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AN ANALYSIS OF INDIVIDUAL PHILOSOPHICAL FOUNDATIONS AND
PEDAGOGICAL TEACHING BEHAVIORS

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Vocational Education

by
Steven Charles Bailey


June 1994


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Approved by:


Dr. Joseph English Ed. D., Committee Chair
Secondary and Vocational Education


Dr. Ronald K. Pendleton Ph. D.
Secondary and Vocational Education

May 31, '94
Date

ABSTRACT

The teacher as a person, in conjunction with the physical act of teaching, can have an extraordinarily profound influence on the life of a student. This influence can be incredibly meaningful and hold life-long impact or be a completely prosaic and tedious experience depending on the abilities of the teacher.

Almost all educational reform reports from the 1980s and 1990s include suggestions for renewing the profession and for recruiting excellent teacher candidates, realizing that better teaching is the key to school improvement (Department of Education, 1991).

The preliminary research methods used to study the problem of effective teaching behaviors required three parts: first, the acquisition, assimilation, and documentation of primary descriptive research data specifically focusing on effective teaching behaviors, the effective teaching behaviors which were identified supported improvement in student achievement; secondly, fabrication of a survey instrument which was thoroughly specific to the central research questions of the study and

expertly exposed the subsequent findings; and thirdly, conducting an educators' field test survey which in Part I identified both effective and ineffective philosophical learning beliefs and considered them the independent variable. The researcher then identified from library research, areas of effective teaching behaviors. This category, Part II of the survey, identified pedagogical practices which were considered the dependent variable and measured via ratio the cause and effect relationship between both aforementioned groups.

The researcher noted several areas of significance with regard to the examination of frequencies. Question 1: The educational enterprise assumes that people predictably transfer learning to new situations. Extensive research spanning decades, shows that individuals do not predictably transfer knowledge. Students do not predictably transfer school knowledge to everyday practice (Larve 1988). Students do not "...predictably transfer sound everyday practice to school endeavors, even when the former seems clearly relevant to the latter" (Berryman, 1992, p. 46). However, 98% of the respondents felt positive that learning was in fact transferred to new learning situations.

In an attempt to draw some conclusive meaning to this statistical evidence, the researcher invites the reader to ponder some additional information. The survey of frequencies revealed that 65% of the respondents had seven or less years in the education field in total. This amounted to 66 of 107 respondents. Also, 70% of the entire sample population had less than five years experience in their present position as educators. From this information we might draw several conclusions regarding the statistical revelations discovered in this study. We could postulate the reason philosophical and pedagogical effective behaviors were statistically unknown to this sample population may be the virtual lack of teaching experience of this sample. However, an additional hypothesis could be derived. We might draw the conclusion that teacher education institutions in which these subjects were originally trained were negligent in teaching both effective pedagogical practices and effective philosophical learning foundations. Consider that in California, the pre-service and student teacher generally will be required to attend only one teaching methods course for their entire teacher education career. We need to ask ourselves these

questions. Is one eighteen-week methods of teaching course sufficient instruction for the beginning teacher to then conduct a twenty-plus year teaching career? This may be a significant reason why a large percentage of this study's sample population cannot recognize effective philosophical learning foundations or pedagogical practices.

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My appreciation is extended to Dr. Joseph English of the Secondary and Vocational Education Department, California State University, San Bernardino, who taught me the true essence of vocational education and the act of becoming and whose assistance was paramount to the successful completion of this study. I also would like to thank Dr. Jill Tranvig at Chaffey College, who not only assisted in the statistical analysis of this study but more importantly helped me understand the meaning.

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TABLE OF CONTENTS

ABSTRACT	iii
ACKNOWLEDGMENTS	vii
TABLE OF CONTENTS	viii
CHAPTER I. INTRODUCTION	1
Background	1
Nature of the Problem	3
Significance of the Problem	5
Statement of the Problem	7
Purpose of the Study	7
Overview of the Research Questions	8
Limitations	10
Definitions	11
CHAPTER II. REVIEW OF RELATED LITERATURE	14
Introduction	14
Effective Teaching Behaviors and Student Outcomes ..	15
Student Involvement and Instruction	16
The Instructional Model	17
Feedback and Acquiring Higher Learning Skills	18
Classroom Standards	19
Student Interaction	20
Summary	22

CHAPTER III. RESEARCH DESIGN AND PROCEDURES	23
Introduction	23
Research Questions	24
Questionnaire	25
Introduction	25
Introductory Page of the Questionnaire	26
Part I of the Questionnaire: Learning: Philosophical Foundations	26
Part II of the Questionnaire: The Learning Process .	27
Methods of Identifying Effective Teaching Behaviors for Part II	28
Identification of Behaviors	30
Population Sample and Description	30
Methods and Treatment of Data	31
Pilot Study	32
CHAPTER IV. FINDINGS AND DISCUSSION	34
Introduction	34
Demographics	34
Findings	37
Other Significant Data	42
Discussion	45

CHAPTER V. CONCLUSIONS AND RECOMMENDATIONS	52
Introduction	52
Conclusions	53
Recommendations	57
APPENDIX:	60
Survey Letter	61
Survey	62
REFERENCES	72

LIST OF CHARTS

Chart 1	69
Chart 2	70
Chart 3	71

CHAPTER I

INTRODUCTION

Background

The teacher as a person, in conjunction with the physical act of teaching, can have an extraordinarily profound influence on the life of a student. This influence can be incredibly meaningful and hold life-long impact or be a completely prosaic and tedious experience depending on the abilities of the teacher.

This researcher has experienced far too few teachers who instruct with effective teaching behaviors, those who inspire scholarly pursuit, and far too many who are simply laborious in their delivery. This raises a central question: Why are there so few excellent teachers who instruct with effective teaching behaviors and improve student achievement?

This researcher's professional opinion is that the continued development of the teaching act in the form of presentation and delivery of instruction are commonly overlooked, possibly because teaching effectiveness

behaviors are thought to be such a basic and trite group of skills, that minimum time and effort are expended in teacher training institutions to expertly develop the proper skills. Recall for a moment your classes as a student. How many times have you endured teachers who instructed by reading from their textbooks or reading from their notes. We know these teachers exist. Somehow they have gotten the impression that students are passive vessels into which knowledge is poured. Numerous research studies exist which support the position that "...passive learning means that learners do not interact with problems and content and thus do not get the experimental feedback that is key to learning." (Berryman, 1992, p. 51)

Almost all educational reform reports from the 1980s and 1990s include suggestions for renewing the profession and for recruiting excellent teacher candidates, realizing that better teaching is the key to school improvement (Department of Education, 1991). Common sense certainly dictates that when a problem is identified within the purview of the teaching act, then return to basics, identify expert teaching effectiveness behaviors and train intensely towards this objective.

With the aforementioned concepts in mind, the researcher set out to further investigate, examine, and identify from descriptive research studies the behaviors which are most appropriate for effective teaching. The researcher expects that this study could illuminate aspects of effective teaching behaviors or identify areas not yet considered for further research.

Nature of the Problem

"Learning is a fascinating interactive process, the product of student and teacher activity within a specific learning environment" (Keefe, 1987, p. 3). What teachers do determines what students learn, how they feel about learning, and how they feel about themselves (Monroe, 1983). Because teaching has such a profound influence on students' lives, teachers must endeavor to teach with techniques which are the most effective and efficient for student cognitive assimilation. But what constitutes effective teaching? What do effective learning environments look like and how is effective teaching accomplished? (Keefe, 1987)

Our understanding of how people learn has changed, and the nature of the work place has changed where we utilize our learning. Strengthening the ties between the ways in which people effectively learn and the current types of emerging work places will positively affect us as individuals and our institutions (Berryman, 1992).

Various definitions for effective teaching are feasible because educators have differing opinions about how to prioritize student behavior outcomes (Brown, 1989). They select outcomes based on their ease of measurement as well as their desirability (McKeachie, 1986). Acquisition of knowledge is given high priority, followed by a positive attitude toward school, subject and learning (Good, Biddle, Brophy, 1983). Achievement, as measured by norm-references tests, is often chosen as the definition of effective teaching because it is operational (Good, Grows 1979). "We should look upon achievement as one piece of evidence that children are learning well" (Bloom, 1979, p. 161).

