

A STUDY OF ATTITUDES TOWARD INDIVIDUALIZATION OF INSTRUCTION
AND BELIEFS CONCERNING EXPERIMENTALISM BEFORE
AND AFTER ELEMENTARY STUDENT TEACHING

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The problem of this study was to determine what changes, if any, take place in student teachers' attitudes toward individualization of instruction and any changes in their philosophical beliefs concerning Experimentalism, during, or as a result of the student teaching experience. Particular emphasis was placed upon what influence, if any, the cooperating teachers' self-perceived practices of individualization have on the student. The study involved administering pre- and posttest of the Personal Beliefs Inventory, which measures Experimentalism as professed by John Dewey, to the student teachers and the Individualization of Instruction Inventory to the student teachers and their respective cooperating teachers. Subjects included 148 elementary students enrolled in student teaching during the Spring semester, 1971, and 136 of their cooperating teachers.

Hypotheses formulated for testing were as follows:

1. There will be no significant differences between pretest and posttest mean scores of student teachers on the Individualization of Instruction Inventory after student teaching.

2. Students who score above the mean on the pretest and are paired with cooperating teachers who score above the mean will show no significant difference between pretest and posttest mean scores on the Individualization of Instruction Inventory.

3. Students who score above the mean on the pretest and are paired with cooperating teachers who score below the mean will show a significantly lower mean posttest score than pretest score on the Individualization of Instruction Inventory.

4. Students who score below the mean on the pretest and are paired with cooperating teachers who score above the mean will show a significantly greater mean posttest score than pretest score on the Individualization of Instruction Inventory.

5. Students who score below the mean on the pretest and are paired with cooperating teachers who score below the mean will show no significant difference between pretest and posttest mean scores on the Individualization of Instruction Inventory.

6. There will be no significant difference between the student teachers' mean pretest scores and mean posttest scores on the Personal Beliefs Inventory.

7. There will be a significant positive correlation between the student teachers' pretest scores on the Individualization of Instruction Inventory and their pretest scores on the Personal Beliefs Inventory.

8. There will be a significant positive correlation between the student teachers' posttest scores on the

Individualization of Instruction Inventory and their posttest scores on the Personal Beliefs Inventory.

The pretest and posttest mean scores of the student teachers were compared in order to test the hypotheses involving student teachers. In testing the hypothesis concerning matched pairs of students and their cooperating teachers, the pairs were grouped according to whether their scores were above or below the mean on the Individualization of Instruction Inventory.

The data were treated by using the t-test for related samples and the Pearson correlation. The .05 level of significance was selected as the point of rejection or retention of the null and directional hypotheses. Results revealed that there was no significant change in attitude or beliefs of the student. Results also revealed no significant relationship between attitude toward individualization and philosophical beliefs concerning Experimentalism.

It was concluded that (1) student teachers do not change their attitude toward individualization of instruction or their beliefs concerning Experimentalism during student teaching, (2) the cooperating teacher does not influence the attitude of the student teacher toward individualization of instruction, and (3) the students' attitude toward individualization is more positive than that of the teachers'.

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CHAPTER I

INTRODUCTION TO THE STUDY

INTRODUCTION

For several decades one of the primary emphases in teacher education has been individualization of instruction. Internalizing the concept, becoming committed to it, and learning the strategies and skills individualization demands are tremendous challenges to student teachers.

The attempt of students to place these strategies about individualization of instruction into instructional practice during student teaching may cause students to change their attitudes toward individualization of instruction or may possibly cause a change in their philosophical beliefs concerning Experimentalism.

A study of attitudes toward individualization of instruction and philosophical beliefs concerning Experimentalism before and after the elementary student teaching experience could provide useful information for the teacher education program, educators, and future teachers.

Statement of the Problem

The problem of this study was to determine what changes, if any, take place in student teachers' attitudes toward individualization of instruction and any changes in their

philosophical beliefs concerning Experimentalism, during, or as a result of the student teaching experience. Particular emphasis was placed upon what influence, if any, the cooperating teachers' self-perceived practices of individualization have on the student teacher.

