TEACHER SELECTION UTILIZING THE PROJECT EMPATHY INTERVIEW AND THE EDUCATIONAL PRACTICE BELIEF INVENTORY INSTRUMENTS

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INTRODUCTION

One of the major efforts to improve education in America through legislation was initiated by the accountability movement. In 1975, Hawke reported that thirty seven states had passed legislation related to accountability.[1] Accountability legislation usually mandated increased parent involvement and teaching by objectives within local districts. Increasingly, schools are finding themselves in the position of having to cope with improvement programs thrust upon them by forces outside of their systems. Currently, the teacher competency movement appears to represent one of the latest attempts by forces outside of the educational system to improve education.

In addition, the decline of standardized test scores over the past three decades, coupled with increased taxes, has increased public skepticism regarding the effectiveness of public education. Feelings of uncertainty and mistrust regarding education have placed public education under a great deal of pressure. It appears that unless school systems begin to improve, public confidence in education will continue to decline.

One way to increase public confidence in education is to have well-qualified staff members to implement various educational programs in the school systems. The local school system has two primary methods it can readily employ to insure a well-qualified teaching staff. The first is

a staff development program. This method can serve as the vehicle through which teacher effectiveness may be improved by keeping the teacher informed regarding new educative developments. Rubin notes that too often a teacher's understanding regarding a discipline remains stationary, while the discipline continues to evolve and grow.[2]

The success of staff development in improving the instructional programs is somewhat uncertain. Staff development programs are most often planned and governed by school administrators, but Sergiovanni states that in order for staff development programs to become truly effective, they must originate from the teachers themselves.[3] According to Inservice Education, ways need to be developed to make staff development an integral part of professional practice.[4] In the final analysis, staff development programs must be designed to affect the quality of school programs for students and teachers.[5]

The second method by which a school can improve the quality of the teaching staff is through the selection of more effective teachers. Given this assumption, one of the primary functions of school administrators is to select effective teachers.

Lembo suggests that one of the primary thrusts in effective education is attempting to provide optimum learning for each student in the classroom, and most educators would agree that the teacher is the most important element of the optimum learning environment.[6] Historically, the supply of teachers has not kept pace with the demand. It was not until the late sixties that a surplus of teachers existed. Given the increasing surplus of teachers today, and the declining enrollment situation, school administrators find themselves able to select teachers from a large pool of certified individuals. For the first time,

administrators are able to address themselves to questions regarding selection of ideal teachers for specific school environments. Answers were needed regarding ways of identifying effective teachers. Was it possible to determine the characteristics of effective teachers and their educational philosophies? Would knowledge of these characteristics help administrators to select teachers for their school systems?

The Minnesota Teacher Aptitude Inventory instrument represents one method that educators utilized in the late sixties to provide answers to these questions. During the early seventies the Teacher Perceiver Interviewing instrument was developed in an effort to provide more complete answers about individual teaching effectiveness. Also in the early seventies, the Omaha Public School system attempted to develop a method they could use in their teacher selection process to identify effective teachers.[7] They desired to acquire sufficient information regarding a teacher to enable them to place each instructor at the school and grade level where he or she would be most effective. In 1971, a proposal was submitted through the Omaha Title III, Elementary and Secondary Education Act to develop a teacher selection model. The proposal was to develop an instrument for school administrators capable of predicting a teacher's success in the classroom; it was to be validated by student and administrator evaluation of teachers.

The Project EMPATHY proposal (Emphasizing More Personalized Attitudes Towards Helping Youth) was approved and received federal funds for research and development during 1972-1975. As a result of that basic research, the Omaha team identified eight life style themes to distinguish "effective" teachers from "ineffective" teachers. These themes were: (1) relationship, (2) democratic orientation, (3) rapport drive,

(4) empathy, (5) student orientation, (6) acceptance, (7) student success, and (8) work and profession orientation. The Project EMPATHY staff claims that the instrument enabled a school system to more effectively place a teacher within the district.[8]

The Educational Practice Belief Inventory instrument (See Appendix A), measuring a teacher's educational philosophy, is another method a school system could use to refine the placement process within the district. Dobson and Dobson believed that each individual possesses a creative potential for directing his or her own life.[9] But, because people have become increasingly reliant on outside forces, they are more reluctant to trust their own inner strengths. In trying to expose an individual's inner beliefs to himself or herself, Dobson, Dobson, Grahlman, and Kessinger sought ways to measure an individual's philosophical baseline, believing that an individual's philosophy forms the baseline upon which he or she will formulate his or her decisions about education.[10]

In seeking a way to measure an individual's educational philosophy, Dobson et al., designed two instruments. The first instrument measures what an individual believes from a philosophical standpoint and is entitled Educational Beliefs System Inventory, with the following subtests:

1. What do you believe about human nature?
2. What do you believe about motivation?
3. What do you believe about condition of learning?
4. What do you believe about social learning?
5. What do you believe about intellectual development?
6. What do you believe about knowledge?

7. What do you believe about society?

The second instrument, entitled Education Practice Belief Inventory, is composed of the following subtests:

1. What do you believe about instruction?
2. What do you believe about curriculum?
3. What do you believe about organization?
4. What do you believe about content?
5. What do you believe about materials and resources?
6. What do you believe about evaluation?

The authors believe that by comparing and considering the amount of congruence that exists in tests score results between these two instruments, an individual would be able to better understand his or her inner self and consequently be better able to analyze and improve his or her teaching effectiveness.

Both instruments measure educational philosophy in terms of the following philosophical spectra: (1) Behavioristic psychology-Idealism philosophy, (2) Cognitive psychology-Experimentalism philosophy, and (3) Humanistic psychology-Existentialism philosophy.

In selecting teachers, it is the conditions that will exist in any prospective candidate's classroom that should be of interest to a school district. These conditions can be measured by the subtests of the Educational Practice Belief Inventory instrument. Therefore, the only instrument to be used in this study will be the Educational Practice Belief Inventory.

In summary, if ways could be found to improve the teacher selection process, educational systems could be better able to identify those teachers who administrators feel show the greatest potential for

producing the highest student learning growth. This would result in the reduction of the amount of wasted effort and disappointment that a school system often experiences in the selection of teachers.

Statement of Problem

The major purpose of this research study will be to determine whether the Project EMPATHY instrument can identify individuals who would be classified as effective teachers by their principals. In addition, this study will determine whether a teacher's philosophy as measured by the Educational Practice Belief Inventory instrument is significantly related to effective teaching as perceived by principals. Answers to the following questions will be sought.

1. Do scores obtained by using the Project EMPATHY interviewing instrument distinguish between effective, moderately effective, and ineffective teachers as indicated by the principal's ratings?
2. Do scores obtained by using the Educational Practice Belief Inventory instrument distinguish between effective, moderately effective, and ineffective teachers as indicated by the principal's rating?
3. Is there any shared variance between scores on Project EMPATHY and the Educational Practice Belief Inventory instruments?
4. Is there any correlation between the eight subtests of the Project EMPATHY interviewing instrument and the three teaching philosophies identified by the Educational Practice Belief Inventory?

Purpose of the Study

The purpose of this study is to determine whether the Project EMPATHY and the Educational Practice Belief Inventory instruments can provide a school administrator with information that will prove useful in the teacher selection process. With the increasing use of the Project EMPATHY instrument, administrators need to know whether the instrument is, in fact, able to distinguish between effective, moderately effective, and ineffective teachers. More specifically, how valid is the instrument for selecting teachers, and what are its limitations? Also, with the introductory use of the Educational Practice Belief Inventory, administrators need to know whether this instrument will contribute significant information not already measured by the Project EMPATHY instrument and whether the Educational Practice Belief inventory instrument possesses any limitations that would affect its role in the teacher selection process. In addition, the reliability and validity of these instruments will be examined.

Background and Value of the Study

The ability of a school administrator to predict the performance of a teacher would be a valuable asset to the selection of effective teachers. Such information would allow the school system to better match the individual with a particular school's needs and philosophy. Schoff and Randles[11] along with Slaughter[12] see the personal interview as being the most important evaluation tool a school administrator has in selecting effective teachers.

If one accepts the position that the interview constitutes the single most important tool in selecting teachers, then one must address

the problem of why there is such wide variation in the effectiveness of teachers in the school system. Grandgenett, in his study of how school administrators judge teacher candidates in oral interviews and videotape demonstrations, found that there was little consistency among the administrators.[13] The author went on to recommend that administrators should develop valid and reliable instruments to use in judging candidates for teaching positions.

If a school system were to develop a teacher selection process that allowed for increased consistency and standardization, then it could improve the reliability of its selection process. One procedure that can be used to accomplish this goal would be to introduce valid teacher selection instruments into the teacher screening process.

Assumptions

The following assumptions were used in this study:

1. Principals can identify their three most effective teachers, three moderately effective teachers, and their three most ineffective teachers as definded in this study.
2. Effective teaching as defined in this study is based upon certain concepts and principles which are identified in the literature and are, therefore, assumed to be correct.

Limitations

1. Project EMPATHY and the Educational Practice Belief inventory were the only two instruments used in the study.
2. The data were collected from elementary schools employing at least 12 full-time teachers.

3. The sample population was chosen according to a school district's willingness to be a part of the study and not by random sampling.
4. The sample population would contain no first year teachers.
5. Those teachers who were identified as being either effective or ineffective must have been under the supervision of the principal a minimum of one year.

Definition of Terms

For the purpose of this study, the following definitions were used:

Educational Practice Belief Inventory

An instrument designed to measure which educational philosophy a teacher employs in his or her educational practices. The three philosophies measured are Behaviorism (Philosophy A), Experimentalism (Philosophy B), and Humanism (Philosophy C).

Philosophy A. Schools are psychologically based in Behaviorism and philosophically based in Essentialism.[14]

Philosophy B. Schools are based in Cognitive-field psychology and philosophically based in Pragmatism and Experimentalism.[15]

Philosophy C. Schools have their roots in Humanistic psychology and Existential philosophy.[16]

Project EMPATHY

A structured interview instrument designed to measure eight "life style themes" considered to be descriptors of outstanding teachers. The themes are: relationship, democratic orientation, rapport drive,

empathy, student-orientation, acceptance, student success, and work and profession orientation.

Relationship. A teacher with a strong relationship theme possesses good relating skills such as listening, patience and caring, and sees the building of relationships as the best way to help students grow and develop.[17]

Democratic Orientation. A teacher with a democratic orientation works out problems with students and sees supervision as being supportive and understanding. This person does not deal with problems in an authoritarian manner.[18]

Rapport Drive. This theme can be conceptualized as a teacher's ability to develop an approving and favorable relationship with each student. The teacher likes students and wants them to like him or her. A teacher with high rapport drive makes you feel comfortable when you are around him or her.[19]

Empathy. Empathy is the apprehension of the state of mind of another person. Empathy occurs when we put ourselves into the other person's place. We "feel" with him or her. Empathy is the phenomenon that provides the teacher feedback regarding an individual student's feelings and thoughts.[20]

Student-Orientation. This theme is basically a belief that students ought to be heard, understood, and dealt with as people first; and curriculum, materials, and public image should take second place.[21]

Acceptance. Acceptance is the ability to take a person "as is" and thus be prepared to help the person from where he or she is. It has been defined as "unconditional regard." Accepting teachers most

often have an "openness" about their feelings that make them more approachable by students.[22]

Work and Profession Orientation. This theme includes a variety of areas: work organization, professional relationships, and belief in one's profession.[23]

Summary

In this chapter, a framework has been presented in an attempt to show the importance of the teacher selection process upon the total educational organization. The background and rationale were presented for the instruments that were employed in this study to identify an individual's teaching effectiveness classification. Chapter II contains a review of the literature regarding the areas of major concern of this study. Chapter III presents a description of the population, instrument, and data collection procedures. Chapter IV contains the findings, conclusions, recommendations, and suggestions for future research.

FOOTNOTES

[1]Sharryl Hawke et al., State Accountability Activities on the Social Studies: A Nationwide Survey, a Proposed Accountability Model and Some Guidelines, a report to the Social Science Education Consortium, Inc., Boulder, Colorado, 1957, p. 7.

[2]Louis J. Rubin, "The Case for Staff Development," in Thomas J. Sergiovanni (Ed.), Professional Supervision for Professional Teachers (Washington, D.C., 1975), p. 34.

[3]Thomas J. Sergiovanni and Robert J. Starratl, Supervision: Human Perspectives (New York, 1979), p. 290.

[4]Ray A. Edelfelt, Inservice Education: Demonstrating Local Programs in Education (Bellingham, Washington, 1978).

[5]Ray A. Edelfelt, Inservice Education: Criteria for and Examples of Local Programs in Education (Bellingham, Washington, 1977), p. 4.

[6]John N. Lembo, Why Teachers Fail (Columbus, Ohio, 1971).

[7]Vicky W. Thayer, "Project EMPATHY - An Alternative Way to Hire Teachers," North Central Association Quarterly, Vol. 52, No. 4 (Spring, 1978), pp. 438-442.

[8]Ibid., p. 438.

[9]Russell Dobson, Judith Dobson, and John Kessinger, Staff Development: A Humanistic Approach (Lanham, Maryland, 1980), p. 10).

[10]John Paul Kessinger, "Perceptual Baseline System: An Alternative Strategy for Teacher Inservice Education" (unpub. Ed.D. dissertation, Oklahoma State University, 1979).

[11]John F. Schoff and Mary E. Randles, "Simulated Interview for Teaching Positions Conducted by Student Teachers and Administrative Interns," Science Education, Vol. 56, No. 2 (April/June, 1972), pp. 227-230.

[12]C. H. Slaughter, "A Proposed Screening Program for Elementary Teacher Candidates," The Journal of Teacher Education, Vol. 20, No. 3 (February, 1969), pp. 343-346.

[13]Donald J. Grandgenett, A Comparison of the Rating Given Ten Teacher Applicants by Ten Public Administrators After a Traditional Interview and a Video-Tape Teaching Demonstration (Omaha, Nebraska, May, 1972), p. 29. (ERIC, ED 083-183.)

[14]Kessinger.

[15]Ibid.

[16]Ibid., p. 20.

[17]Omaha Teacher Interview (Omaha, Nebraska, 1976), p. 3.

[18]Ibid.

[19]Ibid.

[20]Ibid.

[21]Ibid.

[22]Ibid.

[23]Ibid.

CHAPTER II

REVIEW OF LITERATURE

The review of literature focuses on materials in each of the following areas: (1) teacher selection, (2) effective teaching, (3) the Project EMPATHY instrument, and (4) the Educational Practice Belief Inventory instrument.