For teachers to improve the effectiveness of their instruction, they need information about what behaviors improve student achievement and how to incorporate them into their teaching. Researchers have completed many

studies about effective teaching, and this supports the argument that teaching is in fact a science (Billups, Rauth, 1984). As educational research continues to compile specific conclusions about teaching effectiveness, teachers can utilize this data to improve the outcomes of student achievement. However, teachers must continually be informed as to the most recent discoveries involving effective teaching methods and this information must be accessible in a useful form.

Therefore, teachers need a capsulized model for improving teacher effectiveness which encompasses the most recent data in the field of effective teaching strategies. This data identified in this study could be utilized by the teacher as a tool for improving existing teaching methods.

Significance of the Problem

When current school reform reports specify recommendations for school improvement, more effective teaching is a central priority. The teacher in the classroom really determines the curriculum and the level of students' cognitive thinking (Barnesly, 1992). But because

reform efforts do not change what students and teachers do every day, they have had little effect on student achievement (Elmore, 1988). Almost all reform reports include suggestions for renewing the profession and for recruiting excellent teacher candidates, realizing that better teaching is the key to school improvement (Department of Education, 1991).

We can never exhaust the necessity for continued identification of effective teaching behaviors. As research studies conclude, continuing updating of the most current data on effective teaching methods must be compiled. This newly categorized data can then be shared with the teaching establishment. The process for further updating the newly identified descriptive research material is never ending.

Teaching decisions require knowledge, judgment and experience (Young, 1987). Knowledge of teaching effectiveness behaviors facilitate an examination of the entire teaching process. The teaching effectiveness behaviors identified in this study are pedagogical processes which reflect state of the art teaching methods.

Statement of the Problem

The problem required three elements: first, identifying, collecting, and categorizing information related to effective teaching behaviors obtained from primary descriptive research studies; second, constructing an effective teaching behaviors survey instrument from the synthesized research data; and third, identifying and constructing an appropriate control group of philosophical educational beliefs known to be effective and ineffective to validate the respondents' answers against the research generated effective teaching behaviors. Therefore, the problem was to define, explain, and validate state of the art effective teaching behaviors which have shown to improve student achievement.

Purpose of the Study

Unfortunately, most educational research focuses on the student as an information processor and is descriptive instead of prescriptive. The current research on student learning and cognition provides teachers with excellent resources for how students process information, solve

problems, think, and reason, but it does not provide detailed prescriptions for action in the classroom. As Young (1987) pointed out, "...many college faculty would probably have difficulty translating some of the current research on student learning and cognition into directly applicable information relevant to their classroom practice (p. 72)."

The purpose of this study, therefore, was to systematically define, explain, and validate state of the art effective teaching behaviors which have shown to improve student achievement.

Overview of Research Questions

Several research questions were considered in order to address the purpose of this study. One area of concentration was the acquisition, assimilation, and documentation of primary research data regarding effective teaching behaviors. The effective teaching behaviors which were identified supported improvement in student achievement.

An additional area of concern was the fabrication of a survey instrument which was thoroughly specific to the central issues of the study and expertly exposed the subsequent findings.

The researcher identified a series of philosophical learning foundations which identified both effective and ineffective learning beliefs and considered them the independent variable. The researcher then identified from library research, behaviors of effective teaching. This category of pedagogical practice was considered the dependent variable and measured via ratio the cause and effect relationship between both aforementioned groups.

The primary questions focused on the educator's ability to properly identify effective and ineffective philosophical beliefs and for the researcher to understand and then share with the reader the correlation between personal philosophical foundations and effective teaching behaviors which improve student achievement. All research questions will be fully examined in Chapter Three.]

Limitations

For the purpose of this study no attempt will be made to generalize beyond the population defined by the study. However, there may be specific areas where generalizations may be appropriate.

For the purpose of this study the population was limited to teachers from the following groups: K-12, adult/community college/university, and others. The sample of this population was taken from students enrolled at the Graduate School of Education at California State University, San Bernardino. This random sample group may contain sampling error due to the small size of the chosen population and individual variance and in fact may be atypical. The population sample size limits the scope and generalizability of this study.

The geographical area for this study was limited to the variance of the individual respondents based on the Southern California community in which they reside and work.

For the purpose of this study, descriptive research studies specifically focusing on the effective methods of

delivery of instruction were examined. A computerized search was conducted for a 10-year span covering the years 1984 through 1994. Any research studies not imputed at the time of the computer search would not have been examined.

The definition of effective teaching was limited to one outcome: improved student achievement. This does not imply that it is the only desired goal. However, the more that current research relates various teaching behaviors with successful learning, the more it becomes probable that these behaviors are components of effective teaching.

Definitions

For the purpose of this study the following definitions will apply.

Effective Teaching:

Teaching which results in improved student achievement.

Teacher Behaviors:

Observable processes and behaviors of the teacher.

Effective Teaching Behaviors:

Behaviors of a teacher that result in desired student behavior outcomes.

Desired Student Behavior Outcomes:

Improved achievement and those behaviors that consistently lead to improved achievement.

Effective Teaching Survey:

A document containing teacher behaviors that research studies link to effective teaching.

Research Studies:

Reports of research about effective teaching behaviors.

Vocational Education:

The holistic act of becoming that which did not exist antecedent to the synthesis and mastery of contextually accumulated cognitive and application skills (English, 1993).

Pedagogical:

The science of effective teaching methods.

Cognitive Skills:

Knowledge of information, facts and concepts and the ability to apply, analyze, synthesize, and evaluate (Pendleton, 1992).

Psychomotor Skills:

Muscle action, skill, and dexterity (Pendleton, 1992).

Philosophical Foundations:

A teacher's individual philosophical framework of educational practice which drives behavior in the classroom.

CHAPTER II

REVIEW OF RELATED LITERATURE

Introduction

When current school reform reports specify recommendations for school improvement, more effective teaching is a central priority. The teacher in the classroom really determines the curriculum and the level of students' cognitive thinking (Barnesly, 1992). But because reform efforts do not change what students and teachers do every day, they have little effect on student achievement (Elmore, 1988). Almost all reform reports include suggestions for renewing the profession and for recruiting excellent teacher candidates, realizing that better teaching is the key to school improvement (Department of Education, 1991).

Unfortunately, most educational research focuses on the student as an information processor and is descriptive instead of prescriptive. The current research on student learning and cognition provides teachers with excellent resources for how students process information, solve

problems, think, and reason, but it does not provide detailed prescriptions for action in the classroom. As Young (1987) pointed out, "...many college faculty would probably have difficulty translating some of the current research on student learning and cognition into directly applicable information relevant to their classroom practice (p. 72)." The researcher will attempt to bridge the identified gap of educational research descriptions to identify current effective teaching behaviors which are directly applicable to the classroom teacher and responsible for improved student achievement.

Effective Teaching Behaviors and Student Outcomes

Educational researchers find effective and efficient teaching methods and behaviors by observing teachers in the classroom. Researchers calculate relationships between specific teacher behaviors and desired student outcomes (Oser, 1992). Teaching behaviors can be organized in several specific categories. However, for this study the teaching act itself will be the primary focus of discussion. An attempt will be made to link descriptive

research with the prescriptive action which should be undertaken in classroom delivery.

Student Involvement and Instruction

If the goal of teaching is student achievement, then the teacher must accomplish two objectives to reach that goal: maximize the time available for providing instruction and maintain student involvement in that instruction (Wingo, 1992). Virtually all effective teaching behaviors support one, the other, or both of these objectives.

The effective teacher must be aware of using time efficiently. The instructor seeks ways to minimize time lost to activities other than instruction and to present instruction with as few breaks in cognitive processing as possible (Horan, 1991). The instructor starts and stops on time and minimizes interruptions and distractions.