Purposes of the Study

The purposes of this study were: (1) to determine if there is a significant change from pretest to posttest in attitudes toward individualization of instruction during the student teaching experience as measured by the Individualization of Instruction Inventory, (2) to measure the cooperating teachers' self-perceived practices of individualization of instruction using the Individualization of Instruction Inventory, and to determine if there is a relationship between cooperating teachers who rank above or below the mean and any significant change in their student teacher's attitudes toward individualization of instruction, (3) to determine if the student teaching experience effects a significant change in the students' basic philosophical beliefs concerning Experimentalism as measured by the Personal Beliefs Inventory and (4) to determine if a significant correlation exists between students' scores on the Individualization of Instruction Inventory and their scores on the Personal Beliefs Inventory.

Hypotheses

To carry out the purposes of this study, the following hypotheses were formulated:

I. There will be no significant differences between pretest and posttest mean scores of student teachers on the Individualization of Instruction Inventory after completion of student teaching in the areas of

- A. intra-class grouping,
- B. variety of materials,
- C. pupil autonomy,
- D. differentiated assignments,
- E. total individualization.

II. Students who score above the mean on the pretest and are paired with cooperating teachers who score above the "teacher" mean will show no significant difference between pretest and posttest mean scores on the Individualization of Instruction Inventory.

III. Students who score above the mean on the pretest and are paired with cooperating teachers who score below the "teacher" mean will show a significantly lower mean posttest score than pretest score on the Individualization of Instruction Inventory.

IV. Students who score below the mean on the pretest and are paired with cooperating teachers who score above the "teacher" mean will show a significantly greater mean

posttest score than pretest score on the Individualization of Instruction Inventory.

V. Students who score below the mean on the pretest and are paired with cooperating teachers who score below the "teacher" mean will show no significant difference between pretest and posttest mean scores on the Individualization of Instruction Inventory.

VI. There will be no significant difference between the student teachers' mean pretest scores and mean posttest scores on the Personal Beliefs Inventory.

VII. There will be a significant positive correlation between the student teachers' pretest scores on the Individualization of Instruction Inventory and their pretest scores on the Personal Beliefs Inventory.

VIII. There will be a significant positive correlation between the student teachers' posttest scores on the Individualization of Instruction Inventory and their posttest scores on the Personal Beliefs Inventory.

Background and Significance of Study

It is stated in the first principle of the Code of Professional Ethics of the National Education Association that the teacher's responsibility in the guidance of children is to "recognize the differences among students and seek to meet their individual needs" (9, p. 66).

In the fall of 1969 a pilot study was conducted at North Texas State University (7). The purpose of this

study was to determine the attitudes toward individualization of instruction of senior student teachers in elementary education. The findings of this study indicate that the student teachers changed their ideas with regard to the individualization of instruction during the student teaching experience. It was also found that the total rating the student teachers gave themselves indicates that the student teachers had positive attitudes toward individualization of instruction.

Swenson makes a strong statement on the importance of having a positive attitude toward the individualization of instruction. She points out that the goal of teacher education is to prepare teachers and prospective teachers to teach in such ways that the students for whom they are responsible "may derive optimum individual benefits from their learning experiences" (11, p. 288).

This study differs from the pilot study previously conducted in that it has looked in detail at individualization as reported by both the cooperating teacher and the student teacher in the areas of intra-class grouping, variety of materials, pupil autonomy, differentiated assignments, and total individualization.

The pilot study, along with the limited amount of research in the area of individualization of instruction pertaining to student teachers, indicates a need for more extensive research.

Another aspect considered in this study was the personal philosophical beliefs of the student teachers concerning Experimentalism. Do personal philosophical beliefs concerning Experimentalism change as a result of the student teaching experience? Is there a correlation between personal philosophical beliefs concerning Experimentalism and attitudes toward individualization of instruction?

Bane (1, p. 75) states that personal philosophical beliefs have a greater relationship to teaching behavior than either the open or closed mind of the teacher or the educational beliefs of the teacher. He goes on to say that what a teacher believes is good teaching practice does not have as great a relationship with the teacher's behavior as what the teacher believes about more fundamental issues.

