn the other two.

- Those books are unbelievable. If you did everything the books said, you could spend all day in reading. They are really good.

* They (students) don't understand that "he said" yet.

* Plus it would have taken too long. This reading group already is too long. They didn't have time to do that too.

* Not a lot, but since I've had to start taking over, it's been a little more and Mrs. B. started in the morning and she said I know we've been spending an hour in reading groups...especially with third graders. You can't leave the second graders alone for that long.

- I put it in my own words so I wouldn't have to get up.

- The number of <u>finger</u>.

* They (the reading books) have provided for individual differences and since most of these kids pretty much catch on the very first time, usually we don't go to something like that unless it is a basic skill that they have had trouble with. Like contractions, for example. Or if it's on the basic skills test we pretty much go over it. Like "cause

and effect". I gave the second graders their basic skills test so I know what's on it. Third graders I don't know, but Mrs. B has already gone through the book, you know, five years ago when she first got them and highlighted everything that was important so that's how I know what to do. And I don't ever have to pick out any of the words, she's already highlighted the ones she's used in the past and so I just use those too.

* I'll probably do like she does. They're all on the basic skills test. I'll have to go over it again and Mrs. B. tells me too.

* Okay. Not bad, but you know it doesn't look like everybody's...when I think of a good lesson, I think of smiling kids, raising hands, all this, but right now I'm not too impressed.

* These kids aren't excited as they were during the first lesson because that was one of the first ones I'd done. Now it's so big deal; it's like another day. I guess that they realize that school was just the same as when Ms. L. gives a lesson as Mrs. B. It's just school.

- They have no idea that L. is my first name either.

* Okay. The workbook has quotes in it. And you have to tell who said it. And they want me to tell them who said it; they want me to help them. Which you really can't help on that. so you know, just tell them the answer. There's no help on that. So you know, just say think about what you just read. You should be able to do this without looking in your book. You know, we just read it. I'll say stuff like that just to give them some clues and to just learn the names.

- Most people are done, looks like.

* No, because on this part you have to wait until the last person is done because they switch papers and check them. So we can't very well switch papers until every single person is done. So you just have to sit there and wait. B is still working.

* This is a job to teach second graders (exchange papers). They have to switch all the way across which is maybe a yard at most. Not even a yard...it's like I really can't make it!

* Third. They say you can never go back down (to a younger grade). And I believe it. I had second grade, then I have third grade, and then I had first grade and it was awful. And of course everyone hates fifth graders.

* But I do like being able to carry on a conversation with them, cause they're adults but they're not mean.

- No, you'd think they'd be going nuts (with the band sound), but it could be worse.

- I never did understand what he was trying to tell me. She was using an ink pen.

- I don't know which either.

(10/2)

* Yeah, no, well, I don't know. He's only in the second grade and this is really a third grade reader. He may not have known.

* The reason now that I think he might not have known is, see other people's hands aren't up.

- You see no one wants to admit that they were scared but you see hands kind of going up and down.

* Because they've read things before that they did not like and they will not put their hands up if they did not like it.

- What do you think said that...at the end they never did say what it was in the story.

* Here they're getting a chance to tell what they may have thought, you know, get little ideas from other people and get their ideas organized instead of just saying go back and draw it. I think that this gives them a little motivation; something really good.

* Oh, any story anybody wants to tell, they'll listen.

- Doesn't bother me if you've got something to say, come up and say it.

* Different people (come up). B. has a lot to say...B. may be a little above her grade level and she can tell us a lot.

(9/9)

* He's always the first one done, but he talks and he doesn't work. I don't know how he gets it done. He's got everybody else off the subject too. His story is probably more interesting than N.'s story.

* If you called him down every time he bothered you, you would continuously call him down. Of course, he's not a bad child. He's just not somebody that would be, I don't know, he's just not your favorite, I guess, would be the word.

* C. is right here, anything can get her off task. She is really, she's one of the slower students. Even though all of these children are upper division students. She's a bit slower.

* It's just he's always different. If everybody hated to read, he would have loved it.

- Of course, he's an excellent reader, by the way.

* D. and P. are not allowed to stand by each other, like in the lines and stuff, and they got by each other in this group, which really I should not have permitted. But I did say they could sit where they wanted, so I guess I really should have separated them.

- There are five classroom rules and anytime you are caught breaking one of the rules, you get a mark by your name. And there are consequences that go along with the marks.

- This is worksheets.

* C. can't read good, so she only gets to read the titles.

- Yes, that's it. that's all they have to do.

- That was funny, watching that. It really was. Those kids, they just tickle me to death.

Conditions Of The Lesson - the situation or those things that just sort of were because of the way the lesson was able to be set up.

(11/24)

- The game was going along great.

- We hadn't talked about energy so I wasn't concerned that they weren't getting it.

- It was a happy lesson.

- They had just played what they thought was a great game.

No additional data for this category in the other interviews.

Things Kids and I Did Through Unsuccessful Lesson - Because all of the lessons on videotape were overall successful, this category has few entries. L. suggested that "Kids and I" be replaced with the word

"Someone," and that the category be considered for the unsuccessful part of any of these lessons.

(none on 11/24)

(10/30)

- It was hard to concentrate with the band playing.

(10/2)

- Other people's hands are not up.

- He may not have known (the answer).

(9/9)

- Right here, just yak through another story.

- He was the one, the only kid in the class that when you put the camera on he was the one...everyone else sat there and smiled.

- He talks quite a bit and sometimes when he talks, I mean it won't be something that you can actually tell him to stop doing because it's not as bad as the other things he usually does, but it just bothers the class.