During instruction and interactions, the effective teacher commands attention of all students. Conscious of the use of time and serious about goals, the instructor stays on task and avoids digressions. The students begin each phase of work quickly because the instructor gives

clear, precise instructions and checks for understanding of them. As a result, the students always know what to do next (Wiecking, 1987). The effective teacher scans the room frequently and reinvolves off-task students. When the teacher changes activities, he or she keeps the transitions smooth by clearly marking the end of one activity and establishing the beginning of the next (Kappes, 1988). Since transitions create a break in cognitive flow, the instructor keeps them short by being especially careful about monitoring student behavior at this time. During desk work, the effective instructor moves around the room to note the task involvement and provide individualized help and feedback. Students of effective teachers are on task because they understand the structure of their learning environment (Tabb, 1991).

The Instructional Model

An effective lesson design follows an instructional model which uses whole group instruction most of the time (Young, 1988). The teacher introduces the lesson, states the objectives, and then teaches to the objective

(Pendleton, 1991). Activities have a program of action for the students, are clearly bounded by transitions, and have a content focus (McKeachie, 1986). The teacher illustrates or models the concept or skill to be learned (Berryman, 1992).

Students can perform tasks at a high rate of success when they become actively involved. To accomplish this and still use time effectively, the effective teacher creates a supportive atmosphere, plans carefully, and delivers instruction interactively (Berryman, 1992).

In order to interact effectively with students, the teacher creates a cooperative and task-focused atmosphere. The teacher develops interpersonal relationships by listening and being sensitive to a student's ideas and feelings. The teacher builds students' self-concepts and treats them with respect (Oser, 1992).

Feedback and Acquiring Higher Learning Skills

Learners need frequent opportunity to respond and receive feedback (Menges, 1991). By asking many brief questions, the teacher checks for student understanding

throughout the lesson (Gagne, 1985). When asking questions, the effective teacher uses precise, content-related questions that vary in difficulty and complexity. The teacher asks the question before calling on the student. The teacher allows the student to prepare the answer by waiting until the student responds and waits again when the student stops responding to permit the student to augment the answer (Gooding, Swift, & Swift, 1983). Acknowledging a response as correct helps to sustain involvement in the other students who benefit from this information. If the student is incorrect, the teacher must indicate this as well, then guide the student by probing further or clarifying the question (Berryman, 1992). Dissecting and understanding the nature of a student's acquisition of an incorrect answer is as valuable to the individual student and class as acknowledging the correct answer only (Berryman, 1992).

Classroom Standards

The effective teacher believes that the subject matter being taught is important and sets high standards for

academic work from all students. If the teacher is confident that the students can learn and that he or she as a teacher will make a difference, then the teacher will be more effective. Unlike most teaching behaviors, these teaching efficacy feelings are fragile and often change because of teaching factors external to the classroom (Van Horn, 1989).

Student Interaction

The decisions that the teacher makes during instruction, based on the information received from interactions, are critical for students' success. The teacher's ability to diagnose student errors and modify instruction so that students will be successful allows them to teach for more than rote learning (Berryman, 1992).

The effective teacher monitors classroom assignments which are aimed for high success levels, and provides guided practice for the students (Leahey, 1985). A summary of each lesson includes the main points, and homework reinforces the lesson (Brophy, 1982). Comprehension and

understanding in the context of realistic problems, not rote learning, are emphasized (Berryman, 1991).

Effective teaching techniques are visible throughout the lesson. An active teaching approach includes: cooperative learning groups, oral presentations, simulation and role play, and structured classroom controversy (Schomberg, 1988). Additionally, active teaching includes a continuous academic focus (Good, Biddle, & Brophy, 1983) and requires management of time, with a brisk momentum throughout the lesson (Bruning, 1984). The effective teacher readies the students for each activity with clear instructions and smooth transitions (Menges, 1991). Since questioning assures active student involvement and accountability, the teacher applies a variety of questioning techniques (Munroe, 1983). The teacher also provides academic feedback and uses praise and encouragement appropriately (Gagne, 1985). The teacher holds the students accountable for completing their work (Oser, 1992). The teacher assists students in acquiring higher order learning skills by teaching fundamental skills to the point of mastery and stimulating creative thinking (English, 1993). Since several studies report large

correlations between teacher expectations and pupil achievement, the effective teacher requires high student achievement (Good, Biddle, & Brophy, 1983).

Summary

Current research in effective teaching models do not provide all the answers to questions about student learning and cognition in the classroom, and more empirical research is always needed. Nevertheless, research does represent an advance in our understanding of student learning and does have important implications for instruction. As McKeachie (1986) said, "...research may not result in the one best method of instruction, or the magic elixir for fostering student learning and motivation, but it can help faculty conceptualize teaching and learning in new ways" (p. 83). McKeachie goes on to point out, "...new conceptualizations or beliefs about teaching and learning can then be used by faculty members as the knowledge base to draw upon as they attempt to interact effectively with different students in different instructional settings" (p. 83).

CHAPTER III

RESEARCH DESIGN AND PROCEDURES

Introduction

The preliminary research methods used to study the problem of effective teaching behaviors required three parts: first, the acquisition, assimilation, and documentation of primary descriptive research data specifically focusing on effective teaching behaviors, the effective teaching behaviors which were identified supported improvement in student achievement; secondly, fabrication of a survey instrument which was thoroughly specific to the central research questions of the study and expertly exposed the subsequent findings; and thirdly, conducting an educators' field test survey which in Part I identified both effective and ineffective philosophical learning beliefs and considered them the independent variable. The researcher then identified from library research, areas of effective teaching behaviors. This category, Part II of the survey, identified pedagogical practices which were considered the dependent variable and

measured via ratio the cause and effect relationship between both aforementioned groups.

The primary questions focused on the educators' ability to properly identify effective and ineffective philosophical beliefs and properly identify known pedagogical practices. The data then explained the intercorrelation between both groups of questions.

Research Questions

The research questions of this study were:

1. How do an individual teacher's philosophical foundations correlate with his/her knowledge of effective pedagogical behaviors?
2. Is there a significant difference among the three groups' selected variables?
3. On what variables do these groups vary?

Questionnaire

Introduction

The researcher prepared a questionnaire in order to address the research questions contained in the study. A packet was prepared for mailing or hand delivery to the respondents and contained a cover letter explaining the purpose of the survey, and instruction page soliciting information about the respondent's career as an educator, the survey instrument containing Part I of the study which was considered the independent variable, and Part II of the study which was considered the dependent variable. The questionnaire was hand delivered and administered to 109 educators who were attending graduate courses in the school of education at California State University, San Bernardino.

Questionnaire respondents were asked in Part I to indicate by numerical degree (1 through 5) their belief in the identified philosophical learning behavior. In Part II the respondents were asked to indicate by numerical degree (1 through 5) their belief in the identified teaching

effectiveness behavior. They were additionally asked to add comments and suggestions.

Introductory Page of the Questionnaire

The introductory page of the questionnaire contained instructions for completing the questionnaire and questions regarding the respondent's educational background. This background information was statistically coded by the researcher to numerically identify respondents by position or group. This information was to be used for the treatment of data. Background information requested was: present position, grade or subject area, years of experience in present position, and total years as an educator.

Part I of the Questionnaire: Learning: Philosophical Foundations

Part I of the questionnaire, Learning: Philosophical Foundations, contained nine questions which focused on an individual teacher's philosophical learning beliefs. Part

I was designed as the independent criterion variable for the analysis of data.

Questions were designed so that all odd questions (1,3,5,7, and 9) were known incorrect or ineffective philosophical learning beliefs. If answered perfectly by the respondents, the answer should have been 1 or strongly believe it is not true.

Conversely, questions 2,4,6, and 8 were known correct or effective philosophical learning beliefs. If answered perfectly by the respondents, the answer should have been 5 or strongly believe it is true.

Part II of the Questionnaire: The Learning Process

Part II of the questionnaire, The Learning Process, contained ten questions with each question containing numerous subsections. Each question defined correctly the effective teaching behaviors which the researcher had found through research had caused increased student achievement. Part II was designed as the dependent criterion variable for the analysis of data.