Brown (3, p. 248) asserts that teachers should be given more opportunities for the development of better understanding of the basic systems of philosophy. In turn, this understanding would expose the link between philosophical points of view and educational points of view. This would give the teacher a better base from which decisions regarding classroom methods and procedures could be made.

Dewey's philosophy of Experimentalism advocates inquiry and discovery (3, p. 42). In the process of inquiring and discovering, it may be that knowledge gained is a personal thing and is therefore best obtained in a setting of individualized instruction. It also may be that even though

knowledge gained is a personal thing, it may best be acquired through the inter-action with others.

If either a high positive or high negative correlation were found between individualization of instruction and personal beliefs in Experimentalism, this correlation would indicate that the two are related. If a relationship is established in this study, it may be possible to predict that a person who is in agreement with Experimentalism is also likely to individualize more in the classroom than the person who does not agree with Experimentalism.

Definition of Terms

For the purpose of this study the following definitions were formulated:

Individualization - Individualization is operationally defined as providing for pupil differences as measured by the Individualization of Instruction Inventory.

Beliefs - Beliefs are operationally defined as agreement or disagreement with the philosophy of Experimentalism as professed by John Dewey.

Experimentalism - Experimentalism is defined generally in this study as certain beliefs about man as found in the writings of John Dewey. More specifically, Experimentalism is defined by the forty items on the Personal Beliefs Inventory (Appendix C).

Limitations

This study was limited to those students enrolled in elementary student teaching in the spring of 1971 in a large state university in the Dallas-Fort Worth metropolitan area.

Another limitation was that the instrument used in this study measures individualization of instruction only in the areas of intra-class grouping, variety of materials, pupil autonomy, differentiated assignments, and total individualization.

Basic Assumptions

It was assumed in this study that: (1) individualization of instruction is desirable, and (2) the subjects would respond honestly to the instruments used to measure individualization of instruction and personal beliefs.

Procedures for Collection of Data

The subjects in this study were 148 student teachers majoring in elementary education and 136 of their cooperating teachers in the public schools. The students were enrolled in a large state university in the Dallas-Fort Worth metropolitan area for the spring term 1971. Information was collected at the beginning of the spring semester from the student teachers and their cooperating teachers. Additional information was collected from the student teachers at the end of the spring semester, May, 1971.

Procedures for Analysis of Data

Automatic data processing by the North Texas State University Computer Center was used for an analysis of the statistical data. Garrett (6) and Roscoe (10) explain the t-test for related samples and the Pearson correlation coefficient used in the study. Hypotheses were tested in the null form and the data were entered in tables.

Description of the Instruments

The Individualization of Instruction Inventory, Form 1f (See Appendix A) developed by Coody and Harris, was used to measure teacher and student teacher attitude toward individualization of instruction. This inventory is published by the Extension Teaching and Field Service Bureau of the University of Texas. This instrument has frequently been used as a technique for measuring individualization of instruction (2, 4, 12, 13).

The original form of this instrument, (See Appendix B) entitled the Basic Teaching Procedures Scale, was developed and used in Coody's study of demonstration teaching. This instrument was composed of 33 items constructed on a Likert-type five-point scale, with one being the low score and five being the high score.

A team of observer-analysts composed of staff members and graduate students from the University of Texas, members of the Texas Education Agency, and public school supervisors and curriculum directors conducted three reliability, validity,

and interjudge consistency checks on the instrument. These checks were made by having all the observer-analysts watch the same class in session and complete the instrument at the same time. After leaving the class, they compared ratings, discussed reasons for such judgments, and worked toward a consensus on the meaning of each dimension. Items which seemed invalid were discarded or revised (4, pp. 53-54).

The Spearman-Brown prophecy estimate of the interjudge reliability was used by the team of observer-analysts to determine the reliability of the instrument. Two tests were administered using a total of 16 observer-analysts. The test administered in September, 1964, produced a reliability of .937, a result which proved significant at the .01 level. The second test, in April, 1965, produced a reliability of .970, a result which is significant at the .01 level (4, p. 57).