Teacher Selection

Historically, concern regarding the selection of teachers dates back to the 1600's when the British government first certified its teachers. During the same period, the Dutch Reformed Church expressed a desire that teachers should possess characteristics similar to those of the clergy. In the 1700's when Benjamin Franklin established his academy, he expressed concern regarding teacher quality. During the 1800's Horace Mann advocated that individuals desiring employment in a school should be examined.[1] As the various states gained their statehood, departments of education were created. These departments established varying standards for teacher certification.

In more recent years, school administrators learned that possession of a teaching certificate did not ensure successful teaching. Administrators, therefore, found it necessary to consider other factors in the selection of teachers. Castetter makes the following statement regarding teacher selection:

> As the process of securing competent personnel moves from the recruitment to the selection phase, a number of formidable problems confront the personnel administrator. These include establishing role requirements, determining the kind of data needed to select competent individuals from the pool of applicants; deciding what devices and procedures are to be employed in gathering the data; securing staff participation in appraising the data and the applicants; relating the qualifications of the applicants to the position specifications; screening the qualified from the unqualified applicants; preparing an eligibility list; and selecting suitable candidates for appointment by the board of education.[2]

Literature on teacher selection contains as many different opinions and criteria related to the process as there are authors. Perhaps this lack of consistency can be explained partially through a study conducted by DeLaurier, Moehler, and Schoettle.[3] One hundred fifty administrators were surveyed; the findings revealed that in the area of personnel interviewing and selection, seventy-five percent perceived their skills as inadequate, fifteen percent perceived their skills as adequate, and ten percent perceived their skills as superior. In another study, Merritt found that principals are attracted to teachers who appear to possess attitudes similar to their own. This similarity seemed to be more powerful than the candidate's qualifications. Merritt states that:

> The selection of teaching personnel is one of the main functions of educational administrators . . . . Very often the administrator's main opportunity to initiate change or strengthen certain features of the curriculum rest with decisions he makes regarding the selection of teachers . . . .[4]

Gorton states that a school system must identify and define the kinds of teacher characteristics and qualifications it desires at the start of its selection process.[5] Through establishing role requirements, schools can determine their priorities with regard to education. Castetter, Clifford, O'Steen, and the American Association of School Personnel Administrators recommend that the following items should be

considered in establishing role requirements for a teaching position: (1) a clear job description, (2) clear expectations for teacher behavior inside and outside of the classroom, (3) student characteristics, (4) teacher aptitudes, and (5) community expectations.

Collecting Background Information

Most school officials do not tend to base their teacher selection criteria on research studies but rather on non-empirical procedures. Some of the most common non empirical methods currently used for obtaining information on teacher applicants by school systems are described by Castetter as: (1) application, (2) selection test, (3) recommendations, (4) performance assessment, and (5) information from placement agencies.[6]

Once the preliminary background information has been gathered on a teacher, an interview should be conducted with those individuals who appear to possess the qualifications desired by the district. Koerner feels that much information regarding a teacher's background and experiences have already been obtained through the application process.[7] Hence, the interview session is the time to investigate a teacher's personality. Brannon visualizes the interview as a chance to observe the following: poise, enunciation, phrasing, posture, facial expressions, manner of dress, cleanliness, and mannerisms.[8] DeWitt feels that during an interview, the teacher will expand on his or her view of instructional methods and values, sometimes revealing a lack of compassion for students.[9] He recommends the following approaches in conducting an interview: (1) the interview should seek ways to break down communication barriers by sharing experiences about himself, (2) the

interviewer should ask the candidate to indicate preference on concepts or issues, (3) the interviewer may use continua to observe the applicant's problem-solving ability, and (4) the interviewer should ask autobiographical questions.

DeLaurier, Moeller, and Schoettle recommend the following regarding the interview process: (1) encourage applicant to talk freely during the body of the interview; (2) display sensitivity to the applicant's truthfulness, mannerism, stability, and motivation; (3) probe only to determine strengths and weaknesses; (4) avoid outward signs of approval or distress; (5) provide a general description of the district at the close of the interview; (6) sell the applicant on the position and the school by appropriate conduct; and (7) provide an applicant a chance to ask questions.[10] They also recommend the use of the following strategies: (1) questions generally should be phrased in the declarative form; (2) questions generally should be open-ended; (3) questions generally should be based on what the applicant has just said; (4) questions generally should be focused on the collection of prescribed data; and (5) questions generally should be phrased in the introductory part of the interview, so that the applicant understands that he or she should do the talking.

The information provided through the interview, along with the previous information collected regarding the teacher, should be compared with the role qualifications the school system has established. Those teachers who best fit the characteristics desired by the school system should be placed on an eligibility list and recommended for hiring.

Effective Teaching

For the past several decades, educators have been conducting studies in an effort to define effective teaching (Barr;[11, 12] Morsh and Wilder;[13] Castetter;[14] Getzels and Jackson;[15] and Bolton[16]). In spite of the vast number of studies that have been conducted, no single definition of what constitutes effective teaching exists. Teaching involves a personal relationship between two or more people in a variety of different situations; consequently, any definition of effective teaching is as vague and different as the range of human experience relative to teaching. In trying to establish a definition of effective teaching, it is first necessary to define good teaching. Ryans suggests that the concept of what a good teacher is depends upon the individual person's acculturation, past experience, and the value of attitudes he has come to accept.[17] Rabinowitz and Travers believe that unless one is prepared to make value judgments, then it is impossible to identify those factors which separate effective and ineffective teachers. From a researcher's point of view, the effective teacher does not exist perfect and clear, but is instead a fantasy of the human mind. There is no single teacher more effective than any other, unless someone so determines.[18]

Inherent to the problems of studying characteristics of effective teaching is the researcher's inability to measure or control all of the variables that effect the teaching process. Teaching is a complicated process, and instructors vary enormously in respect to their personality, maturity, intellect, and other characteristics. The Handbook of Research on Teaching, edited by Gage, dedicates an entire chapter to teacher effectiveness as characterized through an individual's

personality.[19] The studies reviewed by Gage, in general, indicated that personality traits of teachers were an ineffective beginning point in identifying characteristics of effective teaching. Schmuck and Schmuck have identified a number of factors which seem to influence the interpersonal relations that occur within the classroom.[20] These interpersonal processes were found to have an influence upon effective teaching, but they are so situationally oriented and interrelated that they are generally excluded from studies of effective teaching. Generally, effective teaching seems to be influenced by a number of other factors, such as: school climate, condition of school facilities, leadership of the principal, availability of instructional supplies and materials, and community support of education.

A major problem that exists in comparing studies on teacher effectiveness is the inconsistency of vocabulary used to describe or define effective teaching. Accordingly, it is difficult to develop an absolute definition of what constitutes effective teaching. However, reviewing a number of studies on effective teaching, it is possible to develop a conceptual definition of the term.

The review of literature on effective teaching will cover the following aspects: (1) a theoretical model of the factors that influence the teaching-learning situation, (2) a review of those traits which are generally related to effective teaching, and (3) a conceptual definition of effective teaching will be stated.

A Theoretical Model of Teaching

Through an understanding of those factors which influence teaching, the conceptual framework of what constitutes effective teachers can be

developed. McDonald and Elias have developed a theoretical model on teaching that expresses those variables they believe affect teaching and student learning.[21] First, the model analyzes those components which affect and influence the teacher. Secondly, the model analyzes those components which affect and influence the learner. Thirdly, the model analyzes those components which affect how the teacher and the student interact with one another in the learning environment.

In an effort to explain the various influences that affect teaching, McDonald and Elias suggest the model found in Figure 1. The model postulates four relationships that may affect the teaching situation.

1. An individual's behavior is often influenced by the behavior of others. The model illustrates how teacher performance and student learning performance are dependent upon a number of variables.
2. Student learning ability is influenced singularly or in combination by the following factors: student expectations, student characteristics, verbal aptitudes, cognitive styles, and student attitudes. Thus, what a student learns is affected by his or her behavior, psychological characteristics, and belief systems.
3. Teacher internal status and habits directly determine his or her behavior. An instructor's teaching performance is influenced singularly or in combination by the following factors: teacher characteristics, teacher knowledge of methodology and subject matter, teacher expectations, and teacher attitudes.
4. Teacher performance will be governed, to some extent, by the school system's structure and attitudes.

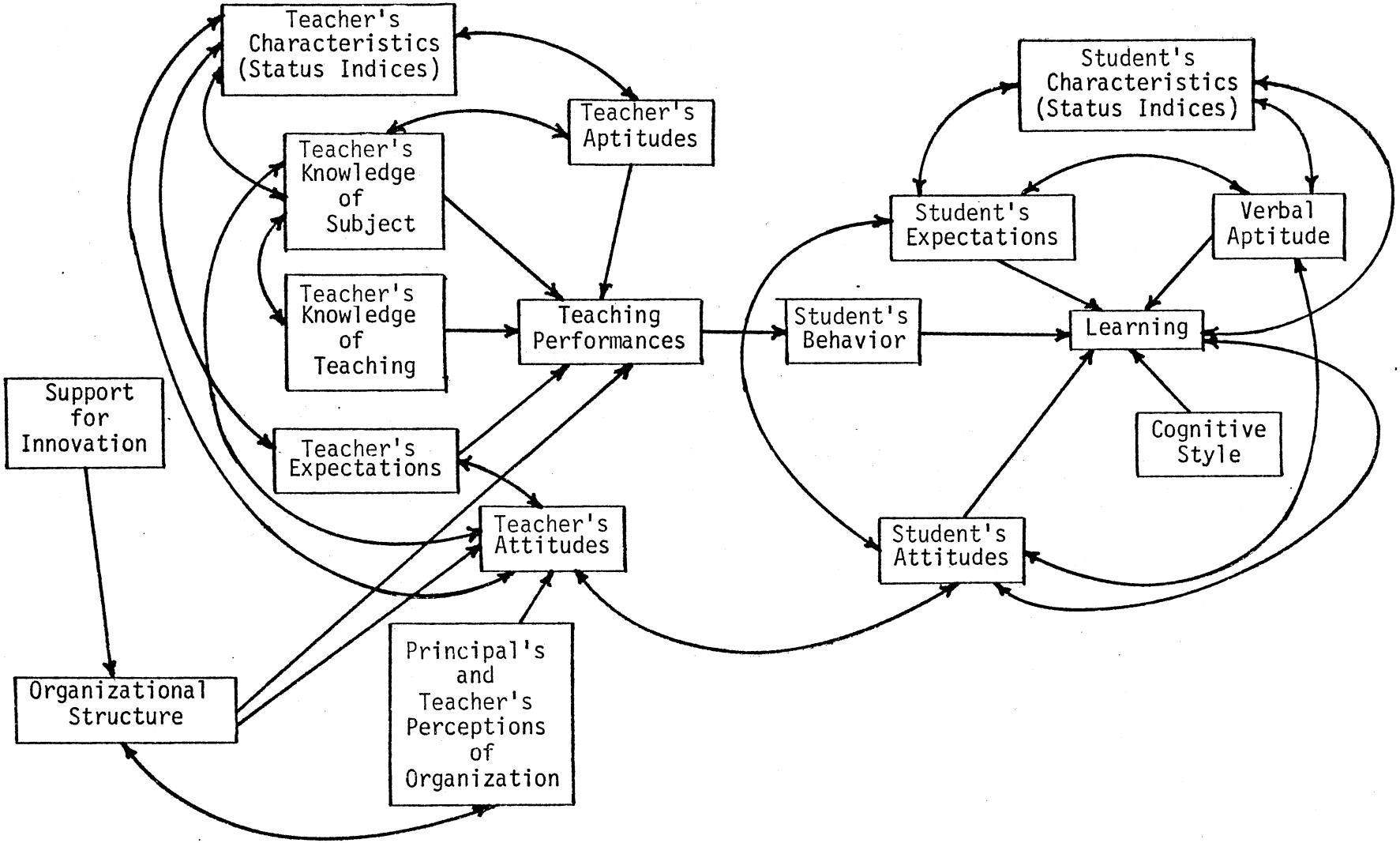

Figure 1. A Structural Model of the Domain of Variables Influencing Teaching Performances and Children's Learning

McDonald's model illustrates the many factors which influence the relationship between the teacher and the learner. In addition, the model explains why the literature does not contain a single definition of effective teaching.

A reader could identify a number of characteristics which might be considered relevant to effective teaching. However, only those primary characteristics of effective teaching that can be supported by the literature are discussed. Although there are inherent problems with studies on teacher effectiveness, in general, they do provide descriptive characteristics of observable teacher behaviors or traits. A number of characteristics which seem capable of measuring effective teaching follow.

Warmth

Warmth is a characteristic that continually appears in the literature on effective teaching. Ryans, in his classical study of teacher effectiveness, gives the following definition of warmth: "Pattern x = warm, understanding, and friendly versus aloof, egocentric, and restricted teacher behavior."[23] Gage sees warm teachers as displaying behaviors characterized by being approving, accepting, and supportive to students.[24] These teachers tend to speak well of their students and of other people in general. They tend to like and trust rather than fear and mistrust. Brophy found that teacher warmth was a predictor of student learning gains and, therefore, should be considered a characteristic of effective teaching.[25] Sizemore conducted a study in which students evaluated their teachers on effectiveness.[26] The students identified effective teachers as displaying a caring attitude with

regard to their pupils. In his own review of the literature, Mohan identified the following low-inference behaviors that help to establish the concept of warmth:

1. The teacher clarifies the feeling tone of the students in a nonthreatening manner.
2. The teacher accepts the feeling tone of the students in a nonthreatening manner.
3. The teacher praises student action or behavior.
4. The teacher encourages student actions or behavior.
5. The teacher jokes to release tension.
6. The teacher believes most pupils possess productive imaginations.
7. The teacher believes most pupils are resourceful.
8. The teacher believes that students can behave themselves without constant supervision.
9. The teacher believes that most students are considerate of his or her wishes.
10. The teacher believes that his or her colleagues are willing to assume their share of the unpleasant tasks.[27]

Mohan further states that if a climate of warmth, affection, and acceptance is important in the classroom, then a teacher who possesses certain other characteristics will have difficulty in establishing that atmosphere. The potentially problem characteristics include: (1) blatant nervousness, (2) poor self-concept, (3) belief that children are incapable of loving him or her, (4) conflicting interpersonal feelings and desires, (5) repressed emotions, and (6) little contact with innerself.

Indirectness

Indirectness has been shown to be positively associated with

teacher effectiveness. Mohan, in his review of literature listed the following characteristics as descriptors of indirectness:

1. The teacher permits pupils to discover underlying concepts and generalizations for themselves.
2. The teacher gives students less rather than more direct guidance.
3. The teacher asks questions.
4. The teacher encourages pupils to become active, to seek for themselves, to use their own ideas, and to engage in some trial and error.
5. The teacher varies the degree of guidance.
6. The teacher is more alert to, concerned with, and makes greater use of statements made by students.
7. The teacher asks long, extended questions with greater fluency.
8. The teacher deals with ideas in detail.[28]

Gage gives the following account of indirectness.