Methods of Identifying Effective Teaching Behaviors for Part II

The researcher selected the DIALOG Information Service and ERIC database for the computerized search. The researcher utilized the facilities of: the Pfau Library at California State University, San Bernardino; the Main Library of University of California, Riverside; and the Vocational Education Research Center at Ohio State University.

The database was searched for all documents identified by the descriptor, teacher effectiveness, with several sub-descriptors. Publication year was specified to include 1984 to 1994, and Publication/Document Type was limited to Reports, Research/Technical. The ERIC requirement for Educational/Age descriptor was assigned to every document. The search was specifically designed to include every Educational/Age Level descriptor and research studies that pertained to students in post secondary, community college, and university level institutions.

In all, 56 documents met the above criteria. Of these, 32 were journal articles, and 24 were conference

papers, books, dissertations and other documents accessible on ERIC microfiche.

As a first consideration, the document had to discuss educational research linking teacher behaviors with desired student behavior outcomes. Several types of experimental and descriptive studies were appropriate for inclusion to the research.

In experimental studies, researchers varied the experimental teachers' behavior in certain ways and noted the changes in student achievement between experimental and control groups. Where significant improvement ($p < .05$) in student achievement occurred, the teacher behavior was categorized as effective.

In correlational studies, researchers observed in classrooms and compared teacher behaviors with student achievement scores. Teacher behaviors that correlated significantly ($p < .05$) with student achievement were considered to be effective.

Identification of Behaviors

Research reports containing effective teaching behaviors were studied carefully so that behaviors reported as effective would capture the exact meaning the experimenter had intended. Where behaviors were listed in a table, those precise wordings were used. Where statistical procedures were employed, only those behaviors significant at the .05 level were considered.

Population Sample and Description

For the purpose of this study the population was chosen from teachers within the following groups: kindergarten through twelfth grade which included, elementary, junior high school, high school, and special education teachers; adult teacher educators and ROP instructors, community college instructors, and university professors; and an "others" group which included pre-service students, school counselors, and pre-school teachers. The sample of this population was taken from students enrolled at the Graduate School of Education at California State University, San Bernardino. This random

sample group may contain sampling error due to the small size of the chosen population and individual variance and in fact may be atypical. The population sample size limits the scope and generalizability of this study.

Methods and Treatment of Data

The introductory page of the questionnaire contained questions regarding the respondent's background. This background information was statistically coded by the researcher to numerically identify respondents by their present position, grade taught, years in present position, and total years as an educator. This information was then used for the grouping of data.

Part I of the questionnaire was designed to provide the researcher with a nine-question independent criterion variable, while Part II was designed as the ten-question dependent variable. The respondents were categorized or grouped as: Group 1 = Teachers from K-12, Group 2 = Teachers from adult education, community college, and professors from the university, Group 3 = pre-service students, school counselors and rehabilitation counselors.

The first method and treatment of data was the survey of frequencies on all personal background data and survey questions. The second treatment of data included an analysis of variance which compared the groups and their responses for all questions throughout the questionnaire. The Scheffe procedure was utilized which identified ranges of 0.050 significance. The third treatment of data included Pearson correlations of coefficients. In this procedure all questions within the independent variable Part I were analyzed for correlation against the dependent variable Part II. The fourth treatment of data included a nine-question independent variable multiple regression which searched for correlations against the dependent variable questions 10 through 19.

Pilot Study

Prior to the finalization of the questionnaire instrument and data collection methods, the researcher conducted a brief preliminary survey utilizing five teachers from the Ben Franklin Elementary school in Riverside, California, and one Riverside Community College

adjunct faculty member. The researcher administered the questionnaire to the aforementioned teachers and then conducted interviews with the subjects regarding the general understandability of the instructions and questionnaire. A positive response was given by all respondents with no significant problems associated with the instructions or the questionnaire format. No significant additional problems were noted by the researcher. Due to the respondents' positive response and no associative problems noted by the researcher, the questionnaire details were finalized and the larger format survey was conducted.

CHAPTER IV

✓ FINDINGS AND DISCUSSION

Introduction

Chapter Four will examine several subject areas relative to the finding of this study. Initially, there will be discussion regarding the specific demographics of the sample population used for this study. Next, the researcher will expose the findings of the study and the interpretation of the statistical data. Lastly, the researcher will discuss the significant meaning of the research data.

Demographics

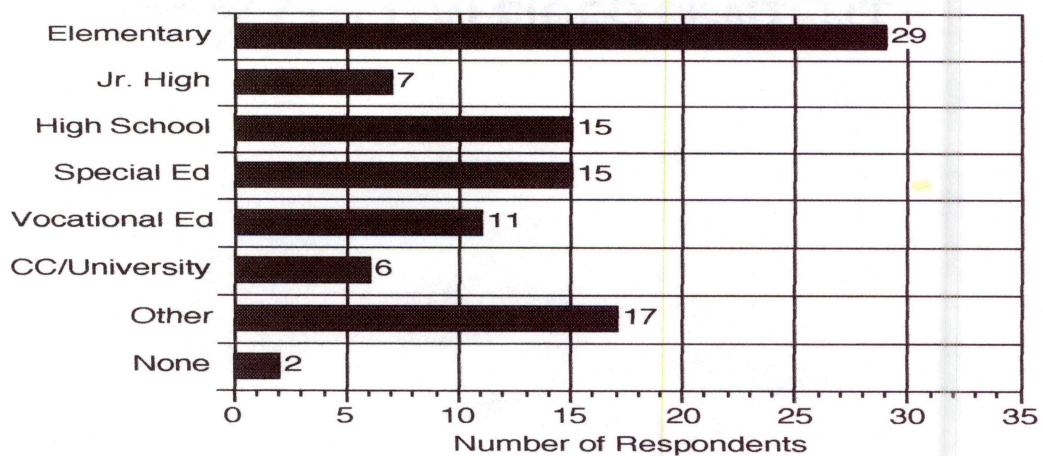
For the purpose of this study the sample population consisted up of teachers attending graduate school at California State University, at San Bernardino. In total N=109 teachers were provided with a questionnaire and N=107 were returned as a usable quantity. The sample population was 99% usable in total. Through the treatment of data by

survey of frequencies, the researcher was able to further identify the sample into several significant groups.

The survey of frequencies by present position was as follows: K through twelfth grade teachers N=67; community college, regional occupation, and adult education teachers N=14; university professors N=1; the group identified as "others" included, pre-service teachers, school counselors, and rehabilitation counselors N=22.

The survey of frequencies by grade taught was as follows: Elementary school N=29; Junior high school N=7; High school N=15; Special education N=15; Vocational education N=11; community college and university professors N=6; Others N=17. Chart 1 demonstrates the relationship between the respondents regarding the current grade taught.

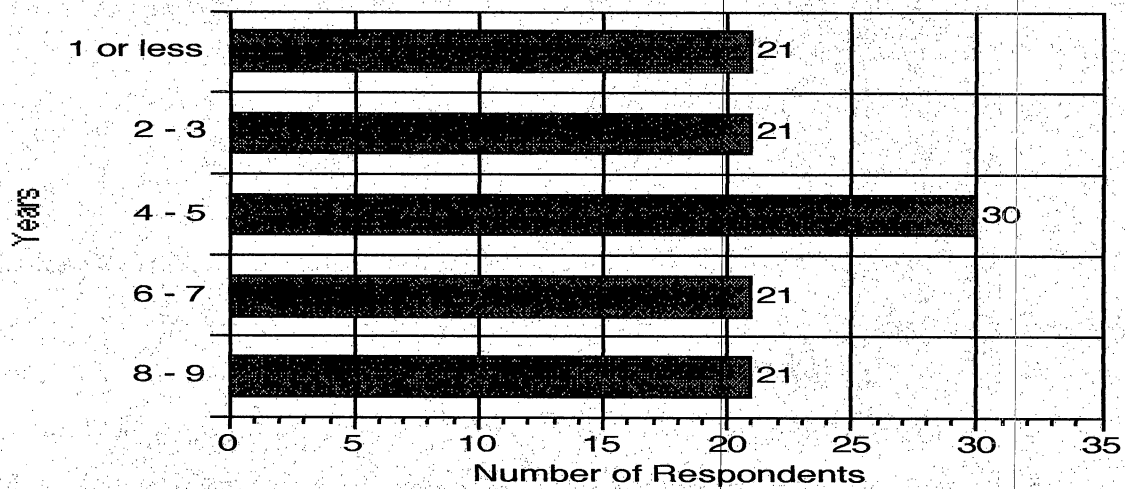
GRADES TAUGHT BY RESPONDENTS



The survey of frequencies by years in present position (years in present educational position) are demonstrated by