The major difference between the original instrument, the Basic Teaching Procedures Scale, and the Individualization of Instruction Inventory to be used in this study is the number of items on the scale.

Coody (5) and Harris (8) pointed out that the reason for making the Individualization of Instruction Inventory only a 20-item scale rather than the original 33-item scale was to facilitate the administration and scoring of the instrument and to eliminate redundancy and improve the clarity of some items. They both gave their permission and encouragement to use the instrument in this study.

A description of the instrument should include some information about the Likert-type, five-point scale. There are three descriptive levels on each of the twenty items. One is the lowest item, three is the middle item, and five is the highest item on the scale. The numbers two and four are placed at mid-points between the three descriptive choices, thus allowing the rater to estimate their individualization practices over the total five-point scale. A teacher or student teacher may describe himself using this inventory. A score of 25 points is the maximum that can be made on each of the four major areas of the instrument. This could be done by making a score of five points on each of the five questions in that major area. It would be possible to make a score of 100 points for the entire instrument by totaling the number circled on each of the twenty items in the instrument.

Personal Beliefs Inventory

The Personal Beliefs Inventory, Form A-B (Appendix C), measures expressed philosophical beliefs in relation to the philosophy of Experimentalism as professed by John Dewey. The instrument has forty items. Twenty of the items are plus-items and are compatible with Experimentalism; twenty are minus-items and are incompatible with Experimentalism. The respondent checks a scale ranging from "1" to "6" with "1" being "very much agree," and "6" being "very much disagree." For grading purposes, the plus-items are reversed

in numerical value. Total scores of from 40 to 240 are then possible with the higher scores indicating agreement with Experimentalism.

Brown (3, p. 100) reports four estimates of reliability for the Personal Beliefs Inventory. These are: test retest, .63 to .75; Spearman-Brown split-halves, .60; Hoyt Internal Consistency, .55 to .78; and comparable forms, .58.

Items on the instrument were selected by beginning with 1200 statements lifted from John Dewey's writings and then submitting them to a panel of six judges from the University of Wisconsin faculty for judgment as to the positive or negative connotations toward Dewey's Experimentalism. Each judge was a professor of philosophy or of philosophy of education and was familiar with the philosophy of Dewey. Consistent agreement by the judges was used to isolate those items included in the final form of the instrument. This procedure should indicate substantial content validity (3, pp. 80-81).

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CHAPTER II

REVIEW OF THE LITERATURE

The literature that is related to this research is presented in four sections: Individualization of Instruction, Student Teacher Attitude Changes, Cooperating Teacher - Student Teacher Relationships, and Personal Beliefs of the Student Teacher Concerning Experimentalism. These areas reflect the main emphases of this study.

Individualization of Instruction

The Individualization of Instruction Inventory used in this study divides individualized instruction into four categories: (1) differentiated assignments, (2) pupil autonomy, (3) intra-class grouping, and (4) variety of materials. Study of the literature shows that these topics have been discussed by various writers as important aspects of individualizing instruction.

1. Differentiated assignments - Experienced teachers and college students preparing to be teachers continually search for better and more effective ways of improving the learning process. Some educators believe that teaching the whole class does not adequately meet the needs of the children, nor does it provide for the individual differences in the class. A remedy for this problem is differentiation of

assignments, an approach which helps provide for both the individual differences and the individual needs of the children in the classroom.

Stahl and Anzalone (65, p. 19) are sensitive to the worth of each child as an individual. They stress the imperative that the teacher assign tasks within the scope of ability of each student. Thus, the teacher must accept the responsibility of differentiating assignments so that each child may experience success and the self-satisfaction that goes with it.

According to Hunter (34, pp. 53-57), assignments and books of one grade level should not be given to the entire class on an assembly-line basis, but rather each assignment must be fitted to a particular learner. This means that the teacher starts his assignments where the student is able to perform and moves systematically toward better academic performance.