> This dimension consists of the degrees to which the teacher permits pupils to discover underlying concepts and generalizations for themselves, giving them less rather than more direct guidance.[29]

Questioning skills on the part of a teacher have been found to be a characteristic of effective indirect teaching. These findings were confirmed separately by Brophy[30] and Hamachek.[31] However, McDonald and Elias did an extensive study on effective teaching in second and fifth grade reading and math, in which they identified direct instruction as being positively associated with effective teaching.[32] Their definition of direct teaching includes many concepts that are generally associated with the concept of indirect instruction. Some of their examples of direct instruction are: (1) a teacher who explains what is to be learned, modeled, or elicits its elements by questioning; (2) a teacher who provides the appropriate conditions for attempting what is to be

learned; and (3) a teacher who provides feedback on how well the child is learning what is to be learned. In addition, they feel that direct instruction should occur in a setting in which the teacher has frequent direct individual interaction with the child, as illustrated by instruction in second grade math or reading.

Knowledge

Knowledge has long been associated with measures of teacher effectiveness, and its relationship is well illustrated by McDonald and Elias theoretical model on learning (see Figure 1), which shows the importance of a teacher's knowledge in relation to a teacher's performance.[33] Hamachek cites knowledge of subject as one of the main characteristics of good teachers.[34] Combs suggests that good teachers see themselves as feeling basically adequate rather than inadequate, thus implying a strong knowledge base in the area they are teaching.[35] Tikunoff et al. found that the more effective teachers displayed more knowledge of the subject.[36]

In his synthesis of the literature, Mohan suggests that the following behaviors could be considered descriptive of a teacher who possesses knowledge of subject:

1. The teacher defines objectives.
2. The teacher analyzes learning tasks.
3. The teacher sequences subtasks into hierarchies according to the characteristics of the learning tasks.
4. The teacher details sequence of subbehaviors.
5. The teacher matches subtasks with subbehaviors.[37]

Enthusiasm

Teacher enthusiasm has been cited frequently as a characteristic of effective teaching. Rosenshine conducted an extensive review of the research on enthusiastic teaching.[38] Conclusions were as follows:

1. Praise is frequently given by the teacher.
2. Eye contact is made frequently by the teacher with individual students.
3. Frequent pitch changes are made as the teacher speaks.
4. Gestures are often made by the teacher.
5. Opinions of others are respected by the teacher.
6. Questions asked by the teacher are varied.
7. Facts are often requested by the teacher.
8. Students are asked to interpret concepts by the teacher.
9. Rapid speaking is displayed by the teacher.
10. The teacher frequently moves about in the classroom.

Similarly, Gage defines enthusiasm as a teacher who delivers materials from memory with much inflection, eye contact, gesturing, and animation.[39] Sizemore conducted a study on teacher effectiveness by asking black and white ninth and twelfth grade students to rate their three most effective teachers. Of the specific behaviors noted, the ability to present materials interestingly was among the top four characteristics related to measures of student learning gains.[40]

Mohan's synthesis of literature suggests the following characteristics as being descriptors of an enthusiastic teacher. He or she (1) communicates a sense of excitement about the subject, (2) creates lively interest, (3) stimulates discussion, (4) is interesting or dynamic, (5) does not convey a feeling that he or she has an indifferent attitude

about ideas, and (6) is imaginative.[41] Ryans study on teaching identified three primary patterns of effective teacher behavior. He defines pattern z as descriptive of an enthusiastic teacher, one who is "stimulating, imaginative, and surgent versus dull or routine teacher behavior."[42]

Cognitive Organization

Cognitive organization represents one of the more difficult concepts of effective teaching to understand. Specifically it deals with how well the teacher understands and orders the concepts and principles that form the subject matter he is teaching. In addition, the teacher must be able to transmit his or her knowledge through a structured sequence of events so that the student is readily able to understand what he or she is to learn. Gage gives the following account of cognitive organization.

> These procedures call for behavioral definition of objectives and detailed learning structure (Gagne, 1955) that analyzed the steps involved in achieving a terminal behavior into hierarchies of subtasks.[43]

Hamachek listed several characteristics of good teachers which are appropriate to include under the heading of cognitive organization: (1) the ability to perceive the world from the student's point of view, (2) the ability to personalize teaching, (3) the provision of definite study guides, and (4) the provision of well-established examination procedures.[44]

Tikunoff et al. conducted an ethnographic study on effective teaching in grades two and five, in the areas of reading and mathematics, and concluded that cognitive organizational behavior is revealed

through: (1) transition from one instructional element to another with little abruptness being displayed and (2) less instructional time being devoted to busy work as a means of filling time.[45] Another behavior, that of having the ability to explain materials adequately, was identified by students as a characteristic of effective teaching in a study by Sizemore.[46]

Family-like Atmosphere

Family-like classrooms exist where student-to-student and teacher-to-student relationship behaviors can be described as warm, friendly, and accepting. Hamachek identified three characteristics of effective teaching that are applicable to the family-like atmosphere. These characteristics are:

1. use of a conversational manner in an informal, easy style of teaching,
2. reflections of an appreciative attitude (evidenced by nods, comments, smiles, etc.),
3. willingness to be flexible, to be direct or indirect as the situation demands.[47]

Combs identified descriptions of effective teachers which are related to family-like atmosphere. He noted that effective teachers relate with people rather than withdraw or remove themselves from others.[48] Sizemore, in his study of high school students, found that effective teachers displayed a willingness to help students with their work.[49] In addition, they found that these teachers displayed caring attitudes.

The ethnographic study conducted by Tikunoff et al. found that more

effective teachers established a classroom climate representative of a family-like environment.[50] Instruction was found to be related to one of the following dimensions when contrasted with the less effective teachers: (1) conviviality, (2) engagement, and (3) defiance. Conviviality is defined as mutual respect, motivated affection, friendship, and warmth of interaction between teacher and student. Engagement is defined as students being busy, involved, and achieving enough satisfaction and reward to continue at their task willingly. Students in more effective classrooms show little defiance as compared to the students in less effective classrooms.

Tikunoff et al. also believe that with regard to instruction there was more cooperation displayed between the student-to-student and teacher-to-student. Effective teachers were more attending, accepting, and optimistic. Attending can be defined as listening to students displaying care for students' needs through recitation and expression, head nodding, smiling, and verbal reinforcement. Accepting is defined as teachers' willingness to accept their student's behavior and adjust their own feelings to accommodate their student's. Optimism was defined as positive reinforcement of attitudes and feelings.

On-Task Learning by Students

McDonald and Elias hypothesized that in teaching reading to fifth grade students the following is critical.[51] A teacher should keep pupils on-task and sustain interaction with them while reading materials. In support of that idea, Fisher et al. found that the more academic learning time an elementary school student received (amount of time the student spends attending to academic tasks), the more likely he

or she would be to succeed.[52] In order to establish this kind of environment, Fisher believes that a teacher must provide the following sequence of activities: diagnosis, prescription, presentation, monitoring, and feedback.

Monitoring

McDonald and Elias feel that one of the teacher components needed to make direct instruction succeed is a process which provides feedback on how well the child is learning.[53] Tikunoff et al. view monitoring as one of the more effective instructional moves used by teachers.[54] Monitoring is accomplished through listening to students, moving about the room, and correcting student work.

Structuring

Ryans would see structure as being representative of pattern y. "The teacher is responsible, businesslike, and systematic rather than evasive, unplanned, and slipshod in his or her behavior."[55] Tikunoff et al. view structuring as relating to the type of activities students are doing in the classroom.[56] Structuring is characterized by the amount of student engagement taking place in the classroom when students are confident of what they are doing. In second grade reading classes, McDonald and Elias found that providing as much direct individual instruction as possible was an effective teaching procedure.[57] Brophy found that teachers who were task-oriented had more student learning gains.[58]

Flexibility

Flanders found that flexibility is associated with effective teaching and student achievement.[59] He postulated that there are certain conditions and times during teaching when the teacher must adopt an authoritarian, a democratic, or a laissez-faire role.

In a study of team teaching, Cunningham sought to identify the successful team teacher.[60] Among the characteristics he identified as being representative of effective team teaching were adaptability and cooperativeness.

In reviewing the literature, Mohan listed the following behaviors as descriptions of flexibility.[61]

1. A variety of behaviors are employed.
2. A variety of classroom activities are employed.
3. A variety of instructional materials are employed.
4. A variety of instructional techniques are employed.
5. A variety of reinforcements are employed.
6. A variety of feedback mechanisms are employed.

Tikunoff et al. state that one illustration of effective teaching is a classroom where cooperation of student-to-student and teacher-to-student is displayed.[62] Effective teachers are willing to share their classroom instruction time with other adults. While flexibility is not mentioned as a part of their findings, the situation they describe could not exist without a high degree of flexibility.

Another study in which flexiblity is implied is described by Bloom, where he indicates that a classroom must provide an environment characterized by: (1) communication and interaction; (2) motivation and

incentives for achievement; (3) availability of human models and examples of language, communication, and reasoning; and (4) opportunities for the understanding of the environment.[63]

The review of literature has shown that teacher effectiveness is made up of a number of different characteristics interacting on and between the teacher and the student. How a student learns is influenced by a number of variables; foremost among these variables is the teacher. McDonald and Elias in their study of effective teaching in second and fifth grades that a teacher's instructional performance accounted for 36 percent of the variance in student scores.[64]

For the purpose of this study, the researcher defines effective teaching as knowledgeable instruction with cognitive organization which is structured. In an effective teaching environment, the classroom displays a family-like atmosphere of warmth. Students are on task in indirect learning situations, and their work is monitored by a flexible and enthusiastic teacher.

Much of the work done on effective teaching has been confined to observable traits and has failed to take into consideration the importance of knowledge as a measure of a teacher's effectiveness. The amount of knowledge growth within a student has been largely ignored by teacher effectiveness studies. Therefore, it would appear that a very important dimension has been excluded from consideration in determining what constitutes effective teaching.

Project EMPATHY

While the Project EMPATHY concept originated within the Omaha Public Schools, a visual inspection of the two instruments will show it

bears a strong resemblance to the Teacher Perceiver Interview Instrument marketed by Selection Research of Lincoln, Nebraska. This resemblance is due, in part, to the fact that members of the Selection Research organization acted as part of the research consultant team for Project EMPATHY. The amount of literature that is available on Project EMPATHY is limited because the instrument is copyrighted by the Omaha Public Schools, and they have elected to restrict greatly the amount of information available on the instrument. Because of the copyright, a copy of the Project EMPATHY instrument will not be included in this study. However, the amount of information that exists on the Teacher Perceiver is more extensive and more readily available. Because the instruments are parallel in concept and purpose, a review of the literature regarding the Teacher Perceiver will be presented first, to be followed by information regarding Project EMPATHY.

Donald Clifton, President of Selection Research Incorporated, described the process that eventually developed the Teacher Perceiver instrument as essentially trial and error.[65] Initially Clifton was a professor at the University of Nebraska at Lincoln, where he directed many master's theses and doctoral dissertations dealing with the foundations of the instrument. Many of these studies employed paper and pencil tests in an effort to identify talented teachers.

The early developmental philosophy of the Teacher Perceiver instrument was provided in a study conducted by Bonneau who researched a way to develop a structured interview for teacher selection.[66] He found that there was a correlation of .67 between structured interview analysis and student rating. Several more studies were conducted to improve the instruments. In 1969, Lieske,[67] Winseman,[68] and Warner,[69] conducted

research with elementary teachers, vocational teachers, and K-12 teachers. They found a coefficient of correlation ranging from .85 to .92 between interview scores and student ratings. From studies like these, an interview process was developed which enabled researchers to analyze the thought patterns of the respondents. From these thought patterns emerged the idea of life style themes and the "listen fors," or the suggested response to the questions. As a result of these many studies, the first edition of the Teacher Perceiver Interview instrument was published in 1971.

Studies by Singer, Albert, Symonds and Boardman, Hart, Drucker and Remmers, Maslow, Hill, Rogers, Brookover, Drawhorne, Webb and Nolan, Cogan and Wieghts, provided the foundation around which the life style themes were developed.[70] These researchers revealed that highly rated teachers were usually willing to establish relationship between themselves and pupils. These relationships formed life style themes such as empathy and rapport drive. Eventually the following 12 life style themes were developed as a result of the research: mission, empathy, rapport drive, individualized perception, listening, investment, input drive, activation, innovation, gestalt, and focus. Preuss developed a validation study of the Teacher Perceiver.[71] Education professors at Concordia Teachers College were asked to rate their students with regard to their degrees of success as teachers. A 93 percent agreement was found to exist between how the Teacher Perceiver identified the student and the rating given by the college professors.

Coker did a study in Georgia with 16 schools.[72] He asked the central office administrators to identify two "outstanding" and two "not outstanding" teachers from each of the 16 schools. These teachers

were then given the Teacher Perceiver instrument. He achieved 90 percent agreement in identifying the teachers. The fifth edition of the instrument was published in 1978 and is widely used today.

While Project EMPATHY and the Teacher Perceiver are similar in many respects, Project EMPATHY is unique in that its birthplace and development occurred within the Omaha Public Schools.[73] Project EMPATHY attempted to find a way to measure the human qualities of an individual. In an effort to identify these human dimensions, the research team collected information of what constituted an "effective" teacher from thousands of students, teacher administrators, and parents. From these responses emerged eight life style themes, which are considered characteristic of effective teachers. The themes are: (1) relationship, (2) democratic orientation, (3) rapport drive, (4) empathy, (5) student orientation, (6) acceptance, (7) student success, and (8) work and profession orientation.

In the development work done on Project EMPATHY, students and administrators separately rated 387 teachers who volunteered to be a part of the research project. The rating instruments consisted of a Likert-type response scale. The highest score a teacher could receive on any single question was 3.0. The mean score for the sample was 2.4; thus any teacher scoring above 2.4 was considered to be an above average teacher.[74]

In order to establish the Project EMPATHY instrument, a way was needed to distinguish the average teacher from the above average teachers. The researchers wrote 125 low stress, open-ended questions which centered around the eight life style themes. The 387 teachers were then asked 125 questions, with their responses being tape recorded.