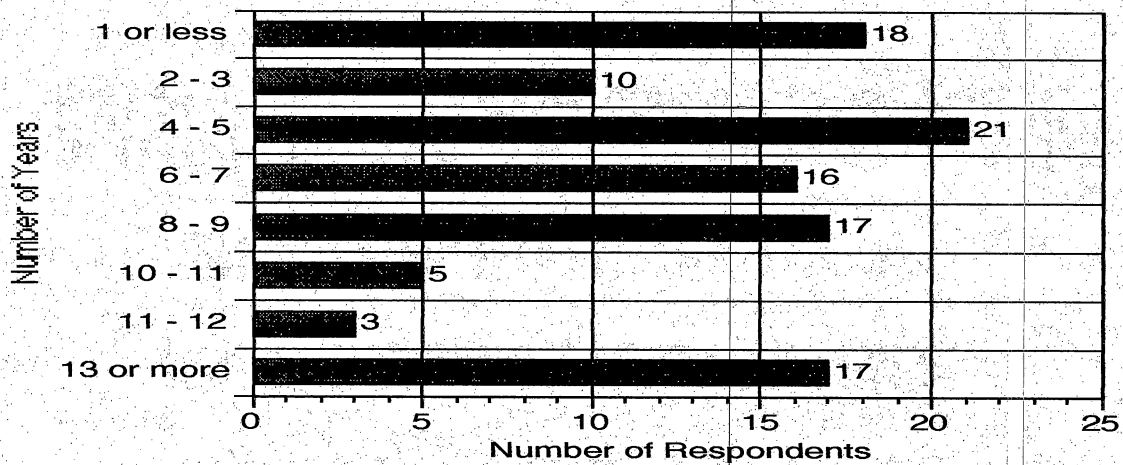
Chart Two:

RESPONDENTS' TIME IN PRESENT POSITIONS



The survey of frequencies by total years as an educator are demonstrated by Chart Three:

RESPONDENTS' TOTAL TIME AS EDUCATORS



Findings

The results of the questionnaire were significant in obtaining data which specifically answered the research questions and the purpose of this study. Research question one was as follows:

- ①. How do an individual teacher's philosophical foundations correlate with his/her knowledge of effective pedagogical behaviors?

The above described research question was answered by the treatment of data through the multiple regression study and the Pearson correlation study.

First, the multiple regression analysis examined the interrelationship between known effective and known ineffective philosophical beliefs and compared them with known effective teaching behaviors. The analysis found that positive correlations existed and were important predictors between question #2 target knowledge (a known philosophical belief) and known effective teaching behaviors questions #15 closes the lesson, #16 uses active teaching, and #18 academic feedback. See the appendix for a review of the mentioned questions. Respondents answered

positively on the above described question with multiple R scores of .445 and R square scores of .198.

The regression analysis also found negative correlation between question #5 stimuli and correct responses (a known negative philosophical belief) and a known effective teaching behavior #12 teaches to the objective. See the appendix for a complete review of the mentioned questions. Respondents answered negatively on the above described question with multiple R scores of .248 and R scores of .051.

The regression analysis also found positive correlation between question #8 real world situations (known effective philosophical belief) and a known effective teaching behavior #13 uses direct questioning. See the appendix for a complete review of the mentioned questions. Respondents answered positively regarding questions with multiple R scores of .293 and R scores of .086.

The Pearson correlation analysis examined the interrelationship between known effective and known ineffective philosophical beliefs and compared them with known effective teaching behaviors. This study found that

when a variable pair was examined, if that pair had a $P > .05$, it was considered statistically significant. This additionally indicated that a significant correlation existed between the two variables.

Therefore, a positive correlation existed between question #2 target knowledge (known effective philosophical belief) and the following questions which are known effective teaching behaviors: Questions #11 significance .044 states objectives clearly, #12 significance .021 teaches to the objective, #13 significance .020 uses direct questioning, #15 significance .006 closes the lesson, #16 significance .002 uses active teaching.

Additionally, positive correlations were found between question #5 stimuli and correct responses (known ineffective philosophical belief) the following questions which are known effective teaching behaviors: Questions #12 significance .033 uses direct questioning, #16 significance .031 uses active teaching.

Also, positive correlations were found between question #6 learning should be staged (known effective philosophical belief) and the following question which is a

known effective teaching behavior: Question #10

significance .048 introduces the lesson.

Positive correlations were found between question #7 getting the right answer (known ineffective philosophical belief) and the following question which is a known effective teaching behavior: Question #13 significance .043 uses direct questioning.

Positive correlations were found between question #8 real world situations (known effective philosophical beliefs) and the following questions which are known to be effective teaching behaviors: Question #12 significance .007 teaches to the objective, question #13 significance .004 uses direct questioning.

Positive correlations were found between question #9 skills independent of context (known ineffective philosophical belief) and the following question which is a known effective teaching behavior: Question #15 significance .050 closes the lesson.

Research questions two and three are as follows:

- ②. Is there a significant difference among the three groups and the selected variables?
3. On what variables do these groups vary?

The preceding research question was statistically answered by the use of analysis of variance which denotes groups which are significantly different because of independent variables. The researcher chose 0.050 as the value actually statistically compared with the mean. Group #1 was the K-12, group #2 was community college/adult/university, group #3 was others (pre-service teachers, pre-school teachers, and counselors).

The analysis of variance found that there was a significant difference between group #3 at

2.68 and the other two groups on question #3 learners are best seen as passive vessels into which knowledge is poured (known ineffective philosophical belief). Group #2 was the most correct group with a 1.66 M, followed by group #1 with a 1.76 M.

The analysis of variance found that there was a significant difference between group #3 at M 3.5238 and the other two groups on question #6, Learning should be staged so that the learner builds the multiple skills required in expert performance and discovers the conditions in which they can be generalized (known effective philosophical belief). Group #2 was the most correct with a M of 4.4667, followed by group #1 with a 3.8788 M.

The analysis of variance found that there was a significant difference between group #3 at M 3.6842 and the other two groups on question #10 introduces the lesson (known effective philosophical belief). Group #2 was the most correct with a M of 4.6364, followed by group #1 with a 4.0000 M.

Other Significant Data

The examination of frequencies brought to light some significant findings about the three groups and should be described here. The following will be an analysis of statistical data obtained from the survey of frequencies.

The first piece of significant data obtained from the examination of frequencies revealed that 70% of the entire sample population had less than five years experience in their present position as educators. This amounted to 72 of 107 respondents.

The second significant piece of information revealed that 65% of the respondents had seven or less years in the education field in total. This amounted to 66 of 107 respondents.

The next area of significant statistical information occurred in the form of the way the population as a whole answered some of the variable questions significantly incorrect. This means that the respondents answered questions significantly true or significantly believed it was not true in the opposite manner in which a correct response would have been appropriate.

Question #1; The educational enterprise assumes that people predictably transfer learning to new situations, is a known ineffective philosophical belief. However, 98% of the respondents felt positive that learning was in fact transferred to new learning situations.

Question #2; target knowledge for an ideal learning environment includes domain specific conceptual, factual, and procedural knowledge and three types of strategic knowledge. However, strategic content is needed to operate effectively with domain-particular knowledge, a known effective philosophical belief. However, 56% of the respondents felt negative about the concepts of target knowledge.