- Look at the way he hands them out. Instead of getting up and passing them out...

- Passing out the paper was just a trauma to him; it was the worse thing that happened to him all day.

- I really didn't see what he did just then. But D. is talking to him.

- I'll look at him and see...They're laughing; see D. laughing...P. is entertaining him.

- When I picked up the checklist it stopped. They know.

- D. is easy to get off task.

- I still don't see what he did. He must have said something to d. because C....

- Anything can get her off task.

- He did something that made me have to get up.

- He was just talking and disturbing me and everyone else.

Things I Did To Make Me Feel Successful - "only if something was major or significant that I did was it put in this category...I used it sparingly to describe the best things."

(11/24)

- Total interest...I didn't use the word percent and tried drawing the pie to show them.

- You know, I was just looking around kind of laughing at myself, seeing what I had done.

(10/30)

- They paid, I think, real good attention.

(10/2)

- Yes, it really is. It was. It really does. (look like her picture of a successful lesson)

- I mean, what more could you ask for that's not there? I think it continued like that and I hope so.

- Kind of an objective was to enjoy the story, and I wanted to know if they did enjoy it. And evidently they did.

(9/9)

None listed for 9/9.

Things Kids Did To Make Me Feel Successful (5), Things Kids Did (1), Things Kids Felt (2) - L. decided that these categories should be done jointly. "If it's a 1, then that indicates that the lesson is successful and that makes me feel successful (5). You can't tell how kids feel, you have to see what they are doing, so these go together." (2)

(11/24)

- But I put B. and J. right here to talk to each other, and, of course, D. has no problem screaming across the room at anyone.

- I only gave one dollar so that she maybe could generate this idea of "Yes, I did not like the game because I did not get to participate

because I only got one dollar. It wasn't fair." and E. did come up with that.

- Total interest. So concerned with how much energy Russia uses.

- But they are really interested in energy.

- No sound!

- They don't look like they're talking.

(10/30)
- Everyone's eyes on me.

- She's the one I watch.

- She reads well though, real well.

- K. still isn't done.

- P. is done.

- They're working, though.

- They learned, they paid attention.

(10/2)

- Everybody is paying attention; everybody's keeping up. People are just perfect.

- They look like they're with me, they look like they're pretty much paying attention and listening.

- He just went into a big long story about how his aunt drew a picture for him and his brother. But that was okay. I think it's okay to let them talk some every now and then; express their own thoughts.

Evidently they did (enjoy it) everybody's hand is up.

- People always have something to tell me about, and when its about the lesson, it's okay.

(9/9)

none.

Things I Felt

(11/24)

- I was getting tired of going through it.

- I feel that they are interested.

- I just can't wait to hear what's coming next.

(10/30)

- I was thinking "Hurry, Hurry"

- I will choke just one little boy.

- I thought at the beginning of the year that this child and I will not make it in this room together.

- It just dawned on me that there was nobody else in the room.

- She does that every time she reads aloud. It tickles me to death.

- It drove me crazy today; drove me nuts. Usually it doesn't bother me at all.

- They are killing poor old Aunt Rhodey (the band).

- No telling what I said.

- The band is killing me at this point.

- Maybe it was better than I thought. (the lesson)

(10/2)

none

(9/9)

- You know I hate to put a mark by their name, too, because this is like the first or second day we had done this, I felt bad. I felt like not doing it, but I did.

Things I Did - "These are sort of, like, the regular things that teachers do in class."

(11/24)

- I just wanted to remind them.

- I looked around and realized that I messed up and put two people right together.

- So I was looking for E, the smartest child in the class, I only gave one dollar to so she could generate this idea.

- I just had to come out and say it and try to think of some clues to get them to say it.

- Something for them to do, a follow-up.

- I guess someone was talking, I don't know.

(10/30)

- I was just waiting for them to get done.

- That was a third grade look. To make sure no-one was dead.

- I make them redo it until they get it right.

- I was listening, but I was watching P. to see what he was doing.

- I must be waiting for K. to get done.

- Another third grade check. Make sure they were all there.

- You know I'll say stuff like that just to give them some clues and to just learn the names.

(10/2)

- Okay, these are the art papers, and then I took something else out, it was a white sheet of paper, and it had my objectives on it; my introduction on it and it's just like an abbreviated lesson plan.

- It is one of my favorite stories.

- I wanted to make sure he was paying attention.

- I pass out my own papers.

- Teacher's book. they suggest a poem that may go along with the story. So I just use it. I like it too.

- Sometimes it gets a little long when children tell stories, but I let them do it.

- I always stand there and listen to their stories after group.

(9/9)

- That's my notes. I took them out of the book.

- I put them down.

- I had to get up and go get it (the checklist).

- I permitted them to sit together, which I shouldn't have.

- I was just watching them draw faces.

- He just drove me to put a mark by his name.

VITA

Marcia Jeanne Keith was born in Peabody, Massachusetts. She attended public schools in Peabody, and then entered The University of Massachusetts in Amherst. She was graduated with a Bachelor of Arts, cum laude, in June, 1959. After three years as a teacher in Gill, Massachusetts, she entered Harvard University in 1962 and received a Master of Education degree one year later.

For the following seven years she taught in the elementary grades in Massachusetts, and then moved to Maine to become the elementary principal of Morse Street School in Freeport, Maine. As principal, she designed and implemented the only alternative K-5 public school in the state.

In 1981, she moved to Tennessee and in 1983 entered The University of Tennessee at Knoxville where she was awarded the Doctor of Philosophy degree in Education in August, 1987.

Ms. Keith is currently an Assistant Professor of Education at Maryville College, Maryville, Tennessee.