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AUTHOR Spodek, Bernard; Rucinski, Elizabeth Anne

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ABSTRACT By asking three first-grade teachers to respond to actions taking place in their classrooms, researchers made an attempt to identify the beliefs or constructs that underlie teacher decisions. The following research questions were addressed: Is there a system of professional constructs that can be identified in early childhood teachers? and, To what role dimensions of teaching are these constructs related? To answer these questions, teachers were observed in their classrooms, and observed teacher decisions became the basis for interviews. Statements of beliefs abstracted from interview transcripts were edited and presented for teachers' confirmation, disconfirmation, or modification. Resulting statements were organized into 10 content areas, and statements of belief about values were separated from beliefs about fact. Categories were (1) goals for children's behavior, (2) children's needs, (3) classroom management, (4) planning and organization, (5) materials, (6) learning, (7) instructional processes, (8) academics, (9) evaluation and assessment, and (10) home and parents. Results indicated that, while teachers differed in the number of statements generated, a consistent ratio (60:40) existed between beliefs about facts and beliefs about values underlying their decisions. Sixty-seven (19 percent) of the beliefs were held in common by all three teachers, while an additional 91 (26 percent) were held in common by two of the three. Beliefs not held in common reflected individual values concerning children, teachers, or management and instruction. (Author/RH)
A Study of Early Childhood Teacher Beliefs:

Primary Teachers

Bernard Spodek

Elizabeth Anne Rucinski

University of Illinois at Urbana-Champaign
Abstract

This study identified the beliefs or constructs that underlie teacher decisions in three primary classes. Three first grade teachers were observed in their classrooms. Decisions observed in the classroom became the basis for interviews. Statements of beliefs abstracted from transcriptions of these interviews were edited and presented to the teachers for confirmation, disconfirmation, or modification. These were organized into ten content areas and statements of belief about values were separated from beliefs about fact.

While the teachers differed in the number of statements generated, there was a consistent ratio between beliefs about facts and beliefs about values (60:40) underlying their decisions. Sixty-seven (19%) of the beliefs were held in common by all three teachers, while an additional ninety-one (26%) were held in common by two of the three. Beliefs not held in common characterized individual values relating to children, teachers, or management and instruction.
A Study of Early Childhood Teachers' Beliefs: Primary Teachers

The traditional view of early childhood education curriculum has been that it is essentially the application of scientific principles derived from the field of child development. The contemporary models of early childhood curriculum are seen as different from one another because they represent different developmental theories or theories of learning (e.g., Evans, 1975). Given this view, curriculum development becomes the task of deriving classroom practices from psychological theories and testing these practices in relation to their impact on development as conceived of within these theories.

A number of educators have suggested that early childhood programs are not simply derivatives of developmental or learning theories (e.g., Spodek, 1970). While these theories can be used to justify elements of a curriculum, at best they can provide guides as to what learning might be appropriate for young children, but not what young children ought to learn or how those learnings ought to be offered. Indeed, given a single developmental theory, a number of curriculum alternatives can be generated. A review of "Piagetian-derived" early childhood programs has shown that they differ in the interpretations of the theory as well as in which aspects of the theory they consider the most relevant for education. There are also questions of the purity of application that can be raised (Forman and Fosnot, 1982).

Kohlberg and Mayer (1972) have suggested that the various educational curricula represent something more than psychological theories, that they are rooted in ideologies which contain statements of values as well as
statements of fact. From this point of view, evaluating a program for children requires that one becomes concerned not only with its effectiveness in achieving outcomes, but in judging the value of these outcomes as well. Habermas (1971) further argues that scientific theories are not value free, as Kohlberg and Mayer have suggested, but rather that these theories are indeed rooted in values and represent ideological positions. Given this line of thought, it is inadequate to study the nature of school programs through the testing for outcomes alone. Effectiveness needs to be considered in terms of the values and ideologies of those who implement programs as well as the values and ideologies of the communities that support education, both in the community in which the school is embedded.