Question #3; Learners are best seen as passive vessels into which knowledge is poured, a known seriously ineffective philosophical belief. However, still 24% of the respondents continued to believe that learners are passive vessels into which knowledge is poured.

Question #5; Learning is the strengthening of bonds between stimuli and correct responses, a known seriously ineffective philosophical belief. However, 61% of the respondents felt positive that learning is the strengthening of bonds between stimuli and correct responses.

Question #9; To insure their transfer to new situations, skills and knowledge should be acquired independently of their contexts of use, a known seriously

ineffective philosophical belief. However, 40% of the respondents answered positive or true that skills and knowledge should be acquired independently of their context.

It should be noted that the additional questions not discussed here were significantly answered in the proportionally correct manner by the respondents. It was significant that in all questionnaires the respondents agreed significantly with the identified effective teaching behaviors, questions #10 through #19. The lowest correct response rate was 78% when true and strong true responses were combined.

Discussion

Detailed examination of the proportions for each group of educators revealed that there were significant differences between the groups on several items with regard to research questions #1, #2, and #3. In all statistical correlations it should be noted that group #2 (community college, adult/vocational educators, and university professors) consistently scored the higher values followed

by group #1 (K-12), and group #3 others (pre-service, pre-school, and school counselors). The findings also consistently showed significant mean differences between the high value group #2 and the low value group #3. In several correlations the mean difference between group #2 and group #1 were insignificant.

The first area that demonstrated significant difference was the analysis of variance by position regarding question #3, learners are best seen as passive vessels into which knowledge is poured. "Passive learning means that learners do not interact with problems and content and thus do not get the experiential feed back that is the key to learning" (Berryman, 1992, p. 51). In this question group #2 showed a significant positive understanding that in fact learners are not vessels into which knowledge is poured. Group #3 however, demonstrated a serious misunderstanding as to the manner in which students as learners process information. Group #1 was additionally slightly negative like group #3 but not as severe.

The second significant area of difference focused on the analysis of variance in question #3. In this question, Learning should be staged so that the learner builds multiple skills required in expert performance and discovers the conditions in which they can be recognized. This question asks the reader to identify the significance of learning in context. Group #2 demonstrated a positive understanding regarding the importance of learning in context, while group #3 again demonstrated a misunderstanding of this important concept. There was no significant difference between group #1 and group #2 on question #3.

The researcher noted several other areas of significance with regard to the examination of frequencies. Question #1: The educational enterprise assumes that people predictably transfer learning to new situation. Extensive research spanning decades, shows that individuals do not predictably transfer knowledge. Students do not predictably transfer school knowledge to everyday practice (Larve, 1988). Students do not "...predictably transfer sound everyday practice to school endeavors, even when the former seems clearly relevant to the latter" (Berryman,

1992, p. 46). However, 98% of the respondents felt positive that learning was in fact transferred to new learning situations.

Question #2: target knowledge for an ideal learning environment includes domain specific conceptual, factual, and procedural knowledge and three types of strategic knowledge. However, strategic content is needed to operate effectively with domain-particular knowledge, a known effective philosophical belief. However, 56% of the respondents felt negative about the concepts of target knowledge.

Question #3: Learners are best seen as passive vessels into which knowledge is poured, a known seriously ineffective philosophical belief. As already discussed in the analysis of variance section passive learning reduces or removes chances for exploration, discovery, and invention and is an extremely negative ineffective learning belief. Although not as numerically significant as some of the data, this concept is so seriously an area of misconception that the researcher believes it is significant to report that 24% of the respondents continued

to believe that learners are passive vessels into which knowledge is poured.

Question #5: Learning is the strengthening of bonds between stimuli and correct responses, a known seriously ineffective philosophical belief. As Farnham (1990) noted, "...fractionalized instruction maximizes forgetting, inattention, and passivity. Since children and adults seem to acquire knowledge from active participation in complex and meaningful environments, school programs could hardly have been better designed to prevent a child's natural learning system from operating" (p. 146). However, 61% of the respondents felt positive that learning is the strengthening of bonds between stimuli and correct responses.

Question #9: To insure their transfer to new situations, skills and knowledge should be acquired independently of their contexts of use, a known seriously ineffective philosophical belief. As Resnick (1987) noted, "...school learning is so heavily symbol-based that connections to the things being symbolized are often lost." Context turns out to be critical for understanding and thus for learning. However, 40% of the respondents answered

positive or true that skills and knowledge should be acquired independently of their context. This area should be reviewed with the significant importance which it demonstrates.

An additional significance relationship was noted between question #2 target knowledge (a known positive philosophical belief) and known effective teaching behaviors questions #15 closes the lesson, #16 uses active teaching, and #18 academic feedback. See the appendix for a review of the mentioned questions. Respondents answered positively on the above described question with multiple R scores of .445 and R square scores of .198. The researcher knows statistically that this data has a positively high correlation between a known effective philosophical belief and known effective teaching behaviors. Any additional correlations would require continued research or an alternate examination of the data.

It should be noted that the additional questions not discussed here were significantly answered in the proportionally correct manner by the respondents. It was significant that in all questionnaires the respondents

agreed significantly with the researchers identified effective teaching behaviors, questions #10 through #19. The lowest correct response rate was 78% when true and strong true responses were combined.

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The original purpose of this ^{the} study was to examine those pedagogical skills which provide the effective teacher with the talents to share the wonderment of the learning process with their students. The effective teacher who with philosophically correct learning beliefs inspires and uplifts students, pushing them as high as their natural achievement thresholds will except. This study has identified effective teaching behaviors which do increase student achievement. Additionally, this study has identified known effective and ineffective individual philosophical learning beliefs which can affect student achievement in a positive or negative manner. The conclusion of this study will attempt to shed light on the impact of these findings.

Conclusions

Based on the discussion in the research findings there are several specific areas which should be discussed regarding this study. First, it should be noted that based on the data, effective pedagogical skills of the sample population were not displayed. The data further suggested that there were significant differences between the pedagogical understanding from one sample group to the other. In the variance of analysis study and Pearson correlation study, group #2 which consisted of community college/adult/university teachers, consistently ranked number one in understanding of the pedagogical skills and philosophical learning foundations. In the aforementioned studies group #2 was followed closely by group #1 the K-12 teachers. Group #3 which consisted of pre-school teachers, school counselors and pre-service teachers consistently displayed a misunderstanding of effective teaching behaviors and philosophical learning behaviors. The statistical studies additionally revealed that group #2 and group #3 were consistently separated by a wide numerical range, with group #2 consistently receiving the high top

score. However, it should be noted that throughout the statistical review all three sample groups displayed a consistent misunderstanding and misconception of effective teaching behaviors and philosophical learning foundations.

For example, regarding question #1 of the questionnaire; The educational enterprise assumes that people predictably transfer learning to new situations. This is a significant learning concept which should be clearly understood by any teacher. "Decades of research has proven that learning is not transferred to new situations" (Berryman, 1992, p. 46). Cognitive scientists are continually confounded by this fact. However, cognitive research has also concluded that when learning is an integration of head and hand and mind and action in context of specific learning domains and learners enter unfamiliar content areas with peripheral similarity to the before mentioned learning domain, they do use these skills in new situations. These facts support the significance of contextualized learning environments and the importance that this concept should be well understood. However, 98% of the respondents of this study falsely believe that learning is in fact transferred to new learning situations.

Question #5 of the questionnaire stated; Learning is the strengthening of bonds between stimuli and correct responses, a known seriously ineffective philosophical belief. But, American education reflects the behaviorist theory of learning, first with stimuli and then with the learner's correct responses to that stimuli. However, it led to a breakdown of complex tasks (stimuli), it encouraged repetitive training (stamping in), and it focused on the right answer (successful response). The result was disconnected subskills without the full benefit of understanding the complete process. However, 61% of the respondents felt positive that learning is the strengthening of bonds between stimuli and correct responses.