Goldberg, Passow, and Justman (24, p. 169) assert that differences in the achievement of children come from what is taught and learned in the classroom. Therefore, the emphasis must be placed on the differentiation and selection of content and method that best fits each child.

Hall (28, p. 6) believes that the differentiation of assignments should be a mutual concern of the teacher and student as they cooperatively outline a schedule of assignments for the days and weeks ahead.

2. Pupil autonomy - Some educators believe a way to provide for individual differences of children is through pupil autonomy. Lieberman (41, p. 390) states that pupil autonomy is accomplished by the personalization of learning activities through content and purpose. Literature could be used as a means of self-understanding rather than something to memorize for an examination. The relevance of the curriculum should be measured by the knowledge and skill gained instead of the quality of the intellectual exercises. Dagne (17, p. 70) agrees with Lieberman in assuming that Individualization of instruction requires much self-direction and self-selection by the learner.

Richey (57, p. 202) asserts that the school of the future will be characterized by its focus on the individual. Howes (33, p. 5) indicates that teachers should provide meaningful opportunities for active student participation in their own individual learning decisions. This goal can be accomplished through a sustaining environment designed to foster personal autonomy.

Further evidence of the development of pupil autonomy is given by Stahl and Anzalone (65, p. 19), who state that a child develops a high degree of independence and self-direction as he grows in self-confidence. They find it essential, therefore, that the child become actively involved in the constructive direction of his activities.

Pupil autonomy can be used as a way of grouping pupils, according to Fischer and Fischer (22, p. 298). The child's autonomy as a learner can be used as a criteria in placing the child into an instructional group. This autonomy is indicated by the child's involvement in the learning task and by the child's use of the teacher as a resource person to aid his learning.

Thompson (68, p. 485) asserts that modular scheduling can help in fostering pupil autonomy in the schools. He says that it enables some students to use their unscheduled time to meet their individual needs. It has been found that many students respond well to this concept. However, it appears that some students do not fare so well. The students who achieve poorly in the traditional class tend to achieve even more poorly in a modular schedule situation. This problem can be solved with considerable structure in some instances and modular structure in others, depending upon the needs of the student.

Each teacher has his own unique teaching style, according to Jasik (36, p. 65). She states that all teachers who foster pupil autonomy recognize the uniqueness of the child and confirm him as an individual self.

3. Intra-class grouping - The concept of individualization of instruction implies that teachers or student teachers make certain adaptations in instruction to meet

individual differences among pupils. These differences can be met by use of individual and small intra-class groups.

The question arises, "What is a group?" Lee defines a group as "those children who at the time have common concerns, interests or plans" (40, p. 129). The group that enables children to have self-directed activity has values that do not accrue when the teacher directs the group. Involvement and self-selection go hand in hand with a feeling of responsibility. Children learn most effectively when they can bring personal meaning to materials and ideas. There is no contradiction in the statement that grouping occurs in an individualized program because each child must have a part in determining within the framework of the group his own procedures for learning (40, pp. 128-132).

Dougherty (19, p. 95) sees no collision between ideas about individualized learning and ideas about group activities. He feels that the two elements complement each other and that they fuse to produce a totally desirable learning experience.

During the past twenty years or more, Otto (51, pp. 124-125) has observed that experience with intra-class groupings has yielded a variety of educational values. Among the benefits that have resulted through intra-class groupings is the adjustment of students who previously did not mingle well and who had personality problems to overcome. Through intra-class groupings they have learned to follow, to think, to

assume responsibility, and to be leaders. Problems may arise due to the placement of a given pupil in a given place. Otto says further that intra-class grouping practices with changing pupil membership in groups organized for different purposes can ease and resolve these concerns.

Ragan (55, p. 152) advocates flexibility rather than a fixed pattern of grouping pupils for instructional purposes. He finds that this type of grouping can be effective when used to serve the task at hand.

To facilitate the use of intra-class grouping, free movement and group flexibility are necessary practices of the teacher. Parker divided the flexible class groupings into functional groups, sub-groups, and project groups varying in number. By rotating the role of the individual student the learning experiences of each pupil can be expanded; "thus a group project, in itself, can afford a great amount of individualized learning opportunity, if the teacher will simply let it happen" (52, p. 183).