The curriculum development thrust of the last third of a century has largely ignored the import of individual classroom teachers on the curriculum that is implemented in classrooms. The project generated within the curriculum reform movement of the late 1950's and 1960's primarily designed curriculum materials that were consistent with existing conceptions of knowledge or structures of disciplines. Most of the material derived from this movement disregarded teacher's unique input and some even attempted to "teacher proof" the material that was developed. Many of the curriculum models which were early childhood specific, including those that became elements of the Planned Variations of Head Start and Follow Through, also disregarded the views of individual teachers. Their contribution could be accepted only if they were consistent with the models in which they taught and model sponsors were expected to engage in monitoring implementations to insure the purity of their models. Only in the more "open" models was the teacher's role considered to be critical to the development of educational curriculum. Even with these models, however, there
was conflict generated by project sponsors attempting to implement an "open" model in a school, imposing the model in a closed fashion (Zimiles and Mayer, 1980).

The studies that have been made on various program implementations, however, testify to the importance of the teacher in program development and implementation. In the First Grade Reading Studies, completed over a decade ago, there was more variability found among teachers than among programs (Bond, 1966). Similarly, in the evaluation of Follow Through, while program or model effect differences were found, great variability from site to site within program models was also found. One of the critical factors in those site factors that made for this variability was the differences among teachers (Abt Associates, 1977).

While much of the research on teaching has focussed on teacher behavior (see, e.g., Rosenshine, 1976), a recent line of research has been developed that has focussed on teachers' thinking. This research has been summarized by Clark and Yinger (1979) who organize their review around the topics of planning, judgment, interactive decision-making, and teachers' implicit theories. It is with this latter area of teachers' thinking as it relates to early childhood education that this study is concerned.

How the teachers perceive their world, including their educational world, and how they act upon those perceptions, is critical in the study of curriculum development. Teachers react less to objective reality than to their perceptions of that reality. How they conceive of what is true is a function of what they believe to be true. Thus, teachers' beliefs provide a screen through which they view the world and, therefore, establish the basis for teachers' actions.
The concept of ideology or belief systems underlying early childhood practice has become a topic of interest to a number of different scholars who have studied these beliefs in a number of ways. Bernstein (1975) conceives of infant education (for children ages 5-7) in England as characterized by an "invisible pedagogy" realized through weak classifications and weak frames. Central to the theory of infant education, as identified by Bernstein, is the concept of readiness and the importance of play as an educational activity.

Bernstein brings a class conflict orientation to his analysis, suggesting that the invisible pedagogy of the infant school is more consistent with the style of middle class mothering and is in greater conflict with the style of working class mothering. Thus, as a socializing agent, the infant school teacher legitimizes the middle class child's experience and allows for a relaxed transition into the school culture for that child; however, discontinuity is created for the working class child.

Bernstein's analysis is interesting but it remains largely speculative. No convincing evidence has been collected that infant education as it is practiced can be analyzed in the fashion proposed by him. Certainly there are differences between what happens in working class and middle class schools, but the explanations for why these differences occur and the consequences of these differences have not been adequately studied to support the class conflict orientation suggested by Bernstein.

In a somewhat similar tradition, Apple and King (1977) have argued that schools have been used to collect and distribute particular social and economic meaning (forms of knowledge) to the children enrolled through both the overt and covert curriculum. These meanings represent an ideological position that underlies school life.
Apple and King present a study of one kindergarten, using observations and interviews, to illustrate their thesis. This study focuses primarily on meanings of classroom activity uncovered by the researcher in the tradition of 'hidden curriculum' research where a relationship between societal values and purposes and the culture of a classroom is hypothesized, and possible underlying meanings for classroom activities are uncovered.

The teacher, early in the year, was concerned with socializing the children, teaching them to share, to listen, to put things away and to follow routines. The children were required to accommodate to the school setting. Emphasis was placed on children's conformity, on their being quiet and cooperative. One of the important distinctions the children learned to make early in the year was that between work and play. Work, rather than play was valued in this American kindergarten. The children also learned to respond to the power of the teacher.