These responses were later transcribed. Each individual response was placed on an index card with a number to identify the teacher. The cards were grouped by questions and then sorted according to similar response types. The staff then placed the appropriate teacher rating on each card, as established by the student and administrator rating forms, and a scattergram was developed for each question. Those teachers who scored above 2.4 on any one question would have had to consistently give the same type of response in order for that response to be considered valid in discriminating between average and above average teachers. If the average teacher gave the same kind of response as did the above average teachers, then the question was considered invalid because it could not discriminate between what average and above average teachers stated. Of the 125 questions asked, only 32 were found to be able to discriminate between average and above average teachers. These responses formed the "listen fors" used for the various life style themes.

Educational Practice Belief Inventory

If one of the primary purposes of the teacher selection process is to improve the school, one must be willing to take into account the teacher as an individual with distinct attitudes, values, and beliefs. One must note that, when the teacher enters the school, he or she does not leave his or her personal chacteristics behind. Dobson and Dobson note:

> As teachers assume the role of teacher with all the predetermined appropriate skills and behaviors they accept an imposed reality created by the institution which may or may not match personal reality, the values and beliefs of the teacher.[75]

Accordingly, a person is only effective to the degree that his or

her actions are in congruence with his or her philosophical beliefs. When a person's actions do not reflect his philosophical beliefs, the result is incongruence and less effective teaching.

> Hedges and Martinello established that the philosophy of the school when implemented in daily practice gives education wholeness, direction and purpose. Therefore, the values and assumptions comprising a philosophy of education provide the basis for practices which have integrity, consistency and meaning to both the teacher and the learner.[76]

The above statement illustrates the importance of being able to assess an individual's educational philosophy when screening individuals for a teaching position.

The Educational Practice Belief Inventory is a 69 item instrument. Each subtest has the same number of questions relating to three distinct educational spectrums: (1) Behavioristic psychology-Idealism philosophy, (2) Cognitive psychology-Experimentalism philosophy, and (3) Humanistic psychology-Existentialism philosophy. The teacher is asked to judge each statement from the viewpoint of "this is what I really believe" and not "this is how it is now." The possible response categories are: (1) complete agreement, (2) moderate agreement, (3) uncertain, (4) moderate disagreement, and (5) complete disagreement. Each subtest is designed to yield scores which will correspond to the three particular educational continua.

Results of the Educational Practice Belief Inventory instrument can be used by a school system to formulate a mental picture of the type of behavior a teacher is likely to display in the classroom. With this information, a school system should find it easier to effectively match teachers with their stated role requirements.

Summary

In developing an operational definition of effective teaching, the writer has attempted to isolate from the literature those characteristics that are usually associated with this concept. The Project EMPATHY instrument appears to have the ability to identify effective teachers. While the value of the Educational Practice Belief Inventory instrument, with regard to identifying effective teachers, is uncertain at this time, the instrument does appear to be viable in this regard. The additional information that the Educational Practice Belief Inventory instrument provides about an individual could allow school administrators to place effective teachers most effectively within the district.

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CHAPTER III

METHODS AND PROCEDURES

Introduction

The purpose of this study is to determine if the Project EMPATHY interview instrument and the Educational Practice Belief Inventory instrument can be used in the teacher selection process to identify effective teachers. The reliability and validity for each of the instruments will be examined, as well as the amount of shared variance that exists between these two instruments. Included in this chapter are: description of population, description of instrumentation, and procedures used in data collection and analysis.

Description of Population and Sample

The 12 elementary schools that were a part of this study were located within two communities in Oklahoma and one community in Kansas. Six of the elementary schools studied were located in central Oklahoma in a community with a population of 36,000. Five of the elementary schools included in the study were located in a Northeastern Oklahoma community with a population of 36,668. The one Kansas elementary school was located in the Southeastern portion of the state, in a community with a population of 18,116. The enrollment varied from 253 to 647 students in these elementary schools.

The sample population consisted of 105 teachers. Of this number

five were kindergarten teachers; 23 were first grade teachers; 16 were second grade teachers; 15 were third grade teachers; 16 were fourth grade teachers; 11 were fifth grade teachers; six were sixth grade teachers; two were special education teachers; one teacher was with a first and second grade combination; two were teachers with a combination second and third grade classroom; two were teachers with a third and fourth grade classroom; one was a teacher with a fourth and fifth grade classroom; one was a teacher with a fourth and fifth grade classroom; two were teachers with a combination of a fifth and sixth grade classroom; one teacher was a Title I math teacher; and one teacher had a fourth, fifth, and sixth grade classroom combination. No junior high or high school teachers were included in the study. See Appendix B for the means and ranges on some selected demographic variables.

Demographic Data

Eight demographic variables were measured (see Appendix C) because of the possibility that such factors could singularly, or in combinations, affect respondents. The eight possible intervening variables were: (1) Degree, refers to the highest college degree earned by the respondent; (2) Years in teaching, refers to the number of years the respondent has been a teacher; (3) Gender, refers to whether the respondent was male or female; (4) Age, refers to how old the respondent was in years; (5) Grade teaching in, refers to which grade or combination of grades the teacher taught; (6) School, refers to the particular instructional unit with which the respondent was identified; (7) School district, refers to the school system which employed the respondent; and (8) Instructional setting, refers to the instructional environment that

is established between the teacher or teachers and the students, with the following possibilities:

Self-contained. The students receive their instruction in a single room from one teacher.

Team teaching. Two or more teachers work collectively together to provide the instruction program for a group of students.

Platoon. The instructional program for a group of students is shaped by two or more teachers, in separate classrooms, who are specialists in given areas of the curriculum. The students may remain with one teacher for one-half of the instructional day and then rotate to other teachers for the balance of their instructional program.

Open. The instructional program is shared between teachers and carried out in a building without many internal walls.

Ungraded. Students are grouped together across various age levels and receive their instruction from a number of teachers.

Self-contained and Platoon. Two teachers are responsible for the instructional program of a number of students within a large classroom. Each of the teachers provide instruction to the students only in their area of expertise.

Self-contained and Open. The instructional program is conducted in a building without walls and a single teacher is responsible for the instructional program of a single group of students.

Self-contained and Team Teaching. Two or more teachers are jointly responsible for the instructional program of a group of students within a single room.

Team Teaching and Open. A group of teachers working together to provide the instructional program within a single curriculum area. The

building area is without walls.

Instrumentation

Data Collection Instruments

For the purpose of this study, data were collected using the Project EMPATHY interviewing instrument and the Educational Practice Belief Inventory instrument. The teacher scores on these instruments were then compared to each individual's effectiveness ratings as perceived by his or her principal.

Project EMPATHY

Muller and Goodwin conducted a study on the 32 question Project EMPATHY interview instrument in 1974.[1] One-hundred-and-one teachers, who were already employed by a school district, were given the Project EMPATHY interviewing instrument. The students and the administrators associated with these teachers were asked to rate each of their respective teachers, utilizing rating forms that had been developed by Selection Research, Inc. A comparison was then made between the student and administrator ratings of these teachers and the five-point rating scale that the district was currently using to evaluate its teachers. The correlations were:

1. Current district evaluation scale to student rates, $r = -.03$.
2. Current district evaluation scale to administrator ratings, $r = -.04$.

The correlations between the Project EMPATHY interviewing instrument and the student and administrator ratings were:

1. Project EMPATHY results to student rating, $r = .44$.

2. Project EMPATHY results to administrator rating, r = .23.

According to the researchers, Project EMPATHY results relate to student and administrator ratings significantly better than do current district evaluation results. Additional conclusions from the study indicate: (1) the structured interview process when scored by trained analysts can identify "successful" teachers; (2) the selection interview used in the project predicted teacher success, in terms of student and administrator ratings, at significantly higher levels than the process currently used by the studied school district; and (3) the criteria for teacher effectiveness used in this study were reliable and valid.

Thayer, in an article on the Project EMPATHY interviewing instrument, explains the instrument's ability to predict teacher success.[2] She reports that in the 1974 study 100 teachers hired in the conventional manner later were given the Project EMPATHY interviewing instrument. Each teacher's responses to each of the 32 questions that comprise the Project EMPATHY instrument were scored by two trained raters. These raters then made predictions as to how their findings would compare to the student and administrators' ratings of these teachers. The predictions agreed 85 percent of the time with the student rating and 91 percent of the time with the administrator ratings.

The reliability and validity of the Project EMPATHY instrument can only be maintained when it is scored and administered by a trained analyst; therefore, the Project EMPATHY staff is aware of the importance of training administrators how to conduct and interpret the instrument. As a part of its dissemination process, the Project EMPATHY staff conducts three-day workshops to train individuals how to administer the instrument and interpret the responses given by an interviewing teacher.

This workshop seeks to develop an inter-rater reliability of at least 85 percent in those individuals who attend. Inter-rater certificates are awarded to those participants who achieve the minimum 85 percent competency. The author of the current study has been certified.

Scoring of the Project EMPATHY instrument is accomplished by asking four questions in each of the eight life style themes. Each response given by a teacher is measured against the "listen fors" response developed by the research project. A correct response (matching a "listen for") is given a plus; an incorrect response is given a minus. Then the number of positive responses are added together to give a grand total for all of the 32 questions. Adding together all of the positive responses within each life style theme and comparing the results of the various themes will allow the interviewer to develop a profile on the candidate.

During a training session attended by the author, the Project EMPATHY staff gave the following guidelines in regards to total scores on the instrument: (1) an average elementary teacher's score is 11-15; (2) a very good elementary teacher's score is 16-18; and (3) a superior elementary teacher's score is 19 or over. The Project EMPATHY staff urges administrators not to use these scores as "cut offs." Instead it suggests that an administrator look at a teacher's subtest profile as an indicator of a candidate's strengths and weaknesses. They propose that such a process will allow the school system to place the teacher where he or she will be best able to succeed.

Educational Practice Belief Inventory

The Educational Practice Belief Inventory asks questions which are

grouped together in six subtests, making it possible to obtain a philosophical educational profile. The developers of the Educational Practice Belief Inventory obtained jury validation by submitting the instrument to individual curriculum authorities at three major midwestern universities who rated the items as they related to the three education schemes being measured. Reliability was obtained through the use of the Cronbach Alpha Internal Consistency Reliability Scale. The Cronbach Alpha study was reported by Kessinger for the Educational Practice Belief Inventory.[3] With an N of 427, the following correlation coefficients obtained were: Philosophy A .790, Philosophy B .800, and Philosophy C .825.

The Educational Practice Belief Inventory may be either hand scored and graphed or machine scored and graphed. A Statistical Package for the Social Sciences computer program has been developed, along with a Fortran plotting program, so that the answers may be recorded on a standard answer sheet. Scoring of the Educational Practice Belief Inventory includes a score for each question in each particular subtest, resulting in subtest scores for each of the separate educational schemes. Each subtest total is then divided by the number of questions in that subtest educational scheme. The resulting mean score represents an individual's position in respect to a particular subtest area. A composite mean score for a particular educational scheme may be obtained by totaling the subtests within a particular scheme and dividing by the number of subtests within that scheme. A score of one represents complete agreement; a score of five represents complete disagreement; and a score of three represents uncertainty of one's feeling in respect to the item being measured in the subtest.

Collection of Data

Selection of Schools

School systems often have special problems that are unique from district to district due to clients, location, etc. One method that school systems can use to solve these problems is to employ personnel who possess special talents to correct the situation. Often, the need for these special skills will influence who is employed within a school system; yet, all schools desire to consistently employ the best teachers that are available.

It can be assumed that all school systems seek to employ individuals who would be classified above average in teaching effectiveness; therefore, it would be illogical for this study to attempt to find control schools who deliberately select ineffective teachers. For the purpose of this study, only urban elementary schools will be used, based upon the assumption that the urban community is more representative of the type of living environment in which the majority of Americans now reside. An urban community will be defined as any town or city having a minimum population of fifteen thousand or more, but not including those large cities which would be classified as metropolitan communities. It can be further assumed that schools generally reflect the wishes and needs of the community they serve; consequently, a population sample drawn from urban communities would be representative of the typical American school.

Because of the sensitive nature of this study and the trust level required of a principal to identify and classify his or her teachers, a decision was made to seek out those school districts that were

interested in improving their elementary teacher selection process and that would not feel threatened by the presence of a researcher within their schools. Utilizing the expertise of the Oklahoma State University Department of Educational Administration, the researcher identified five school districts as being potentially receptive to the research study.

Once these districts were identified, the superintendents of the five districts were contacted by telephone. A brief summary of what the study would entail was described to the superintendent. Each superintendent was informed that he would be mailed a copy of the proposed research study, and a date was established for a follow-up telephone call to determine if he would be interested in hosting a portion of the study. Next a conference meeting was arranged with the superintendent and or the elementary principal group in four of the districts contacted. Of the four districts where the preliminary meeting was held, one district elected not to be a part of the research project, leaving three districts involved in the research study. Within these three districts, a total of 12 elementary principals were identified that were willing to be a part of the study. The principals involved in the study were given common instruction concerning how the research study would be conducted within their respective school. The conceptual definition for effective teaching was discussed with the principals, in an attempt to insure uniformity of its interpretation. Each of the 12 elementary principals involved in the study then selected the appropriate number of teachers from their school to be involved in the study, according to the three effectiveness categories based upon the conceptual definition provided. A date was established with each of the individual principals when the

research study would be conducted in each particular school. Each of the elementary principals was asked to establish a schedule, allowing a 35 to 45 minute block of time for each teacher selected, during which the Project EMPATHY interview instrument was to be conducted. During each data-gathering day, a substitute teacher moved from one classroom to another, thus freeing the nine individual teachers to take the Project EMPATHY interviewing instrument. The data-gathering process was thus accomplished during one school day per school. All respondents in the study were assured anonymity.

In one school district the principal of the smallest elementary school in the system requested to be a part of the study. A decision was made to allow that school to participate; however, only a total of six teachers (two per group) were included in the research study. All of the other 11 schools had nine teachers involved in the research study, resulting in a total sample of 105 cases. One principal in the study refused to place three teachers within her school into the below average teacher effectiveness group. Consequently, the principal elected to place three teachers in the above average teaching effectiveness category, four teachers in the average teaching effectiveness category, and two teachers in the below average teaching effectiveness category.

Project EMPATHY

Each of the 105 participants in the study was administered the Project EMPATHY interviewing instrument, and all responses were audio tape recorded. The interview was given in a private setting, with only the teacher and researcher present. The researcher did not know the

perceived effectiveness classification of any teacher at the time the interview was conducted.

Each response was individually scored by the researcher as the Project EMPATHY instrument was being administered. If the participant's response contained one or more of the "listen fors" responses, then that individual was credited with a plus for that question. The pluses were totaled for each of the eight subtests, and a grand total was obtained by adding all of the subtest plus scores together.