Question #9 of the questionnaire stated: To insure their transfer to new situations, skills and knowledge should be acquired independently of their contexts of use, a known seriously ineffective philosophical belief. To believe that the learner would acquire knowledge independent of the true essence of the knowledge's meaning, is illogical. This idea essentially focuses on learning in the absence of meaning. As Lave (1988) observed, when

learning was acquired in context then exacting knowledge from the particulars of experience was thought to make that knowledge available for general application in all situations. However, 40% of the respondents answered positive or true that skills and knowledge should be acquired independently of their context.

In an attempt to draw some conclusive meaning to this statistical evidence, the researcher invites the reader to ponder some additional information. The survey of frequencies revealed that 65% of the respondents had seven or less years in the education field in total. This amounted to 66 of 107 respondents. Also, 70% of the entire sample population had less than five years experience in their present position as educators. From this information we might draw several conclusions regarding the statistical revelations discovered in this study. We could postulate the reason philosophical and pedagogical effective behaviors were statistically unknown to this sample population may be the virtual lack of teaching experience of this sample. However, an additional hypothesis could be derived. We might draw the conclusion that teacher education institutions in which these subjects were

originally trained were negligent in teaching both effective pedagogical practices and effective philosophical learning foundations. Consider that in California, the pre-service and student teacher generally will be required to attend only one teaching methods course for their entire teacher education career. We need to ask ourselves these questions. Is one eighteen-week methods of teaching course sufficient instruction for the beginning teacher to then conduct a twenty-plus year teaching career? This may be a significant reason why a large percentage of this study's sample population cannot recognize effective philosophical learning foundations or pedagogical practices.

Recommendations

The researcher suggests that this study revealed sufficient evidence supporting continued inquiry into the interrelationship between effective teaching behaviors and philosophical learning foundations. Based on the finding

of this research, the following recommendations concerning effective teaching behaviors are offered:

1. Recommendation that teacher education institutions examine their programs and program requirements with regard to teaching future teachers effective teaching behaviors. Are we answering the needs of the future teacher and conversely the student?

The researcher believes the omnimportance of a concrete foundation of effective teaching behaviors cannot be overstated.

2. Recommendation that further research be conducted regarding the correlation or non-correlation between years of teaching experience and the attainment of effective teaching behaviors. When does a teacher obtain effective teaching behaviors? Do teachers ever obtain the knowledge of effective teaching behaviors if the educational institution does not adequately provide this instruction?

Further research is recommended on the question of the educational institutions teaching an adequate amount of

teaching effectiveness behaviors for our pre-service and student teachers to properly deliver instruction to students.

These are questions that cannot be answered at the present time. However, the attainment and practice of expert pedagogical delivery skills which improve student achievement by present and future teachers is paramount to the development of students and therefore national institutions.

APPENDIX

Steven C. Bailey
4457 Linwood Place
Riverside, California 92506

April 18, 1994

Dear Colleague:

As a graduate student in vocational education at California State University, San Bernardino, I have developed the enclosed questionnaire, which is based on an extensive review of research reports on effective teaching behaviors. The items contained in the questionnaire have been shown to improve student achievement.

By completing the attached questionnaire, you can contribute to the validity of this study. Your responses will be kept strictly confidential and no identifying information will be released. Please complete and return the questionnaire, in the enclosed envelope, before April 22, 1994.

This study has the endorsement of the Department of Vocational Education at California State University, San Bernardino, and will be used to strengthen the existing vocational education program.

If you would like to receive the results of this study, please provide your name and return address in the following provided space.

Thanks for your help.

Sincerely,

Steven Bailey

EFFECTIVE TEACHING BEHAVIORS

BY

STEVEN C. BAILEY

SURVEY

Effective teaching behaviors are important for examining and improving the teaching process. This questionnaire has been compiled from research studies and will provide teachers with access to current information for making teaching decisions.

RESPONDENT:

Present position: _____

Grade or subject area: _____

Years of experience in present position: _____

Total years as an educator: _____

ITEMS:

- a. Mark each item to indicate to degree to which you believe it is an indicator of effective teaching.

Place these numbers on the blanks adjacent to the items:

5 - Strongly believe it is true

4 - Believe it is true

3 - No opinion

2 - Believe it is not true

- 1 - Strongly believe it is not true
- b. Information listed below the behaviors identified in bold type define the specific behaviors and is provided to avoid any confusion as to meaning.
- c. Give any other comments and suggestions that you wish about the effective teaching behaviors.

PART I
Learning: Philosophical Foundations

- ____ 1. The educational enterprise assumes that people predictably transfer learning to new situation.
- ____ 2. Target knowledge for an ideal learning environment includes domain-specific conceptual, factual, and procedural knowledge and three types of strategic knowledge. However, strategic content is needed to operate effectively with domain-particular knowledge.
- ____ 3. Learners are best seen as passive vessels into which knowledge is poured.
- ____ 4. Teaching methods should be designed to give students the chance to observe, engage in, invent, or discover expert strategies in context.
- ____ 5. Learning is the strengthening of bonds between stimuli and correct responses.
- ____ 6. Learning should be staged so that the learner builds the multiple skills required in expert performance and discovers the conditions in which they can be generalized.
- ____ 7. What matters is getting the right answer.

- _____ 8. The learning environment should reproduce the technological, social, chronological, and motivational characteristics of the real-world situations in which what is being learned will be used.
- _____ 9. To insure their transfer to new situations, skills and knowledge should be acquired independently of their contexts of use.

PART II

The Teaching Process

- _____ 10. **INTRODUCES THE LESSON**
 - a. Checks homework and assesses accuracy
 - b. Readies students for lesson
 - (1) Provides review for continuity
 - (2) Discusses the structure of the lesson
- _____ 11. **STATES OBJECTIVES CLEARLY**
 - a. Ties objective to previous learning
 - b. Explains importance of and purpose for lesson
 - c. Connects objectives to larger body of knowledge
 - d. Relates objectives to student interests or needs.
- _____ 12. **TEACHES TO THE OBJECTIVE**
 - a. Gives clear presentations
 - (1) Overlaps with previous learning

12. (continued)

- (2) Emphasizes the important points
- b. Teaches in sequential fashion
 - (1) Presents material in small, detailed steps
 - (2) Gives clear and repeated explanations
 - (3) Avoids digressions and stays on task.
- c. Illustrates or models the concept or skill to be learned
- d. Teaches for more than rote learning

____ 13. **USES DIRECT QUESTIONING TO CHECK FOR STUDENT UNDERSTANDING THROUGHOUT THE LESSON**

- a. Calls on all students
- b. Requires high level of accuracy
- c. Monitors student understanding and adjusts lesson
- d. Repeats and clarifies instruction when necessary

____ 14. **PROVIDES STUDENTS WITH CLASSROOM ASSIGNMENTS FOR GUIDED PRACTICE**

- a. Gives relevant and interesting assignments of varied format, aided for success
- b. Monitors continuously
 - (1) Walks around room
 - (2) Answers students' questions

14. (continued)

- (3) Checks students' answers
- (4) Provides individualized help
- (5) Keeps individual contacts brief
- (6) Emphasizes getting the work done
- (7) Assesses pace and accuracy of student work

c. Discusses seatwork

____ 15. **CLOSES THE LESSON**

- a. Checks for all students' understanding of the lesson
- b. Includes a summary that emphasizes the main points
- c. Provides students with homework

____ 16. **USES ACTIVE TEACHING APPROACH WITH ENTIRE CLASS**

- a. Maintains a continuous academic focus
- b. Maximizes direct contact time with students
- c. Uses interactive instruction
- d. Uses more whole class activities to meet individual needs
- e. Varies the lesson and activities to meet individual needs.
- f. Uses small group instruction for specific purposes.