Although King (1976) states that the categories finally chosen for focus (work/play, authority and control) were emergent during the initial period of study, there seemed to be an imposition of the researcher's construct system upon classroom activities and little, if any, attempt to determine the meanings the classroom teacher herself assigned to what transpired in the classroom. King reports that there was great discrepancy between her interpretation and analysis of the observations made and the interviews conducted and those of the teacher herself. King states that revisions were necessary, but no distinction is made between the perceptions of the teacher and the researcher, nor were the researcher's assumptions, pre-conceptions, and theoretical orientation as to the nature of the socialization process made explicit.
One of the intriguing elements of the line of argument taken by Apple and King in the United States and by Bernstein as well as Sharp and Green (1975) in England is that primary schools act to support socially stratified societies. Bernstein and Sharp and Green view this as resulting from the progressive education ideology manifest in the English child-centered infant school. King and Apple attribute the same purpose to the more traditional non-child centered American kindergarten. It is possible that in these cases the teacher's actions or beliefs are not reflected in the reports, but rather the conclusions presented resulted from the researchers' views of the purpose of schools for young children in modern industrialized society.

Other, less politically oriented lines of inquiry can also be found in this area. In an examination of English infant teachers' ideologies, Ronald King (1978) analyzed the constructs (i.e., beliefs, values, and behavioral customs) which teachers impart to young children through the school. R. King suggests that teachers' child-centered ideologies, which include the elements of developmentalism, individualism, play as learning, and childhood innocence, were instrumental in determining "things that were arranged to happen or were allowed to happen by the teacher" (p. 10). Through classroom observations, interviews with teachers and administrators, and document analysis, King determined that what teachers believed about children and education was integral to what happened in the classroom. The teachers' actions were related to the ideas they held about the nature of young children and the learning process.

Young children were viewed as passing through a naturally ordered sequence of physical, psychological, and social development, although each child's individuality was also recognized. Young children were also seen
as curious, wishing to explore the world about them, and learning best through play when happy and busy and able to choose from activities of interest to them. The teachers functional to create conditions which would help children develop to their highest individual potential.

King worked in three schools, each drawing students from varying socio-economic levels. The teachers developed definitions of the particular student population of the school in which they worked. Typifications were then made for individual children explaining variant behavior. The teachers' typifications led them to act on the children to help them become what they should be. When the behavior or academic achievements did not match the definition of the "good" child, teachers explained unrealized expectations as resulting from the child's family-home background.

King found patterns of meanings that teachers used to define what they were doing in the classroom. A profusion of activities provided choices for children and met individual differences in ability or 'readiness' to do a particular activity. There was a blurring of categories of learning as teachers implemented the 'integrated day' with knowledge not overtly categorized into the usual subject matter divisions or taught in discreet segments. There was also a blurring between activities defined as work and those defined as play. However, King did abstract these distinctions: Play was (1) a prelude to work; (2) a form of learning; (3) a reward for working; (4) a chosen activity. Work was: (1) defined by the teacher; (2) done for the teacher; (3) done in the mornings; (4) an activity which could not be refused; (5) an activity whose completion was defined by the teacher.

Another study of English schools by Berlak and Berlak (1975) offers evidence that informal education is not completely child-centered but that
teachers are involved in setting work requirements, motivating individual children, and establishing standards of performance in math, writing, reading, and possibly spelling and even art, when the teachers considered this an important priority. The research team spent four-to-six weeks in each of three schools and made shorter visits to thirteen other schools in the community. Knowledge of how teachers construed their own teaching behavior was gained through asking teachers about specific instances of their own behavior with an exploration of reasons for that behavior and the teacher's ideas associated with that event, rather than teachers' abstract beliefs.

An examination of teachers' understanding of curriculum was undertaken by Bussis, Chittenden, and Amarel (1976). Sixty kindergarten, first and second grade teachers were interviewed and their responses were analyzed and categorized by the researchers regarding curriculum, understandings of children, perceptions of the working environment, and perceptions of support from advisors. Few observations were made in classrooms to check if teachers' stated constructs did indeed guide their actions, and no mention was made of providing the sixty teachers involved in the study with feedback on the analysis of the interviews for confirmation or disconfirmation or with information as to how their responses fit into the categories developed by the researchers. An attempt might have been made by the researchers to determine the connection between teachers' perceptions and characterizations of their beliefs and their actions and decisions in the classroom. Combining interviews with observation and document analysis could provide methods of triangulation. The reliability of the representation of teachers' constructs increases when teachers are asked to disconfirm or confirm their portrayals.
In a more recent study of teachers' construct systems, Halliwell, (1980), identified and analyzed the meanings that three kindergarten teachers attached to the organization and activities which constituted the curriculum in their respective classrooms. She found the teachers guided by the district 'curriculum guide' which had been written and revised by teachers in the district, although the three teachers differed in the amount of emphasis they attached to the guide, and in the emphasis placed on different areas of the guide. Each teacher responded to her perception of the needs of the group of children with whom she was working. One of the teachers worked with mainstreaming handicapped children into classroom activities and showed special concern that these children participate and feel a successful part of the group. Her priorities included helping children to enjoy school, to get along with others, and to experience academic growth.