All of the Project EMPATHY audio tapes were scored by the researcher a second time to insure accuracy. Ten percent of the Project EMPATHY audio tapes were scored a third time by another researcher. It was found that the researchers agreed with each other's total Project EMPATHY score 91 percent of the time.

Educational Practice Belief Inventory

In each school, the Educational Practice Belief Inventory instrument was administered to the already interviewed teachers after school but during the regularly required work hours. The respondents were instructed to mark their answer sheets from one to five on the Likert-type scale for each of the 69 questions. The average teacher was able to complete the Educational Practice Belief Inventory in 25 minutes. No time constraints were placed on those individuals taking the instrument. In the 12 schools, a total of 105 teachers provided complete sets of data.

Coding System

To insure confidentiality, a removable label containing a teacher's

name was placed on the Project EMPATHY scoring sheet, tape cassette, demographic data form, and Educational Practice Belief Inventory instrument answer sheet. When all of the data from the teachers in a particular school had been collected, the principals were asked to remove the labels containing the teacher's name and to replace them with other labels containing the school's name and that teacher's classification regarding teaching effectiveness as perceived by the principal.

Statistical Procedures

The data obtained from this study were keypunched and computer processed. The Statistical Package for the Social Sciences was utilized in all of the statistical analyses. A comparison was generally made between the results of either the Project EMPATHY or the Educational Practice Belief Inventory instruments and the principals' perceived teacher effectiveness classifications.

The Educational Practice Belief Inventory instrument, when scored in the usual manner, produces a score in each subtest relative to the three educational philosophies that are designed into each of the subtests. These scores can then be plotted against the mean score of all of the teachers within a school, allowing the respondent to compare his or her educational beliefs with other teachers in the school. This scoring technique did not lend itself to the analysis required for this study. After consulting the Educational Practice Belief Inventory developers, a decision was made to use total scores in scoring the Educational Practice Belief Inventory instrument relative to the purpose of this study.

Factor Analyses

Factor analysis was used to explore the validity of the Project EMPATHY and the Educational Practice Belief Inventory instruments. The factor analysis statistical process determines what the underlying dimensions of an instrument are by how the item responses load on a number of factors specified by the researcher.

The computer program written for Project EMPATHY interviewing instrument used an oblique rotation. Eight factors were requested since the developers of the project identified eight subtests within the instrument. The Statistical Package for the Social Sciences for principal factors with interation was the factor analytical program used. The data collected for this research did not confirm the subtest structure identified by the Project EMPATHY developers, in that items identified with a particular subtest did not load on that subtest. Rather, items of a given subtest loaded in a nearly random pattern across the eight factors requested by this researcher. Factor loadings are displayed in the next chapter.

The computer programs that were used to analyze the Educational Practice Belief Inventory instrument also requested an oblique rotation and three factors, one representing each of the three philosophies the instrument is said to measure. The same factor procedures used for Project EMPATHY were also used on the Educational Practice Belief Inventory instrument. The factors are displayed in the next chapter.

Cronbach Alpha

The Cronbach Alpha Internal Consistency Reliability Scale was used to examine the reliability of the instruments used in this study, by

means of coefficient of internal consistency.

A Cronbach Alpha statistical process was conducted on the total Project EMPATHY score. In addition, a Cronbach Alpha was performed on each of the eight subtests. These Cronbach Alpha's are displayed in the next chapter.

The Educational Practice Belief Inventory instrument was also subjected to an overall Cronbach Alpha analysis, and each of the three philosophical schemes was analyzed by the Cronbach Alpha process as well. The Cronbach Alphas for the Educational Practice Belief Inventory instrument are displayed in the next chapter.

One-way ANOVA

A one-way analysis of variance procedure was used to determine whether three groups of teachers (identified by principals as effective, moderately effective, or ineffective) differed systematically on the Project EMPATHY criterion. These findings are displayed in Chapter IV.

Similarly, one-way procedures were used to determine whether three groups of teachers (identified by principals as effective, moderately effective, or ineffective) differed systematically on the total Educational Practice Belief Inventory score, and whether they differed systematically on each of the three philosophical dimensions identified by Dobson et al.

Analysis of Covariance

In order to investigate whether or not the above relationships are confounded by the effects of selected demographic variables, analysis of covariance procedures adjusted the between group variance for Project

EMPATHY by statistically removing the effects of the demographic variables. The Educational Practice Belief Inventory mean scores (both total and by philosophical dimension) were adjusted in like manner, thus allowing the researcher to observe the confounding effects of demographics on the relationships under investigation.

Pearson r

The Pearson r is a statistical procedure used to summarize the relationship between two variables. The closer the correlation coefficient is to 1.0, the stronger the relationship between the two variables.

A Pearson r was calculated for the relationship between the total Project EMPATHY score and the total score for the Educational Practice Belief Inventory instrument. That coefficient is presented in the next chapter.

Chi-square

Chi-square procedures examine whether or not two categorical variables are systematically related by using a joint frequency distribution of cases (crosstabulation) to compare the actual distribution of cases with the distribution expected by chance. Chi-square becomes larger as the discrepancy between expected and actual frequencies becomes larger.

Each of the eight Project EMPATHY subtests was crosstabulated with each of the Educational Practice Belief Inventory philosophical dimensions producing 24 Chi-squares, enabling the researcher to discuss the independence of the EMPATHY and Educational Practice Belief Inventory instruments.

FOOTNOTES

[1]Gale Muller and Mable Goodwin, "Project EMPATHY: Development of an Interview Procedure to Predict Student and Administrator Ratings of Prospective Applicants" (unpub. report prepared by Selection Research, Inc., Lincoln, Nebraska, 1974), n.p.

[2]Vicky W. Thayer, "Project EMPATHY - An Alternative Way to Hire Teachers," North Central Association Quarterly, Vol. 52, No. 4 (Spring, 1978), pp. 438-442.

[3]John Paul Kessinger, "Perceptual Baseline System: An Alternative Strategy for Teacher Inservice Education" (unpub. Ed.D. dissertation, Oklahoma State University, Stillwater, Oklahoma, 1979), p. 32.

CHAPTER IV

ANALYSIS, FINDINGS, AND CONCLUSIONS

Introduction

The reader should be aware that in some cases the conclusions presented are based upon statistically insignificant trends that are apparent from analyzing the data. The reader must make the final judgment as to relevance of these findings, as they apply to individual school situations.

The primary object of this study was to determine whether the Project EMPATHY and the Educational Practice Belief Inventory instruments can provide a school administrator with information that will prove useful in the teacher selection process. Answers to the following ancillary questions were sought: (1) Do scores obtained by using the Project EMPATHY interviewing instrument distinguish between effective, moderately effective, and ineffective teachers as indicated by the principal's ratings? (2) Do scores obtained by using the Educational Practice Belief Inventory instrument distinguish between effective, moderately effective, and ineffective teachers as indicated by the principal's rating? (3) Is there any shared variance between scores on the Project EMPATHY and the Educational Practice Belief Inventory instruments? (4) Is there any correlation between the eight subtests of the Project EMPATHY Interviewing instrument and the three teaching philosophies identified by the Educational Practice Belief Inventory?

Results of the Statistical Analysis of Project EMPATHY Interview Data

Factor Analysis

A factor analysis was executed on the Project EMPATHY instrument to determine whether the items in the instruments would tend to load on their respective subtests, as indicated by the design of the instrument (see Table I). The meaningfulness of the instrument would be supported if all items identified by Project EMPATHY as "relationship," for instance, loaded together in a single factor. Hence, two questions from "rapport drive," one question from "empathy," and one question from "student success" loaded on factor one. One question from "rapport drive," one question from "empathy," two questions from "acceptance," and two questions from "work and profession orientations" cluster together on factor two. One question from "relationship," one question from "empathy," and one question from "student orientation" loaded on factor three. One question from "relationship," two questions from "democratic orientation," one question from "student orientation," and one question from "student success" cluster together on factor four. One question from "democratic orientation," and one question from "student orientation," loaded on factor five. One question from "Empathy," one question from "student orientation," two questions from "student success," and one question from "work and profession orientations," loaded together on factor six. One question from "relationship," one question from "democratic orientation," one question from "rapport drive" and one question from "work and profession orientation," clustered together on factor seven. One question from "relationship" and two questions from "acceptance" clustered together on factor eight.

TABLE I

FACTOR ANALYSIS SUMMARY TABLE FOR PROJECT EMPATHY (HIGHEST THREE LOADINGS)

Question	*Subtests	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
1	REL	-0.084	-0.216					**0.479	
2	DO		0.214		0.375		-0.289		
3	RD	0.569					-0.043	0.074	
4	EMP		0.417	0.129			0.119		
5	SO	0.206				0.371	0.384		
6	ACC		0.429			0.177			0.399
7	SS	0.219			0.132			-0.138	
8	WPO				0.235	-0.254		-0.376	
9	REL	-0.069			-0.573			0.132	
10	DO					0.398	0.287	0.232	
11	RD	0.269				-0.239		0.598	
12	EMP		0.184	0.747				-0.072	
13	SO				-0.314			0.238	0.177

TABLE I (Continued)

Question	*Subtests	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
14	ACC			0.073			0.150		0.368
15	SS	-0.075					0.508		0.115
16	WPO		0.437		0.197				-0.229
17	REL	0.171		0.298				0.096	
18	DO			0.135				0.274	0.235
19	RD	0.477			-0.131		0.202		
20	EMP	0.586		0.350				0.184	
21	SO		-0.195	0.549					0.285
22	ACC	-0.159	-0.212		-0.212				
23	SS	0.088		0.075	0.283				
24	WPO		-0.084	0.075			0.280		
25	REL		-0.096				0.120		-0.691
26	DO	-0.328		0.304	0.440				
27	RD	0.277	0.282	0.187					

TABLE I (Continued)

Question	*Subtests	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
28	EMP		0.402			-0.390	0.408		
29	SO	0.184		0.162		-0.749			
30	ACC			0.155			0.192		0.260
31	SS				0.251	-0.091	0.263		
32	WPO		-0.372					0.150	-0.189
Total	REL	**0 3	0 2	1 0	1 0	0 0	0 1	1 2	1 0
Total	DO	0 1	0 1	0 2	2 0	1 0	0 2	1 1	0 1
Total	RD	2 2	1 0	0 1	0 1	0 1	0 2	1 1	0 0
Total	EMP	1 0	1 2	1 2	0 0	0 1	1 1	0 2	0 0
Total	SO	0 2	0 1	1 1	1 0	1 1	1 0	0 1	0 2
Total	ACC	0 1	2 0	0 2	0 1	0 1	0 2	0 0	2 1

TABLE I (Continued)

Question	*Subtests	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8
Total	SS	1	0	0	1	0	2	0	0
		2	0	1	2	1	0	1	1
Total	WPO	0	2	0	0	0	1	1	0
		0	1	1	2	1	0	1	2

*REL = relationship
EMP = empathy
SS = student success
DO = democratic orientation
SO = student oreintation
WPO = work and profession orientation
RD = rapport drive
ACC = acceptance

**Highest loading values in larger type.

It is apparent from the factor analysis that the items which compose the Project EMPATHY instrument do not load together on the factors that represent the subtests of the Project EMPATHY instrument; instead, the items were randomly distributed among all of the factors. Thus the inconsistency of how the items group together would raise uncertainty about the validity of the instrument.

The Project EMPATHY staff recommends that individual teachers should be placed in a teaching situation where their chances of success are most advantageous. The Project EMPATHY instrument develops a profile on an individual with respect to the eight subtests, thus aiding the placement process.

The staff of Project EMPATHY recommends that a school district analyze the requirements of each teaching job in terms of the various subtests that comprise the Project EMPATHY instrument. Teacher candidates who possess subtest profiles that most nearly match those required by a particular teaching situation would then be placed in the vacancy, if all other factors were equal. While the logic behind this assumption may be valid, it would appear that the Project EMPATHY interviewing instrument does not have the ability to measure accurately an individual's potential relative to the various subtests that the instrument purports to measure.

Cronbach Alpha

A Cronbach Alpha analysis was conducted on the Project EMPATHY interview instrument to examine its reliability (see Table II) as a coefficient of internal consistency. By convention, .70 is generally the minimum acceptance alpha score an instrument should have to be

TABLE II

CRONBACH ALPHA RELIABILITIES FOR THE SUBTESTS AND TOTAL SCORES OF PROJECT EMPATHY

Theme	Alpha's
RELATIONSHIP	.06
DEMOCRATIC ORIENTATION	.10
RAPPORT DRIVE	.46
EMPATHY	.28
STUDENT ORIENTATION	.07
ACCEPTANCE	.04
STUDENT SUCCESS	-.07
WORK AND PROFESSION ORIENTATION	-.03
OVERALL (32 items)	.40

considered internally consistent, but as was revealed in Table II, neither the overall alpha nor the subtests' alphas would be considered to be at the acceptable level. These findings indicate that the Project EMPATHY interviewing instrument is incapable of consistently measuring the subtest concepts.

One of the primary functions of this study was to determine the usefulness of the Project EMPATHY instrument and its potential ability to identify teachers. The results of the Factor Analysis and the Cronbach Alpha indicate that the internal consistency and the construct validity of the Project EMPATHY instrument are quite doubtful. Thus, the user of the Project EMPATHY instrument could not expect the instrument to make accurate projections concerning any group of teacher candidates.

Research Question One

> Do scores obtained by using the Project EMPATHY interviewing instrument distinguish between effective, moderately effective, and ineffective teachers as indicated by the principal's ratings?

The one-way ANOVA conducted on the Project EMPATHY instrument and the teacher effectiveness groupings (as perceived by principals) revealed that there was a significant difference between the groups, $F = 3.99$, $p < 0.02$ (see Table III).

A Scheffe test was conducted to determine where the significant differences existed (see Table III). A difference was found to exist between effective and moderately effective teachers on mean Project EMPATHY total scores. No significant difference was found to exist

TABLE III

ONE-WAY ANALYSIS OF VARIANCE BETWEEN PROJECT EMPATHY SCORE AND TEACHER EFFECTIVENESS GROUPINGS WITH SCHEFFE'S DATA

	Effective Teachers		Moderately Effective Teachers	Ineffective Teachers
Number	35		36	34
Mean	15.00	*	13.19	13.35
Standard deviation	3.15		2.71	3.02

Source	df	Sum of Squares	Mean Squares	F Value	Level of Significance
Between groups	2	70.1591	35.0795	3.987	0.0215
Within groups	102	897.4014	8.7981		
Total	104	967.5603			

*Indicates the significantly different pairs of means.

between effective and ineffective grouping or between moderately effective and ineffective grouping on mean Project EMPATHY scores. Perhaps this inability of the instrument to distinguish between the remaining groups can be explained by the fact that several principals made the statement that they found it difficult to make large distinctions between the moderately effective and the ineffective teachers. This would be a reasonable statement for a principal to make if he had been in his building a number of years, since he or she would have had the opportunity to build the type of staff wanted through transfers and nonrenewal. Also, it should be noted that the mean score on the Project EMPATHY for the ineffective groups was slightly higher than the similar mean for the moderate group.