Spache (64, p. 103) approves the practice of grouping children for instruction. He feels that grouping enables the teacher to work closely with a part of the class and gives her added opportunity to meet the instructional needs of the students.

Morgenstern (44, p. 110) feels that each child should have the opportunity to share with his peers what he has, and at the same time to be challenged by them. Those who

have been through similar experiences provide the best audience material for the child who needs to talk to someone who understands. Morgenstern's most urgent concern is that the aim of all experts in working with children should be in terms of human values.

Smith (63, pp. 130-131) asserts that homogeneous grouping is an asset in the solving of problems which require creativity on the part of the students. Homogeneous grouping reduces the social stress, encourages the less creative members of the group to produce more, and increases the enjoyment of all group members.

If teachers seek to meet the needs of the human personality and encourage diversity rather than commonality, the potential of every pupil will be increased. Then the groups' activities, instruction, and aptitudes and interest of the individual will become rich and rewarding (37, pp. 12-13).

Although research reported thus far reveals support for grouping, Thelen (66, p. 29) reports that some of the research conducted does not give support to the hypothesis that children learn more when they are placed in ability groups.

Passow (53, pp. 18-20) found that when the range of ability was narrowed by grouping, the slow pupil's self-attitude was raised, the gifted pupil's self-attitude was lowered, and the average pupil's self-attitude was largely unaffected. From the above analysis, it could be concluded

that ability grouping has more effects on self-attitudes than on achievement.

In agreement with Passow, Shores (63, p. 172) believes that ability grouping does help the teacher to meet individual differences but that studies conducted to date do not indicate that ability grouping results in improved achievement. He emphasizes that grouping is just the first step in individualizing instruction.

Aspy (2), Mott (45), and Sheehy (61) agree that grouping can be used only if the groups serve the needs of the individual students. Original groups are starting points and must change as the needs of the students change.

Borg (6, pp. 7-8) found significant differences in achievement as a result of grouping during the first year, but then achievement leveled off over the next four years. However, he believes that grouping is one of the best curriculum adjustments for meeting individual differences.

Grouping per se is neither bad nor good, according to Hielman (30, pp. 160-164). He believes grouping can provide a foundation for which an alert teacher can build meaningful differentiated assignments. The most important variable in grouping or any method of meeting individual needs is the teacher.

4. Variety of materials - Another important area to consider when looking for examples of individualization of instruction is the variety of materials in use in the

classroom. From this varied area of selectivity, the child is able to learn to use many different resources in problem solving.

The student teacher or teacher may find himself lost in a maze of equipment that can be a problem unless handled with discrimination to serve a learning purpose.

Instructional materials and aids are a vital part of the program for elementary classrooms. It is well known that numerous aids are being marketed today for classroom use. The young teacher could be easily influenced by devices. Like musicians' technique, these aids are not an end in themselves but should be a means to an end. They should be used to accelerate learning in a given situation. Otherwise, their value diminishes.

Collier, Houston, Schmatz and Walsh (13, pp. 190-194) agree that it is more important to be selective than to employ a large variety of aids. However, it should be remembered that no device is suitable for everything.

According to Michaelis "the teacher's goal is to select the particular aids which best fit a specific purpose at a given time" (43, p. 314). However, a thorough knowledge of the materials is necessary if the teacher is going to meet the individual needs of his students (69, p. 296; 35, p. 393).

Materials should be on many different reading levels and reflect the variety of interest of the students, according to Schubert and Torgerson (59, p. 19).

Kalfsounic shares the belief that "materials should take into consideration the individual differences within any group of children" (38, p. 56).

In the field of materials, Cutts states that "such long-time favorites as filmstrips, motion pictures, and record players offer possibilities for individualizing instruction that have little been explored" (16, p. 51).

Beery (4, pp. 122-123) states that attention has been called to the multi-media materials that have been produced by educational publishers. These learning aids are focused on a particular topic. The kits contain films, film strips, booklets, and practice materials. These kits are versatile in that they have many uses especially for small groups.