A second teacher wanted her program to be predictable for children yet flexible enough to be responsive to individual children's interests. Her priorities were to help children to get along with one another, and to develop thinking skills in the areas of reading, writing, math, and social studies. The third teacher wanted to encourage children to care about themselves and others, to feel responsible for their own learning, and to develop academically through acquiring a broad base of concepts and skills. She was concerned with the continuity of learning and with helping the children extend their abilities through activities provided in the classroom.

Halliwell found that these three teachers placed less emphasis on play than had teachers in the English infant schools. The distinction they made was between compulsory activity and self-selected activity. These
three teachers' characterization of children as learners having individual growth patterns, interests, and ways of learning. The teachers valued materials that could be used for a variety of purposes and at varying levels of complexity. The teachers did not wait for children to be ready, they taught the material, then assessed each child's progress.

Halliwell found that, in characterizing children as learners, these teachers reflected many of the themes and concepts of early childhood education that Spodek (1980) identified as progressive in reviewing the literature: individuality, activity, needs, interests, and growth. Curriculum strategies that incorporated variety, flexibility, continuity and multifaceted activities with multiple potential outcomes were justified in terms of these learner characteristics. The teachers did not speak of "development" as the aim of education but had definite ends in mind. They wanted the children to have positive attitudes towards themselves, towards others and towards school; to know the social conventions for interacting with one another; to acquire cultural knowledge; to acquire a sense of responsibility; and "to think."

In arriving at the constructs that these kindergarten teachers held, Halliwell observed the classrooms and interviewed teachers. The teachers were provided with opportunities in the interviews to illuminate their reasons for and the meanings of the activities and interactions which took place in their respective classrooms. Halliwell sought the teacher's confirmation or disconfirmation of her portrayal and examined the district curriculum guide (a form of document analysis). Halliwell also attempted to make the reader aware of her theoretical framework for curriculum research and her background experiences which were influential in her perceptions and analysis of the data obtained.
Two additional works have proved helpful to this study in terms of theoretical perspective and concepts such as: theories-in-use, espoused theories, and constructs. Argyris and Schón offer a framework for evaluating theories-in-use which determine their internal consistency, their congruency with espoused theory, their testability, their effectiveness, and whether they value the world they create.

Kelly (1955) provides a useful definition of construct as a way in which things are construed as being alike or different from others. Kelly maintains that a person's construct system is composed of a finite number of dichotomous constructs of a polar nature, and that a construct is useful in anticipating events, providing the person with ability to predict, manage, and control events to varying degrees. Kelly maintains that behavior is validating evidence for a variety of personal constructs. He also cautions that it is necessary to understand cultural controls operating in a given context. Kelly views each person as an activist, constructing one's own representation of aspects of reality as a result of phenomenological events and the individual's interpretations of these experiences. Constructs are used to anticipate and predict events and precede action. The revision of constructs is a function of a person's willingness to act in one's own best interest and take into account feedback from the environment. Experience is important in changing constructs as are the attitudes of exploration, experimentation, and reflection.

Just as individuals order their personal world, so teachers order their professional worlds. Their understanding of educational events are grounded in some form of theory, implicit or explicit. Bussis et al., as discussed above, adapted Kelly's notion of personal constructs to the educational context as curriculum constructs. These are representations of
educational activities resulting from an individual's interpretation of educational phenomena which develop as ideas, are translated into actions, and as the consequences of these actions, are experienced.