To examine possible confounding effects of selected demographic variables, analysis covariance procedures tested for differences for the three effectiveness groupings on the Project EMPATHY while statistically controlling the effect of the demographic variables. Due to the limited number of covariates that the computer program can analyze at one time, it was necessary to perform two separate analyses of covariance on the demographic variables (see Tables IV and V). While it is theoretically possible that different combinations of the various demographic variables could produce different covariance analysis data results, any major change in the results of the covariance analysis would be unlikely because of the small amount of variance that was accounted for by the Project EMPATHY instrument. None of the covariates reported in either Table IV or V were found to have a significant interaction affect upon the Project EMPATHY score. The demographic variables of age and gender do show an inclination of affecting the Project EMPATHY instrument.

TABLE IV

ANALYSIS OF COVARIANCE FOR PROJECT EMPATHY SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING SCHOOL, AGE, SEX, GRADE TEACHING, AND NUMBER OF YEARS TEACHING EXPERIENCE

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	96.290	5	19.258	1.345	0.252
School	13.651	1	13.651	0.953	0.331
Age	45.211	1	45.211	3.157	0.079
Sex	46.218	1	46.218	3.227	0.076
Grade Teaching	0.190	1	0.190	0.013	0.908
No. Yrs. Teaching Experience	27.254	1	27.254	1.903	0.171
Main Effects	50.468	2	25.234	1.762	0.177
Effective Grouping	50.468	2	25.234	1.762	0.177
Explained	146.759	7	20.965	1.464	0.189
Residual	1389.193	97	14.322		
Total	1535.952	104	14.769		

Grand Mean = 12.98

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	35	1.16				0.92	
2	36	-0.26				-0.12	
3	34	-0.92				-0.82	
			0.23				0.19
Multiple R Squares							0.096
Multiple R							0.309

TABLE V

ANALYSIS OF COVARIANCE FOR PROJECT EMPATHY SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING SCHOOL DISTRICT, DEGREE, AND TEACHING SITUATION

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	13.077	3	4.359	0.489	0.690
School District	6.454	1	6.454	0.725	0.397
Degree	1.543	1	1.543	0.173	0.678
Teaching Situation	5.469	1	5.469	0.614	0.435
Main Effects	72.736	2	36.368	4.083	0.020
Effective Grouping	72.736	2	36.368	4.083	0.200
Explained	85.813	5	17.163	1.927	0.097
Residual	881.740	99	8.906		
Total	967.553	104	9.303		

Grand Mean = 13.85

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	35	1.15				1.17	
2	36	-0.65				-0.69	
3	34	-0.49				-0.48	
			0.27				0.27
Multiple R Squares							0.089
Multiple R							0.298

In Table V the main effects and the effectiveness groupings were found to be significantly different in both cases at $F = 4.083$, $p < 0.02$. This finding would tend to support those of the one-way ANOVA, for in both analyses a significant difference was found to exist between the groups.

The multiple R squared value list in Tables IV and V can be used as a further indication of the inability of Project EMPATHY to identify an individual's teaching effectivness classification. The respective R squared values for these tables were .10 and .09, which can be interpreted to mean that only .10 to .09 percent of an individual's Project EMPATHY score was accounted for by the principal's designation as effective, moderately effective, and ineffective. Thus the remaining amount of unexplained variance (90 to 91 percent) in the Project EMPATHY Score was due to chance, error, or unexplored variables.

Educational Practice Belief Inventory

A Factor Analysis process was conducted on the Educational Practice Belief Inventory instrument to determine whether or not the items that composed the instrument would load together, according to the respective philosophical schemes of the instrument (see Table VI). As can be seen in the preceding table, fifteen items from Philosophy B, nine from Philosophy A, and six from Philosophy C loaded on factor one. Eight items from Philosophy A, one item from Philosophy B and three items from Philosophy C loaded on factor two. Seventeen items from Philosophy C, seven items from Philosophy B, and three items from Philosophy A loaded on factor three.

There appears to be some indication of a tendency for the various

TABLE VI

SUMMARY TABLE FACTOR ANALYSIS FOR EDUCATIONAL PRACTICE BELIEF INVENTORY (HIGHEST AND SECOND HIGHEST LOADING)

Question No.	Philosophy	Factor 1	Factor 2	Factor 3
1	A	*0.292	-0.227	
2	B	0.152		0.138
3	C	0.036		0.452
4	C	0.156		0.473
5	B		-0.249	0.437
6	A	0.456	0.132	
7	A	0.311	0.272	
8	C	0.270	0.209	
9	B	0.215		0.377
10	A	0.336		0.380
11	B	0.153	0.211	
12	C		-0.124	0.228
13	C		-0.244	0.307
14	B	0.281	0.117	
15	A		0.271	-0.116
16	A	-0.119	0.593	
17	A	0.244	0.377	
18	C	0.145		0.336
19	B	0.347		0.405
20	B	0.390		0.140
21	A	0.283	0.192	
22	B	0.379		0.336

TABLE VI (Continued)

Question No.	Philosophy	Factor 1	Factor 2	Factor 3
23	C	0.222		0.265
24	A		0.236	0.224
25	A	0.246		0.150
26	C	0.345		0.289
27	C	-0.104		0.465
28	B	0.219		0.333
29	C		-0.165	0.359
30	B	0.429		0.244
31	C		0.203	0.420
32	C		0.316	0.112
33	C	0.065		0.310
34	B	0.232	-0.149	
35	B	0.308	-0.146	
36	B	0.359	-0.301	
37	B	0.488		0.188
38	A	0.250		0.390
39	A	0.436		0.107
40	A		0.590	0.122
41	C		0.331	0.203
42	B	0.407		0.198
43	C	0.198		0.391
44	C	0.405		0.277
45	C	-0.255		0.187

TABLE VI (Continued)

Question No.	Philosophy	Factor 1	Factor 2	Factor 3
46	C	0.166	0.191	
47	A	0.320	0.250	
48	C		-0.075	0.242
49	B	0.498	0.117	
50	C		0.244	0.349
51	B	0.388		0.352
52	B	0.362		0.201
53	B	0.255		0.388
54	A	0.179		0.353
55	C	0.213		0.582
56	C	0.227	-0.075	
57	A	0.360		0.130
58	B	0.241		0.364
59	B	0.267		0.217
60	C		0.130	0.341
61	A	0.415		-0.027
62	B	0.356		0.104
63	C		0.158	0.348
64	B	0.387		0.414
65	A		0.344	-0.093
66	C		0.131	0.194
67	C	0.515		0.293

TABLE VI (Continued)

Question No.	Philosophy	Factor 1	Factor 2	Factor 3
68	A	0.080	0.494	
69	A		0.418	0.043

*Highest loading values in larger type.

items that compose the three philosophies to load together about the three factors representing the different philosophical schemes. Consequently, the validity of the three philosophical schemes across all of the subtests appears greater than was the validity of the Project EMPATHY instrument.

A Cronbach Alpha Analysis was conducted on the Educational Practice Belief Inventory instrument to determine its reliability (see Table VII). In comparing the overall alpha score for the Educational Practice Belief Inventory, along with the various philosophical camps, only one minor discrepancy is found in meeting the .70 standard, and that was with Philosophy A (.66). Generally speaking, the Alphas found in this study are in line with those reported by Kessinger, although they tend to be somewhat lower.

The results obtained from the Factor Analysis and the Cronbach Alpha indicate that the Educational Practice Belief Instrument is considerably stronger than those obtained for the Project EMPATHY interviewing instrument. Thus, one would expect the Educational Practice Belief Inventory instrument to be able to measure a candidate's educational philosophy across the three different groups of teacher effectiveness with some accuracy and consistency. The question for this study in regards to the Educational Practice Belief Inventory instrument now becomes one of whether teachers, who are regarded as belonging to a particular teacher effectiveness classification, collectively subscribe to a particular educational philosophy as a whole. Answers to these questions were sought in the statistical analysis for Research Question Two.

TABLE VII

CRONBACH ALPHA RELIABILITIES FOR THE THREE DIFFERENT PHILOSOPHIES AND THE TOTAL SCORE OF EDUCATIONAL PRACTICE BELIEF INVENTORY

Theme	Alpha
Philosophy A	.66
Philosophy B	.74
Philosophy C	.73
Overall	.83

Research Question Two

Do scores obtained by using the Educational Practice Belief Inventory instrument distinguish between effective, moderately effective, and ineffective teachers as indicated by the principal's rating?

A one-way ANOVA was conducted to determine whether the Educational Practice Belief Inventory instrument overall score differed for the principal's perceived teacher effectiveness grouping (see Table VIII). No significant difference was revealed between the mean Educational Practice Belief Inventory score and the three perceived classifications of teaching effectiveness, $F = .59$, $p > .56$. Thus the instrument, while valid and reliable, cannot distinguish any systematic difference between effective, moderately effective, and ineffective teachers as perceived by principals.

A one-way ANOVA was performed on each of the three philosophical schemes, with the effectiveness grouping serving as the independent variable.

The one-way ANOVA conducted with Philosophy A (see Table IX) revealed no significant systematic difference between the effectiveness groups, $F = 0.38$, $p > .69$. The effective teacher group had a mean of 54.74, where the moderately effective teacher group had a mean of 53.28 and the ineffective teacher group had a mean of 54.73.

Because there is so little difference in the mean scores and because the number of individuals within each of the three different categories of teaching effectiveness are not the same, the mean group score could not be used to determine what educational philosophy the teachers within each of these groups affirmed. In order to determine

TABLE VIII

ONE-WAY ANALYSIS OF VARIANCE BETWEEN EDUCATIONAL PRACTICE BELIEF INVENTORY TOTAL SCORE AND TEACHER EFFECTIVENESS GROUPINGS

Source	df	Sum of Squares	Mean Squares	F Value	Level of Significance
Between groups	2	387.4218	193.7109	0.592	0.5554
Within groups	96	31432.8789	327.4258		
Total	98	31820.2969			

TABLE IX

ONE-WAY ANALYSIS OF VARIANCE BETWEEN THE EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY A SCORE AND TEACHER EFFECTIVENESS GROUPINGS

Source	df	Sum of Squares	Mean Squares	F Value	Level of Significance
Between groups	2	48.8917	24.4459	0.379	0.6856
Within groups	97	6257.6978	64.5123		
Total	99	6306.5859			

what educational philosophy each of the various groups of teaching effectiveness possessed, each group mean score was divided by the number of individuals that composed that group. Thus a number was derived that could be compared to the range of choices a respondent had in answering the Educational Practice Belief Inventory instrument. The range of choices that are available in marking each question on the Educational Practice Belief Inventory instrument are as follows: 1 = complete agreement, 2 = moderate agreement, 3 = uncertain, 4 = moderate disagreement, and 5 = complete disagreement. Thus dividing each of the mean scores by the number of individuals in that group produced the following: for the effective teacher group, 1.61; for the moderately effective teacher group, 1.48; and for the ineffective teacher group, 1.82. If these scores are compared against the range of choices an individual could select from in marking the Educational Practice Belief Inventory instrument, then it is possible to determine what educational philosophy each group affirms. The moderately effective teachers, with a score of 1.48, could then be considered as representative of choice 1 (complete agreement) in respect to Philosophy A (Behaviorism-Essentialism). Both the effective and the ineffective teachers, with a score of 1.61 and 1.82, could then be considered as representative of choice 2 (moderate agreement) in respect to Philosophy A. The reader must remember these findings were reported with a p of .69.

The one-way ANOVA conducted with Philosophy B (see Table X) revealed no significant systematic difference between the effectiveness groups $F = .538$, $p > .59$. The group classified as effective had a mean of 35.77, where the group classified as moderately effective had a mean of 36.97, and the group identified as ineffective had a mean of 37.42.

TABLE X

ONE-WAY ANALYSIS OF VARIANCE BETWEEN THE EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY B SCORE AND TEACHER EFFECTIVENESS GROUPINGS

Source	df	Sum of Squares	Mean Squares	F Value	Level of Significance
Between groups	2	50.1436	25.0718	0.538	0.5855
Within groups	101	4705.1946	46.5861		
Total	103	4755.3359			

Again, if the mean score is divided by the number of individuals in each group, the following scores are obtained: effective teachers, 1.02; moderately effective teachers, 1.03; and ineffective teachers, 1.13. The differences between the three effectiveness groupings and their individual scores in respect to their affirmation of the concepts in Philosophy B are almost indistinguishable.

By comparing these three scores to the range of choices that the respondent could select from in marking the Educational Practice Belief Inventory instrument, then it would be possible to develop the following analogy. Each of the three effectiveness groupings could be considered as representing choice 1 (complete agreement) in respect to Philosophy B (Pragmatism-Experimentalism). The reader is cautioned that p has a value of .59.

The one-way ANOVA conducted with Philosophy C (see Table XI) revealed no significant systematic differences between the effectiveness groups, $F = .133$, $p > .27$. The mean for the effective teacher groups was 49.94, where the moderately effective teacher group had a mean of 49.96, and the ineffective teacher group had a mean of 52.67. When the mean score is divided by the number of individuals in each group, the following scores are obtained: effective teachers, 1.51; moderately effective teachers, 1.38; and ineffective teachers, 1.59.

If these scores are compard to the range of choices that the respondent could select from in marking the Educational Practice Belief Inventory instrument, then it is possible to develop the following analogies. When .5 is considered to be an arbitrary dividing point between any two scores, the moderately effective teacher group, with a score of 1.38, could then be considered as representative of choice 1 (complete

TABLE XI

ONE-WAY ANALYSIS OF VARIANCE BETWEEN THE EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY C SCORE AND TEACHER EFFECTIVENESS GROUPINGS

Source	df	Sum of Squares	Mean Squares	F Value	Level of Significance
Between groups	2	182.9967	91.4984	1.328	0.2697
Within groups	99	6820.8416	68.8974		
Total	101	7003.8359			

agreement) in respect to Philosophy C (Humanistic-Existential). The effective and ineffective group of teachers with scores of 1.51 and 1.59 could generally be considered as representative of choice 2 (moderate agreement) in respect to Philosophy C. Again, the reader is cautioned that the probability computed was on the order of $p > .27$.