____ 17. **APPLIES A VARIETY OF QUESTIONING TECHNIQUES**

- a. Uses precise, content-related questions of varying difficulty and complexity
- b. Includes questions which apply to students' lives
- c. Allows students time to think
- d. Guides student to correct response
- e. Asks new question after correct answer

____ 18. **PROVIDES ACADEMIC FEEDBACK**

- a. Uses positive statements for reinforcements
- b. Uses individualized and academically focused comments
- c. Emphasizes the process as well as the product
- d. Responds to errors constructively
- e. Uses praise and encouragement, specifying the accomplishment

____ 19. **ASSISTS STUDENTS IN ACQUIRING HIGHER LEARNING SKILLS**

- a. Emphasizes learning above the knowledge level
 - (1) Asks process questions
 - (2) Gives students time to ask questions about the lesson
 - (3) Integrates students' questions about the lesson

19. (continued)

- (4) Increases level of complexity gradually
- (5) Incorporates additional aspects of the subject into the lesson
- (6) Extends the lesson to include other subject disciplines

b. Teaches concepts and emphasizes reasoning

- (1) Uses higher level questions as appropriate
- (2) Seeks rationale for response that demonstrates understanding of concepts
- (3) Models learning by thinking aloud
- (4) Explains concepts with varied examples
- (5) Checks every student on concept mastery

Chart 1

GRADES TAUGHT BY RESPONDENTS

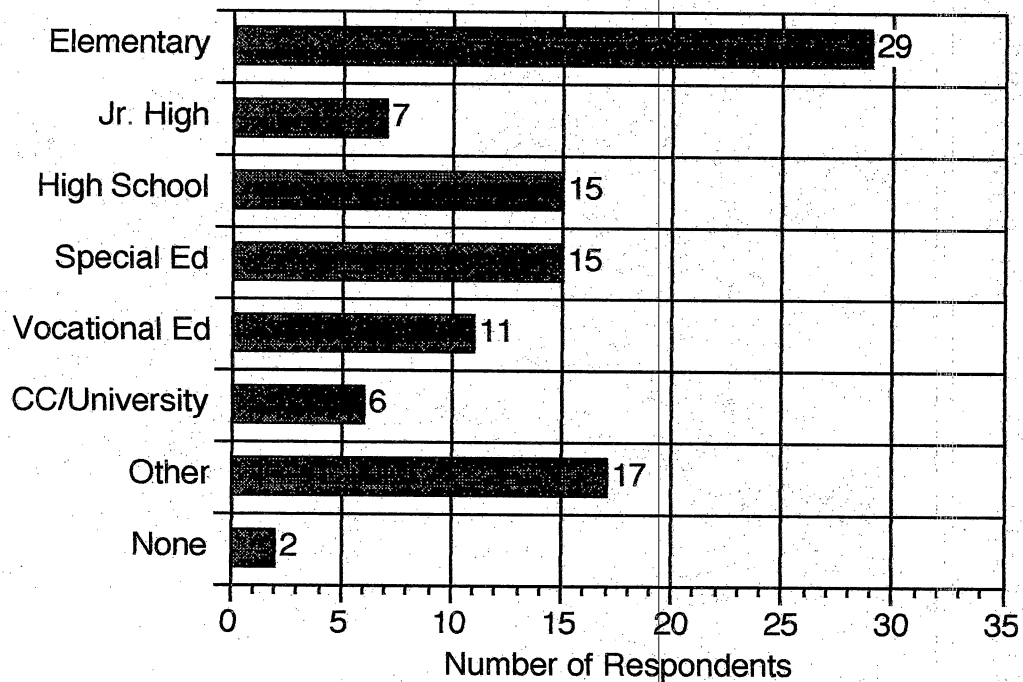


Chart 2

RESPONDENTS' TIME IN PRESENT POSITIONS

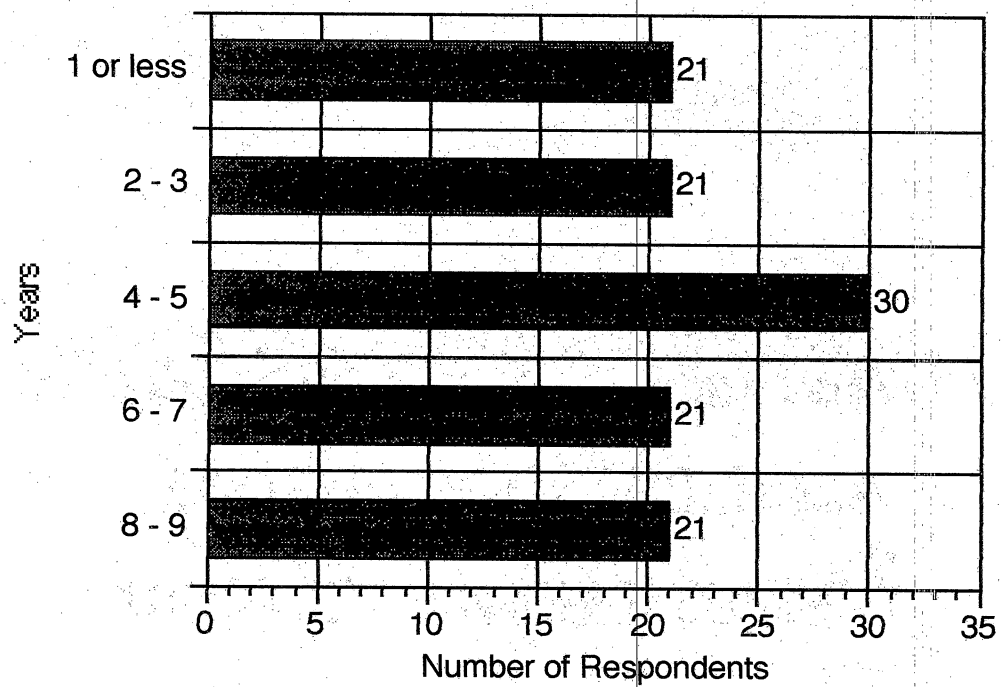
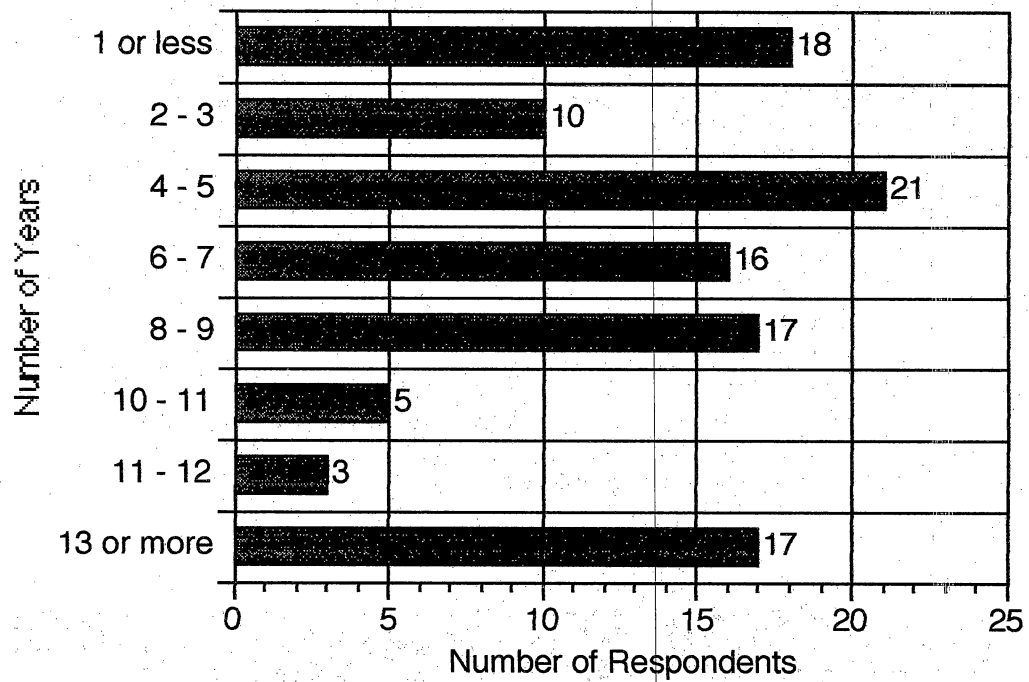


Chart 3

RESPONDENTS' TOTAL TIME AS EDUCATORS



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