The present study is an attempt to arrive at teachers' constructs, as theory-in-use, by asking them to respond to actions that take place in their classrooms. The questions addressed were:

1. Is there a system of professional teacher constructs that can be identified in early childhood teachers?

2. To what role dimensions of teaching are these constructs related?

Procedures

Pilot

A pilot study was developed to test the research methodology and to train a classroom observer. In order to identify the constructs that guide teachers' classroom decisions about the organization of time, space, personnel and materials, observations were made in the classroom and analyzed to identify the teacher's decisions made while teaching as well as the context in which they were made. Parallel observations were made independently by three individuals in the same classroom. Each individual reviewed their observations to identify teacher decisions. These then were compared. The teacher observed was interviewed about the specific decisions observed. The interview was audiotaped and later transcribed for analysis. Two additional observations and interviews were made with the teacher so that each person involved in the research had experience and training in the observation/interviewing process. An abstract of the
teachers' beliefs as perceived and understood by the researchers was sent to the teacher for confirmation and/or clarification.

An exit interview was held relating to the accuracy of the abstract and the reaction of the teacher to the procedures (e.g., was it burdensome; was it beneficial?) Decisions were identified by the three observers with a high degree of agreement (over 80%). The teacher felt that no serious burden was placed upon her by the observation and interview. Additional observations and interviews were held with a second grade teacher and a kindergarten teacher in nearby school systems to further practice the procedures.

From these pilot observations and interviews we learned that we could identify teacher decisions in an active classroom with a high degree of agreement. We also learned that our descriptions of classroom decision situations were recognizable by the teacher who most often could recall the situation and talk about the incident and the thought processes that were occurring during that time.

The study

First grade teachers were solicited from a nearby school system as subjects for the study. The proposed study was first presented to the school system's research committee for approval. Once the study was approved, a brief description of the study was sent to all elementary schools with a request for the involvement of first grade teachers. Four teachers responded to this solicitation. The researchers met with each teacher to explain the purpose of the study, the procedures to be used, and the time demands the study would make on each teacher were explained. All questions that were raised by the teachers were answered.
After these meetings, one teacher declined to participate, leaving three subjects in the study, all women, two of whom taught in the same school.

During the spring of 1982 each of the three teachers was observed five times. On the first visit the observer focussed on the general organization, schedule and content of the classroom. After the observation the teacher was queried as to her general program goals and organization, her schedule and her instructional procedures. This observation and interview provided a context in which to describe and understand the classroom which would be observed in greater detail in subsequent visits.

On each of the next four visits, the classroom was observed for a period of about 45-60 minutes during which observations of ongoing classroom activities were recorded in a notebook. Following the visit the observer reviewed the notes taken and identified decisions that were made by the teacher during the observation. Descriptions of the teachers' actions and their contexts were abstracted. These observations were made at varied times in the school day.

The teachers were interviewed after school on the same day as the observation. Each of the decision situations was presented to the teacher who was asked to discuss it. Questions were raised as to why the teacher acted in a particular way and why she made the decision observed. These interviews were audiotaped and later transcribed.

Each transcribed interview was reviewed and statements of beliefs were identified independently by both researchers. After all the interviews were analyzed, the two researchers met and shared their analysis of the transcripts. Where there was agreement as to whether a statement constituted a teacher belief, these were duly noted. Disagreements were discussed until consensus was reached. Thus, all belief statements that
were included in the analysis were judged to be a belief statement by both researchers. These statements were then presented to the teachers who either confirmed or disconfirmed whether these statements truly reflected their way of teaching and the ideas that undergirded that teaching.

Analysis

Statements of beliefs were organized into ten categories, as follows:

1. Goals for Children's Behavior
2. Children's Needs
3. Classroom Management
4. Planning and Organization
5. Materials
6. Learning
7. Instructional Processes
8. Academics
9. Evaluation and Assessment
10. Home and Parents

Statements were placed into one of the ten categories. When it was felt that a statement reflected more than one category it was crosslisted and later reviewed as into which category it should remain. Repetitions of statements were eliminated or combined to make a single statement representative of the idea. The teachers' beliefs were then compared with one another. Statements were also divided into beliefs about values that represent the "oughts" and shoulds of education, and beliefs about fact. These latter were descriptive of attributes of schools, teachers, children, parents and other adults and the relationship between such attributes. These belief statements are presented in Appendix A.
Results

In analyzing the statements of beliefs collected, we found some interesting patterns emerging. There was a great deal of difference in the fluency of the teachers in generating belief statements. Teacher A generated 155 different belief statements and Teacher C generated 136 such statements. In contrast, Teacher B generated only 53 belief statements, only slightly more than one-third the average of the other two teachers (see Table 1).