The educational philosophies of each of the three effectiveness groups may be summarized as follows. The moderately effective group of teachers was found to be representative of answer choice 1 (complete agreement) in regards towards each of the three philosophical schemes measured by the Educational Practice Belief Inventory instrument. The effective and ineffective groups of teachers were found to be representative of answer choice 1 (complete agreement) in regards to Philosophy B and to be representative of answer choice 2 (moderate agreement) in respect to Philosophies A and C. While the effective and the ineffective group of teachers possess similar beliefs in regards to their educational philosophies, the derived score for the effective group was slightly lower than the derived score for the moderately effective group.

An analysis of covariance was performed on the Educational Practice Belief Inventory instrument to determine if the demographic variables had any confounding effect upon the relationship between Education Practice Belief Inventory instruments three philosophy scores and teacher effectiveness groupings. Due to the limitation of the Statistical Package for the Social Sciences, two separate computer programs had to be written for each of the eight demographic variables with each of the three philosophical schemes.

An analysis of covariance was conducted on Philosophy A (see Tables

XII and XIII). None of the demographic variables had significant influence upon the relationship under study. The multiple R squared value of Table XII is 0.074 and Table XIII has a multiple R squared value of 0.33. Thus, only .07 to .33 percent of the overall variance in Philosophy A of the Educational Practice Belief Inventory instrument is accounted for by the principal's designation of effective, moderately effective, or ineffective.

An analysis of covariance was performed on Philosophy B of the Educational Practice Belief Inventory instrument (see Tables XIV and XV). None of the demographic variables or main effects were found to be significant. Thus, one may conclude that how an individual responds to Philosophy B within the Educational Practice Belief Inventory is not influenced by any of the demographic variables measured.

The following demographic variables do display a tendency to influence how a teacher responds to the items that compose Philosophy B: number of years teaching experience, school district, and teaching situation. The multiple R squared value for Table XIV is .07 and for Table XV is .05. From .05 to .07 percent of the variance overall in Philosophy B Educational Practice Belief Inventory scores is accounted for by the principal's designation as effective, moderately effective, and ineffective.

An analysis of covariance was performed on Philosophy C of the Educational Practice Belief Inventory instrument (see Tables XVI and XVII). None of the demographic variables displayed on either of these tables were significant. The variables school, school district, and teaching situation do show a slight tendency to affect how an individual will respond to Philosophy C. The multiple R squared values indicate

TABLE XII

ANALYSIS OF COVARIANCE FOR EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY A SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING FOR AGE, SEX, GRADE TEACHING, AND NUMBER OF YEARS TEACHING EXPERIENCE

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	130.031	5	26.006	0.654	0.659
School	2.614	1	2.614	0.066	0.798
Age	0.257	1	0.257	0.006	0.936
Sex	6.885	1	6.885	0.173	0.679
Grade Teaching	2.282	1	2.282	0.057	0.811
No. Yrs. Teaching Experience	65.423	1	65.423	1.645	0.204
Main Effects	105.177	2	52.589	1.322	0.273
Effective Grouping	105.177	2	52.589	1.322	0.273
Explained	235.208	7	33.601	0.845	0.554
Residual	2943.381	74	39.775		
Total	3178.589	81	39.242		

Grand Mean = 44.23

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	27	-1.01				-1.02	
2	29	-0.47				-0.58	
3	26	1.58				1.70	
			0.18				0.19
Multiple R Squares							0.074
Multiple R							0.272

TABLE XIII

ANALYSIS OF COVARIANCE FOR EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY A SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING FOR SCHOOL DISTRICT, DEGREE, AND TEACHING SITUATION

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	89.755	3	29.918	0.651	0.597
School District	18.734	1	18.734	0.408	0.535
Degree	28.488	1	28.488	0.620	0.446
Teaching Situation	53.720	1	53.720	1.169	0.301
Main Effects	176.702	2	88.351	1.922	0.189
Effective Grouping	176.702	2	88.351	1.922	0.189
Explained	266.457	5	43.291	1.159	0.383
Residual	551.542	12	45.962		
Total	817.999	17	48.118		

Grand Mean = 47.00

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	6	5.00				4.71	
2	7	-2.29				-2.12	
3	5	-2.80				-2.68	
			0.53				0.49
Multiple R Squares							0.326
Multiple R							0.571

TABLE XIV

ANALYSIS OF COVARIANCE FOR EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY B SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING FOR AGE, SEX, GRADE TEACHING, AND NUMBER OF YEARS TEACHING EXPERIENCE

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	194.062	5	38.812	1.000	0.424
School	4.067	1	4.067	0.105	0.747
Age	6.332	1	6.332	0.163	0.687
Sex	34.877	1	34.877	0.899	0.346
Grade Teaching	5.891	1	5.891	0.152	0.698
No. Yrs. Teaching Experience	114.150	1	114.150	2.942	0.091
Main Effects	21.261	2	10.631	0.274	0.761
Effective Grouping	21.261	2	10.631	0.274	0.761
Explained	215.323	7	30.760	0.793	0.596
Residual	2871.449	74	38.803		
Total	3086.772	81	38.108		

Grand Mean = 44.12

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	27	-0.34				-0.45	
2	29	-0.26				-0.27	
3	26	0.65				0.77	
			0.07				0.99
Multiple R Squares							0.070
Multiple R							0.264

TABLE XV

ANALYSIS OF COVARIANCE FOR EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY B SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING FOR SCHOOL DISTRICT, DEGREE, AND TEACHING SITUATION

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	126.025	3	42.008	1.087	0.360
School District	88.165	1	88.165	2.281	0.135
Degree	7.342	1	7.342	0.190	0.664
Teaching Situation	42.213	1	42.213	1.092	0.299
Main Effects	23.594	2	11.797	0.305	0.738
Effective Grouping	23.594	2	11.797	0.305	0.738
Explained	149.619	5	29.924	0.774	0.571
Residual	2937.153	76	38.647		
Total	3086.772	81	38.108		

Grand Mean = 44.12

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	27	-0.34				-0.35	
2	29	-0.26				-0.39	
3	26	0.65				0.79	
			0.07				0.09
Multiple R Squares							0.048
Multiple R							0.220

TABLE XVI

ANALYSIS OF COVARIANCE FOR EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY C SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING FOR AGE, SEX, GRADE TEACHING, AND NUMBER OF YEARS TEACHING EXPERIENCE

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	189.447	5	37.889	0.540	0.745
School	128.474	1	128.474	1.830	0.185
Age	2.997	1	2.997	0.043	0.837
Sex	1.935	1	1.935	0.028	0.869
Grade Teaching	10.590	1	10.590	0.151	0.700
No. Yrs. Teaching Experience	3.994	1	3.994	0.057	0.813
Main Effects	129.396	2	64.698	0.921	0.407
Effective Grouping	129.396	2	64.698	0.921	0.407
Explained	318.842	7	45.549	0.649	0.713
Residual	2527.586	36	70.211		
Total	2846.428	43	66.196		

Grand Mean = 48.11

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	14	-0.47				-1.04	
2	16	-1.43				-1.34	
3	14	2.10				2.57	
			0.19				0.22
Multiple R Squares							0.112
Multiple R							0.335

TABLE XVII

ANALYSIS OF COVARIANCE FOR EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHY C SCORE BY EFFECTIVENESS CLASSIFICATION CONTROLLING FOR SCHOOL DISTRICT, DEGREE, AND TEACHING SITUATION

Source of Variation	Sum of Squares	df	Mean Square	F Value	Level of Significance
Covariates	364.582	3	121.527	1.925	0.142
School District	120.719	1	120.719	1.912	0.175
Degree	0.988	1	0.988	0.016	0.901
Teaching Situation	223.946	1	223.946	3.548	0.067
Main Effects	83.044	2	41.522	0.658	0.524
Effective Grouping	83.044	2	41.522	0.658	0.524
Explained	447.626	5	89.525	1.418	0.240
Residual	2398.802	38	63.126		
Total	2846.428	43	66.196		

Grand Mean = 48.11

Variable + Category	N	Unadjusted Dev'n	Unadjusted Eta	Adjusted for Independents Dev'n	Adjusted for Independents Beta	Adjusted for Independents + Covariates Dev'n	Adjusted for Independents + Covariates Beta
Effectiveness Group							
1	14	-0.47				-1.66	
2	16	-1.43				-0.15	
3			0.19				0.17
Multiple R Squares							0.157
Multiple R							0.397

that somewhere between 0.11 to 0.16 percent of the variance was accounted for by the principal's designation as effective, moderately effective, and ineffective teachers.

In two of the three covariance analyses conducted on the philosophies and the demographic variables the school district, and the teaching situation do display a small tendency to affect how an individual will respond to the instrument. The fact that these two particular demographic variables display some tendency of influencing the respondent is understandable when one takes into consideration how a teacher can be controlled and influenced by the school district and the teaching situation, resulting in subtle co-opting of a teacher.

Research Question Three

Is there any shared variance between scores on the Project EMPATHY and the Educational Practice Belief Inventory instruments?

A Pearson r correlation coefficient was conducted between the Project EMPATHY total score and the Educational Practice Belief Inventory total score. The correlation coefficient was $r = -.11$, $p > 0.19$. The r squared value was $r = 0.008$, which indicates that the amount of shared variation between the two instruments is far less than 1.0 percent. This finding would confirm that the Project EMPATHY and Educational Practice Belief Inventory instruments do measure different sets of constructs. Hence, no relationship was found to exist between the two instruments.

Research Question Four

Is there any correlation between the eight subtests of the Project EMPATHY Interviewing instrument and the three teaching philosophies identified by the Educational Practice Belief Inventory?

To answer this research question a Chi-squared statistical analysis was performed. One of the basic assumptions underlying the Chi-squared analysis is that the data are categorical in nature. In order to derive categorical scores for the Educational Practice Belief Inventory instrument, the range of scores for each of the three different philosophical schemes was determined. Philosophy A had a range of 30 to 71, Philosophy B had a range of 23 to 58 and Philosophy C had a range of from 31 to 70. Each of the ranges of scores for the three different philosophies were subdivided into three groups or categories. The group one category for each of the three different philosophies represented those individuals with the lowest scores. The group two category represented those individuals with a mid-range of scores in each of the three different philosophical schemes. Group three categories were those individuals with the highest scores in each of the three different philosophies.

The Chi-squared tables were so constructed that the three categories of scores went across the top (horizontally) of the table. The side (vertical) component of the Chi-squared table was composed of the Project EMPATHY scores. These scores ranged from four to eight in numerical value, and represented a combined total for all of the four questions in each subtest. A negative response was given a value of one and a positive response was given a value of two. For example, if an

individual received two correct, and two incorrect responses, their score would be six in that subtest. Thus, 24 3x5 Chi-squared tables were created in analyzing the data. A summary of these procedures is presented in Table XVIII. None of the Chi-squares were found to be significant at the .05 level. If a comparison is made between the Project EMPATHY subtests Relationship and Student Success to Philosophy C of the Educational Practice Belief Inventory instrument, a possible relationship may be indicated (P = .10 or less).

An examination of the 24 3x5 Chi-squared tables revealed that in some cases as many as 60 percent of the cells had cell frequencies of less than five; therefore, a decision was made to collapse two of the vertical data rows in each of the 24 Chi-squared tables, and to conduct an additional Chi-squared analysis of the data based upon a 3x3 table design. The summary results of the 24 collapsed Chi-squared analyses are presented in Table XIX.

Of the 24 Chi-squared analyses performed, only the analysis conducted between Relationship and Philosophy C was found to be significant ($\chi^2 = 11.51$, $p < .02$). One significant relationship from 24 calculated would be well within chance probability, of course. The subtest Student Success again showed the tendency to display a relationship ($p < .13$), although it could have occurred by chance.

There appears to be no other pattern of relationship that exists between any subtests of the Project EMPATHY device and the Educational Practice Belief Inventory instrument. This lack of relationship between the various subcomponents of these two instruments should not be unexpected because of the low correlation that was found to exist between the total score on the instruments.

TABLE XVIII

5X3 CHI-SQUARED ANALYSIS FOR PROJECT EMPATHY SUBTEST SCORES BY EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHIES

Theme	Philosophy A		Philosophy B		Philosophy C	
	χ^2 Value	Sig	χ^2 Value	Sig	χ^2 Value	Sig
REL*	5.39	0.72	9.81	0.27	13.52	0.10
DO*	3.86	0.87	8.61	0.38	9.74	0.28
RD*	8.86	0.35	2.73	0.95	6.95	0.54
EMP*	9.45	0.31	7.52	0.48	5.94	0.65
SO*	3.55	0.90	8.86	0.35	5.94	0.65
ACC*	7.83	0.45	5.53	0.70	6.01	0.65
SS**	2.73	0.84	4.36	0.63	12.03	0.06
WPO***	7.33	0.50	6.74	0.56	4.36	0.82

*40% of the valid cells have expected cell frequency of less than 5.0.

**25% of the valid cells have expected cell frequency of less than 5.0.

***60% of the valid cells have expected cell frequency of less than 5.0.

TABLE XIX

3X3 CHI-SQUARED ANALYSIS FOR PROJECT EMPATHY SUBTEST SCORES BY EDUCATIONAL PRACTICE BELIEF INVENTORY PHILOSOPHIES

Theme	Philosophy A		Philosophy B		Philosophy C	
	χ^2 Value	Sig	χ^2 Value	Sig	χ^2 Value	Sig
REL*	3.47	0.48	5.17	0.27	11.51	0.02
DO*	1.08	0.90	2.37	0.67	6.59	0.16
RD*	5.96	0.20	2.52	0.64	5.55	0.24
EMP*	4.48	0.35	2.29	0.68	2.87	0.58
SO*	0.69	0.95	2.14	0.71	3.71	0.45
ACC**	5.49	0.24	2.50	0.65	5.89	0.21
SS**	1.06	0.90	4.24	0.37	7.07	0.13
WPO***	4.52	0.34	4.17	0.38	0.32	0.99

*Top and bottom row of the original 5x3 Chi-squared tables were collapsed.

**Bottom two rows of the original 5x3 Chi-squared tables were collapsed.

***Bottom two rows of the original 5x3 Chi-squared table were collapsed. In the 3x3 Chi-squared table that resulted, 22.2% or 33.3% of the cells had a cell frequency of less than 5.

Conclusions

One of the major areas of difference between this research study and the validation work previously performed on the Project EMPATHY instrument is concerned with the criteria used to arrive at a teacher's classroom performance rating or classification. In developing and validating the Project EMPATHY instrument, the designers relied heavily on two teacher evaluation instruments. The first instrument was a 20 item questionnaire to be completed on a teacher by his or her students; the second instrument was a 16 item questionnaire to be completed by that teacher's administrators. Most of the items that composed these two evaluation instruments were generally related to either the actual questions on the Project EMPATHY instrument or its "listen fors," thus creating a kind of tautology.

In this study a broad conceptual definition of what constitutes effective teaching was purposely developed because the researcher believed several important criteria were omitted by the project developers. This definition then served as the definition which a principal would use to classify his or her teachers. The researcher had no way of knowing if the principal used the definition of effective teaching that was provided for selecting the three groups of teachers required by the study or if, in fact, the principal selected the three effective, three moderately effective, and three ineffective teachers based solely on a subjective feeling about what constitutes an effective teacher. Perhaps the question now becomes not, how did the principals select their teachers for this study, but can the Project EMPATHY instrument identify those teachers who would be considered to be effective by the many different types of principals who will be using the instrument in the

field? For if the Project EMPATHY instrument cannot meet the expectations of the large number of different and varied administrators who will use the interview device, then its value as a teacher screening instrument would be considerably diminished.

The Project EMPATHY instrument does appear to have the ability to significantly distinguish between the principal's perceived classifications of effective teachers. These findings are similar to those cited by Coker earlier in the review of literature, using the Teacher Perceiver instrument. However, it is necessary to address the issue of how can an instrument, which possesses little validity or reliability, produce significant results in its ability to distinguish between the effective and moderately effective teachers. If an instrument has no reliability, then it is logical to conclude that any results obtained from using that instrument were due to chance, and therefore, the results obtained are not fully trustworthy.

To help clarify this matter, a request was made to the Project EMPATHY staff for data regarding reliability or validity studies performed in designing the instrument. The staff has verbally confirmed that such studies were conducted; however, the staff was unwilling to share any printed results with the researcher. Thus, there is no way to draw conclusions about the findings reported in this research study, as they compared with the original work done in developing the instrument.

The results of the statistical analysis performed on the Educational Practice Belief Inventory data suggest that the instrument was unable to identify a teacher's perceived effectiveness rating. In addition, the data suggest that teachers who are identified with a

particular teacher effectiveness classification possess no single predominant educational philosophy. Instead, it would appear that teachers in general are unsure of their own instructional beliefs and roles, which may account in part for some of the misconceptions the public at large now holds regarding public education in America.

Implications

The following implications are based upon the various statistical analyses performed and the researcher's conclusions after conducting the study.

1. The Project EMPATHY instrument should not be used in its present state as a sole means for selecting teachers.
2. The Educational Practice Belief Inventory instrument does not possess the ability to identify an individual's teaching effectiveness.

The researcher is still quite intrigued by both of the instruments that were used in this study. The Project EMPATHY instrument contains many questions that the researcher feels are very relevant to the teacher selection process, and as such these questions in and of themselves could play a vital part of any teacher interviewing process. It would appear that if a problem exists in using the Project EMPATHY instrument, it would have to center upon how the responses are judged against the "listen fors." The first research on the Project EMPATHY study was conducted one decade ago, and during this decade the beliefs and values of teachers have continued to evolve and change, while the "listen fors" have remained constant after the development of the final instrument. Consequently, the criteria by which the respondents are

judged may no longer be valid.

Perhaps it is not the instrument itself which will prove beneficial to school administrators but rather the process. The structured interview format has the ability to make the selection process stable and consistent from one candidate to another, thus allowing an administrator the ability to make comparisons on uniform data in hiring his or her teachers.

While the Educational Practice Belief Inventory instrument was unsuccessful in identifying effective teachers, the researcher cannot help but wonder if a similar type of instrument that was situationally oriented in its design could identify an individual's teaching effectiveness.

Like all research studies the conclusions made must be balanced according to specific situations. There is room for more research on the subject; the following represent some items for further study.

1. A replication of this study is needed to see if the same results would be produced.
2. Additional research could be conducted involving junior and senior high school teachers.
3. A study should be conducted to determine the effect of the values and beliefs of principals on their selection of teachers for the study.
4. Perhaps the Project EMPATHY staff should redo their own reliability and validity study with different student and administrator evaluation instruments.
5. A study should be conducted on the Project EMPATHY "listen fors" to be determined if they are regionally oriented.

6. Another form of the Educational Practice Belief Inventory instrument should be developed that is situationally oriented.
7. A study should be conducted to determine how a teacher's responses to various items that make up the two instruments were influenced by where that individual was in his or her personal stage of professional development.

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APPENDICES

APPENDIX A

EDUCATIONAL PRACTICE BELIEF INVENTORY INSTRUMENT

EDUCATIONAL PRACTICE BELIEF INVENTORY

PART II

Following is a list of 69 statements concerning various aspects of educational practice. Please judge each of the statements according to the scale to the right. In making your judgements, DO NOT consider each statement from the viewpoint, "This is how it is now." Rather DO CONSIDER "This is what I really believe."

1 = complete agreement
2 = moderate agreement
3 = uncertain
4 = moderate disagreement
5 = complete disagreement

What do you believe about instruction?

70. Ongoing assessment, immediate feedback and various reinforcement devices should be used to insure that students remain task oriented. 1 2 3 4 5

71. The study period should be organized through mutual agreement between teacher and pupils with each child knowing what is expected of him. 1 2 3 4 5

72. Children naturally set goals and enjoy striving toward them. 1 2 3 4 5

73. Children receive many satisfactions from work, have pride in achievement, enjoy the process, and gain a sense of worthiness from contribution. 1 2 3 4 5

74. The teacher functions as a resource person to individuals and groups rather than as a taskmaster. 1 2 3 4 5

75. Transmission of verifiable facts which constitute universal skills is necessary. 1 2 3 4 5

76. The ends of instructional activities should be exemplified in explicit behavioral terms. 1 2 3 4 5

77. Children who understand and who are involved in what they are doing will create satisfactory methods for achieving educational tasks. 1 2 3 4 5

78. Learning activities should be provided on the basis of individual needs. 1 2 3 4 5

79. Diagnostic and prescriptive teaching are absolute necessities. 1 2 3 4 5

80. Heterogenous subgrouping for instructional purposes is recommended in certain skill development areas such as math and reading. 1 2 3 4 5

81. Children are capable of assuming responsibility for their behavior and academic growth. 1 2 3 4 5

82. Children desire to be released, encouraged and assisted. 1 2 3 4 5

83. The teacher should decide when it is time to pull loose ends of learning activities together before moving on to another aspect of that which is to be learned. 1 2 3 4 5

84. Management of children is necessary to insure proper growth. 1 2 3 4 5

	A	B	C
Score	_____	_____	_____

What do you believe about curriculum?

85. The curriculum is a predetermined body of content with highly defined and restricted delimitations. 1 2 3 4 5

86. Day-by-day lesson plan objectives must be well defined and specific. 1 2 3 4 5

87. The curriculum should emerge from each student. 1 2 3 4 5

88. In order to maintain balance in the curriculum, subject matter priorities should be determined on the basis of societal and personal needs. 1 2 3 4 5

89. There should be some system of articulation between units within a school, between schools, with school systems, and between states. 1 2 3 4 5

90. Curriculum content must be sequenced since there is a logical structural sequence to knowledge. 1 2 3 4 5

91. Due to individual educational needs, the scope of the curriculum should be planned to include a wide variety of unifying and pupil-specialty learning activities. 1 2 3 4 5

92. The curriculum should reflect as its source, the children of that school. 1 2 3 4 5

93. The curriculum sequence and scope is best divided into segmented, isolated, and compartmentalized packages of knowledge specified by grade levels. 1 2 3 4 5

94. Elements of the curriculum should be derived from the substance of knowledge itself. 1 2 3 4 5

95. The curriculum is dynamic because of its constant emergence. 1 2 3 4 5

96. Curriculum structure exists largely in teachers' and students' heads, not on paper. 1 2 3 4 5

97. Though the curriculum has some degree of systematic structure, it should be flexible enough to capitalize on emergent learning situations. 1 2 3 4 5

98. Since the curriculum must be considered dynamic and forever emerging, each curriculum area should be subjected to continuous revision and evaluation. 1 2 3 4 5

99. The curriculum sequence in certain subject matter areas should be based on a spiral structure which permits the learner to conceptualize by moving from limited perceptivity. 1 2 3 4 5

	A	B	C
Score	_____	_____	_____

What do you believe about organization?

100. The teaching function should be one of diagnosing, prescribing, treating, analyzing results and writing the next prescription. 1 2 3 4 5

101. Individual differences should be viewed as existing between and among learners as opposed to differences existing within individual students. 1 2 3 4 5

102. The school should be organized in such a way that it provides opportunity for each student to have a warm, personal relationship with competent teachers. 1 2 3 4 5

103. The contributions of specialized pesonnel should be used as students progress through the school, but their work should be coordinated with and related to the total program. 1 2 3 4 5

104. Internal coordination and planning should result in the utilization of special talents and skills which a particular teacher or group of teachers may possess. 1 2 3 4 5

105. The organizational system should permit coordination and planning by groups of teachers responsible for clusters of children in both large and small groups. 1 2 3 4 5

106. The horizontal organization of the school should permit flexibility in assigning small and large numbers of pupils to instructional groups. 1 2 3 4 5

107. Individual differences should be acknowledged by the individual pacing of students through prescribed study sequences. 1 2 3 4 5

108. The horizontal organization of the school should permit students to be assigned to instructional groups on ability within subject matter areas. 1 2 3 4 5

109. The organization of the school should reflect a system whereby each child must measure up to a specific level of performance. 1 2 3 4 5

110. The organizational structure should not result in "labeling" children at an early age. 1 2 3 4 5

111. The vertical organization of the school should provide for continuous unbroken, upward progression of all learners, with due recognition of the wide variability among learners in every aspect of their development. 1 2 3 4 5

112. The organizational design of the school should be an expression of the needs, wants, and desires of its clientele. 1 2 3 4 5

113. The organization should provide for the interdisciplinary nature of education. 1 2 3 4 5

114. Children should not be grouped according to ability. 1 2 3 4 5

	A	B	C
Score	_____	_____	_____

What do you believe about content?

115. The content of any education program must reflect predetermined survival skills necessary for life. 1 2 3 4 5

116. Content should contribute to the achievement of educational objectives or to the mission of the school. 1 2 3 4 5

117. There is little information that all should be required to know. 1 2 3 4 5

118. Sequence in content should reflect a logical structural sequence to knowledge and to development. 1 2 3 4 5

119. One creates knowledge through personal integration of experience. Therefore, one's knowledge does not categorize into separate disciplines. 1 2 3 4 5

120. There should be a balance between the content-centered curriculum and the process curriculum. 1 2 3 4 5

	A	B	C
Score	_____	_____	_____

What do you believe about materials and resources?

121. Centralized resource centers should include materials commensurate to the stages of development reflected by the students being served. 1 2 3 4 5

122. Emphasis should be placed on trade and reference works and on visual aids as opposed to a strict textbook approach. 1 2 3 4 5

123. Materials that can be easily prescribed (programmed materials, teaching machines, subject matter programs, learning packets, and kits) are desirable. 1 2 3 4 5

124. Wide use should be made of raw materials. 1 2 3 4 5

125. Resources should be limited only by teachers' and students' imaginations. 1 2 3 4 5

126. There should be an emphasis on appropriate diagnostic aids. 1 2 3 4 5

	A	B	C
Score	_____	_____	_____

What do you believe about evaluation?

127. A uniform standards approach to evaluation fails to consider individual differences of children. 1 2 3 4 5

128. Evaluation programs should have three dimensions: a) quantitative measurements, b) teachers' judgement, and c) the child's perceptions. 1 2 3 4 5

129. Learning can be assessed intuitively by observing a child working or playing. 1 2 3 4 5

130. A pupil should be placed in a given learning environment based on a diagnosis that it is best suited for his/her maturity, abilities attainment, and over-all general nature. 1 2 3 4 5

131. Evaluation must be quantitative and qualitative to be of real value. 1 2 3 4 5

132. Objective means of measuring performance may produce negative consequences upon learning. 1 2 3 4 5

133. In evaluating, the teacher's description of what the child is doing should include all aspects of growth. 1 2 3 4 5

134. Pupils should be ranked in terms of other children. 1 2 3 4 5

135. Errors are an indispensable aspect of the learning process. Errors are expected and desired, for they contain feedback essential for continued learning. 1 2 3 4 5

136. Qualities of one's learning that can be meticulously assessed are not inevitably the most important. 1 2 3 4 5

137. Predetermined standards should apply to all students in a grade or school. 1 2 3 4 5

138. Academic standards should serve the purpose of excluding or including persons in the formal school program. 1 2 3 4 5

	A	B	C
Score	_____	_____	_____

TOTAL SCORE (PART II) A_____ B_____ C_____

APPENDIX B

SUMMARY OF SELECTED DEMOGRAPHIC DATA

TABLE XX

SUMMARY OF SELECTED DEMOGRAPHIC DATA

School	Mean Age	Range of Ages	Gender		Mean Years of Experience	Range of Experience	Student Enrollment	Degree		
			Male	Female				BS	MS	DR
A	39.3	27 - 49	1	8	9.1	5 - 22	312	7	2	0
B	36.3	25 - 62	1	8	10.2	2 - 30	293	8	1	0
C	41.7	33 - 53	1	8	12.3	3 - 30	371	7	1	1
D	44.7	54 - 34	2	7	15.9	9 - 28	300	7	2	0
E	34.8	27 - 41	1	5	8.2	4 - 13	253	4	2	0
F	33.7	30 - 39	1	8	8.6	5 - 11	423	3	6	0
G	43.8	27 - 54	0	9	10.9	2 - 17	422	6	3	0
H	37.8	27 - 60	2	7	10.7	2 - 30	354	1	8	0
I	41.0	27 - 58	0	9	16.9	7 - 41	304	2	7	0
J	35.8	28 - 45	0	9	7.6	3 - 11	571	5	4	0
K	35.7	22 - 41	0	9	9.2	2 - 19	258	7	2	0
L	37.0	25 - 51	1	8	11.3	3 - 22	647	5	4	0
Total Group	38.9	22 - 62	10	95	11.0	2 - 41	253 - 647	62	42	1

APPENDIX C

DEMOGRAPHIC DATA COLLECTION SHEET

Demographic Data

Name_____ Age_____

Gender: ☐female ☐male Grade Teaching In_____

Number of Years of Teaching Experience_____

Highest College Degree Earned_____

Type of Teaching Situation:

____self contained ____open

____team teaching ____ungraded

____platoon

VITA[2]

Kenneth Dale Olson

Candidate for the Degree of

Doctor of Education

Thesis: TEACHER SELECTION UTILIZING THE PROJECT EMPATHY INTERVIEW AND THE EDUCATIONAL PRACTICE BELIEF INVENTORY INSTRUMENT

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