In spite of the variance in the number of statements generated by each teacher, the proportion of value-oriented belief statements to technically-oriented belief statements was virtually identical among the three teachers: 60% technical or "fact" beliefs and 40% "value" beliefs. Another consistency found was that the same three categories generated the highest number of beliefs for each teacher, although not in the same order or with the same magnitude. For each teacher, the highest number of belief statements were in the categories Classroom Management, Learning, and Instructional Processes. Beliefs about classroom management accounted for over one-third of Teacher B's statements (see Table 1).

In all, sixty-seven of three hundred forty-five (19%) statements of beliefs were held in common by the three teachers in our study. These were identified as belonging to six of the ten categories: Goals for Children's Behavior, Classroom Management, Planning and Organization, Materials, Learning, and Instructional Processes. No statements of belief were
identified for Teacher B in the categories Children's Needs or Home and Parents. In two other categories, Academics and Evaluation and Assessment, no beliefs were found that were held in common by all three teachers (see Table 1).

The category Organization and Planning contained four common beliefs: The teacher must establish priorities in learning; Children should be used as learning resources for one another; Children should have choices within limits; and Adults can be used as resources to provide additional help to children. Three beliefs were held in common by these teachers in each of two categories. In Classroom Management, these were: Teachers control children's behavior through proximity; Teachers come to know children and are able to predict what they will do; It is important for children to pay attention in class. In Learning they were: Children go through developmental stages; Practice and repetition are important for learning; and Interest and motivation are reflected in the amount of persistence a child expends on a task or project. In the category Goals for Children's Behavior, two beliefs were held in common by the three teachers: Children should learn to be responsible; and Children should learn to work independently. In addition, one common belief in each of the remaining two categories was found. In Materials: Young children need concrete materials to learn abstract concepts; and in Instructional Processes: Children should receive immediate feedback on their academic work.

Teacher A and Teacher C taught in the same school and had worked together to develop a coordinated reading program. Sixty-one of the 345 beliefs (18%) were held in common just by these teachers. Common beliefs were found in each of the ten categories for these two teachers alone.
Learning contained four common beliefs: Children need certain basic understandings in order to use an experience; if children understand something, they will remember it; if children can explain something, they understand it; and Children's abilities are often underestimated by adults. Academics contained four common beliefs: Children should have successful experiences in school; Children should read at their success level to sustain their interest in reading; The proper sequence of reading is important: silent reading should precede oral reading; and Skill areas should be integrated. Children's Needs contained three common beliefs for Teacher A and Teacher C: Children need to be respected; Children need to be kept busy; and Children need 'breaks' during the day. In the categories of Classroom Management and Planning and Organization, two common beliefs were found for the two teachers. In Classroom Management: Control is established through eye contact, physical touch and praise of on-task behavior, and Groups of children differ from year to year; and in Planning and Organization: Advance planning is important for good teaching; and Teachers require assistance to leave familiar patterns of organization and instruction. In the category Goals for Children's Behavior the common belief was: Children should learn to develop self-control. The common belief in the Materials category was: The use of games is valuable for learning. Instructional Processes contained one common belief: The role of the teacher is to guide, facilitate, cue, and decide when children are ready to learn. Evaluation and Assessment contained the common belief: Children can be evaluated from what they say and what they do. The common belief that Parents' perceptions of the teacher's program are important was found in the category Home and Parents.
Teacher A and Teacher B held twelve beliefs (3%) in common. These fell in five categories: **Classroom Management**: Children should remain task-oriented; **Learning**: Children's level of attentiveness influences what they learn, and Children control their own learning; **Instructional Processes**: Children are competitive; **Academics**: Learning decoding skills is a necessary first step to success in reading; and **Evaluation and Assessment**: It is important for children to correct their own work.

Teacher C and Teacher B also held eighteen beliefs (5%) in common. These fell into three categories: Four of these were related to **Classroom Management**: There is a hierarchy of steps that should be followed in disciplining a child; it is better to prevent misbehavior than to correct it; There is a 'ripple effect' to misbehavior (it spreads); and, Consistency of adult behavior is important. There was one in the category **Learning**: Children's creativity is important; and one in the category **Instructional Processes**: The lowest group of children needs more of the teacher's attention than other groups in order to learn.

Although all three teachers held some beliefs in common and some additional beliefs were held in common by each pair of teachers, individual teachers held additional beliefs which related to their curriculum decisions in the classroom and were characteristic of them alone. Teacher A's belief system included additional beliefs consistent with the operation of her program. Of the twenty-one beliefs abstracted for her that were not held in common with the other teachers, fifteen dealt with children (e.g., it is important for children to develop self-confidence; Children reach a point of understanding where everything fits together and makes sense). Four additional beliefs dealt with the teacher's role (e.g., Teachers work harder at what they enjoy). The child seemed to be foremost in the mind of
Teacher A. Even her statements of belief regarding the teacher's role were aimed toward creating an excellent instructional program for the children (e.g., Teachers should respond to individual differences in children through providing enrichment experiences and by changing teaching techniques; and, Teachers should set high standards for students' work.) Teacher A felt that: Children model their teacher's behavior. She stressed the importance of each child developing self-confidence which to her was crucial to learning. She believed that in order for a child to make rapid progress in learning to read, the reading process had to make sense to the child. She also believed that children should learn to accept their mistakes and learn from them. She felt that insight and information about the child resulted from meeting the child's parents.

Teacher C's additional nineteen beliefs also show a unity which can be characterized as a belief system; eleven deal with the teacher's role and six with children. Teacher C believed that Teachers were responsible for children's learning and for the success or failure of a lesson. She believed Adults in the classroom should follow the teacher's model. The teacher was seen as controlling instruction and being responsible for providing motivation and effective instruction to children. Teachers' self-evaluation was important and improvement in teaching could be achieved by reflection upon the teaching process. Although Teacher C's beliefs relating to children were fewer than those relating to the role of the teacher, they seemed equally important. She believed that Children should develop an acceptance of others, that Children needed praise, love and acceptance, that Children need to feel that their teacher was responsive to their needs, and that Children should be made to feel good
about what they had learned. The information children obtained outside of school was seen as important by Teacher C.

Teacher B's additional beliefs related to classroom management and the instructional processes regarding reading and math. Not only did she believe that Rules are important, but that Children should know the consequences of breaking a rule. She believed that Additional adults in the classroom provide controls for children as well as assistance to them and that A quiet classroom facilitates learning. She believed that Reading and math content should be segmented into sequential steps to be mastered progressively, and that Tests are valuable for diagnosis and evaluation. The quality of children's work, she felt, is related to the amount of time spent on the task.

Discussion

This study was designed to develop and test a methodology for identifying teacher's belief systems related to their classroom practices. It was felt that these beliefs or constructs would be most manifest in the decisions teachers made in the classroom. Thus the methodology, building upon case study methodology, focused on the observations of classroom practices of a few teachers followed by querying these teachers regarding the decisions observed in the classroom. We found that the methodology was indeed fruitful and results were confirmed by the teachers as reflecting their views.

We also found that there seemed to be a limit in the number of different beliefs that were generated by each teacher. Our first observations and interviews with teachers established a context for the study. We then observed and interviewed each teacher four additional times, focusing on
observed decisions and discussing the basis for these decisions. In analyzing the results of these interviews, we found that the fourth interview produced a high degree of redundancy with little, if any, new information generated. Thus, in a second study (not reported here), we used only three observations/interviews and, interestingly, generate a larger number of separate belief statements.

One can question whether in these interviews we indeed identified all the beliefs held by these primary teachers in relation to the various factors of education. The lack of new material in the last interview suggests that this might indeed be the case. If so, then the differences among teachers may be a function of the number and kind of beliefs each held. The fact that one teacher only articulated one-third the number of beliefs of the other two, however, may only be a function of personal reticence. Also, the beliefs available to us may have been limited by the consistency of the first grades observed in this study. Even though observations were made on different days of the week and different times of the day, there were limits to the range of activities observed.

With the methodology developed, we were able to arrive at a distillation of beliefs or constructs that we could reflect back to our teachers who confirmed that these did seem to represent their views about education. The manner in which these beliefs were generated, focusing on theories-in-use rather than espoused theories, would lead them to be consistent with each teacher's practice. Thus, the typical theory/practice dichotomy often discussed in the literature of teaching was avoided. What we did get was not a set of statements related to courses of study these teachers might have taken in their preparation or to books they might
have read, but rather statements about what they as teachers did and how they thought about what they did in daily practice.

The consistencies we found were intriguing. There was an almost identical proportion of value statement to technical statements of belief. Thus, teachers' actions were related to both a value theory that they held and to a technical theory. In spite of the variance in number and spread of statements, the proportion of value statements to technical statements (40:60) was consistent among these teachers. While values are of high importance in deciding what to do in the classroom, there is a higher level of beliefs about the technology of teaching that undergirds these teachers' decisions.

The fact that the three categories: classroom management, learning, and instructional processes predominated in the statements of all of our teachers may reflect the focus of teaching in the primary classroom. A class needs to be well managed for any teaching to occur; disruptions must be dealt with somehow. Once management is accounted for, the focus of the teacher is on instruction and learning. This is the prime role of the school and those beliefs are related to the purposes of primary education and what teachers need to do to achieve these purposes.

Beliefs held in common by our three teachers were identified in six of our ten categories. In two others, one teacher had no statement at all. Within the beliefs held in common by these teachers are statements related to the nature of children, that they go through developmental stages, that there is a regularity to their actions that allows the teacher to predict behavior, and that their interest and motivation is reflected in their work. Except for the idea of stage development, taken together these beliefs do not reflect any single developmental theory.
The teachers also reflect elements of several rather than one consistent theory of instruction. Thus immediate feedback and practice are important in children's learning, but so is the availability of concrete materials. There are also important value statements that underlie these teachers' decisions that are related to the democratic ethic: children should work independently, and freedom within limits is valued. The use of children as resources also suggests that cooperation is valued. But it is the teacher that sets priorities in these classrooms and uses herself to control children's behavior, often by just being near a child.

Beyond these similarities, each teacher shared some belief with one other teacher which were not shared with the third. Finally, there were some beliefs articulated by each teacher which were not articulated by either of the other two. These latter beliefs might be considered as reflecting the individual styles of the teachers. Teacher A tended to be more child-centered in her beliefs. Teacher C tended to be more teacher-centered in her beliefs. Teacher B tended to be more management-centered in her beliefs. While our impressions were that this reflected the way that each teacher operated in the classroom, there was no attempt made to systematically determine if this was indeed the case.

Possibly more important than identifying common beliefs would be exploring each teacher's individually held beliefs. These beliefs, related to each teacher's style, need to be investigated further.

Conclusions

Two questions were addressed in this study. Based upon the results we reported, we have reached the following conclusions related to each of these.
1. Is there a system of professional teacher constructs that can be identified in early childhood teachers?

Our answer to this question is a tentative "Yes." We were able to identify common beliefs held by teachers who were quite different in style. These were related to the purpose and organization of the primary school. Just as these three teachers share these common beliefs, so other teachers might share them as well. In addition, it is possible that many of those beliefs shared by two out of three of these teachers are also more universally shared by teachers in the primary grades. Whether this is the case can be tested in future research.

In addition, it would be important to see if teachers at other levels of early childhood education share beliefs in common with these teachers. In our preliminary analysis of a study of preschool teacher beliefs we found no beliefs held relating to Evaluation (although there were many relating to Goals for Children's Behavior). In addition we found that one category, Children's Learning, had to be modified to include both statements about learning and about development. Further analysis will help us see the degree to which preschool and primary teachers hold beliefs in common.

2. To what role dimensions of teaching are these constructs related?

In the constructs shared by the three teachers, the beliefs were related to the role of classroom manager and instructor. Few beliefs were shared relating to the nurturing role of the teacher or the other roles in which teachers function. Even in the role of classroom manager and instructor, not all of the beliefs held by each teacher were shared.

This particular study was related to first grade teachers. Future studies have been developed to identify beliefs held by preschool and
kindergarten teachers. We are interested in seeing what beliefs teachers at these levels have and to what extent they are consistent with those held by primary teachers. The research program as a whole represents an attempt to identify beliefs held in common by all early childhood teachers as well as to identify beliefs systems held by individual teachers within the field.
References


Table 1
First Grade Teacher Beliefs:
Statements of Values and Facts

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<th>Teacher C</th>
<th>Teacher B</th>
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