These aids not only enhance interest but also offer educationally sound opportunities to individualized instruction and reinforce learning by multi-sensory appeal. However, all aids must be evaluated in terms of relevance to and use in attaining educational goals.

Thomas and Crescimbeni (67, p. 395) feel that the challenge of individual differences can be met through the multi-media approach by utilizing the wide variety of communication and reference materials available today. Certain materials, when properly selected, capture and feed the interest of students; these materials have wide appeal and usefulness, and can be an important support to the teacher.

In conclusion, differentiated assignments, pupil autonomy, intra-class grouping, and variety of materials have

been discussed and documented by various educators as important aspects of individualizing instruction. In the following section, student teacher attitude changes are considered.

Student Teacher Attitude Changes

Student teaching programs, to be effective, must be suited to the specific needs of individual student teachers, according to Brinegar and Laymon (8, p. 2).

Chaltas (12, p. 311) states the purpose of the student teaching assignment is to provide a setting which will help the student teacher to attain maximum professional development in the allotted time.

There is a great amount of research concerning attitudes of student teachers. Much of this research shows that student teacher attitudes do change.

Corrigan and Griswold (15, pp. 93-95) developed an attitude inventory to measure the verbalized attitude changes of 41 student teachers enrolled in student teaching in the fifth year pre-service childhood education program at Teachers College of Columbia University. The conclusion was positive that student teaching does contribute to attitude change and that positive or negative change was influenced by the college supervisor and the cooperating classroom teacher.

Day (18, pp. 326-328) and Dutton (20, pp. 380-382) found significant attitude changes in both positive and

negative directions among the student teachers in their studies. In agreement, Campbell (11, pp. 160-162) found that responses on the Minnesota Teacher Attitude Inventory varied significantly among the five dimensions which constitute the inventory. Score shifts were noted both in positive and negative directions.

Osmon (49) found that student teacher attitudes showed a loss in mean MTAI scores during the student teaching experience.

Newsome, Gentry and Stephens (47, pp. 313-323) found that secondary student teachers became less consistent in their attitudes about education after student teaching while elementary student teachers showed no change in this respect.

Brim's study (7, pp. 441-445) reveals that significant attitude change occurred as a result of actual laboratory experience. Eighty per cent of the student interviewees felt that the direct interaction with the children during student teaching caused the attitude change.

Lantz (39, pp. 200-203) concludes that attitude changes toward other teachers occur during the student teacher experience. He also points out that changes occur in the student teacher's self concept.

Research thus far has substantiated attitude change during student teaching; however, some research presents contrary findings. Nichols (48) reports no significant differences between the pretest and posttest scores of

student teachers on the Minnesota Teacher Attitude Inventory. Brinkley and Scott (60, p. 87) studied 82 student teachers enrolled in seven teacher education institutions in Georgia. When responses to individual items on the Minnesota Teacher Attitude Inventory were used as criteria, in some instances there were statistically significant differences between the high and low student teacher scores. Brinkley and Scott also state that the differences in scores were of little practical significance. In Callis' study (10), the findings indicate no significant change in the student teacher's attitudes.

Hines' study (31) includes 132 student teachers and post student teachers. The study reveals that no change in attitude is apparent after student teaching.

In Ragsdale's study (56), it was found that student teachers' attitudes toward children and teaching, as measured by the instruments used in the study, do not change during the student teaching experience. In agreement, Sanford's study (58) reveals no statistically significant common direction of change in attitudes of cadets during student teaching.

In conclusion, the research concerning student teacher attitude changes seems equally balanced between studies finding attitude changes and studies finding no significant attitude changes. Perhaps more exploration of student

teacher attitudes is needed before stating positive generalizations concerning changes.

Cooperating Teacher - Student Teacher Relationships

Price (54, pp. 471-475) states that a number of educators have for many years made the claim that cooperating teachers determine to a great degree the success or failure of student teachers. The need for and the influence of cooperating teachers is difficult to denounce. However, giving most of the credit or blame for student teachers' success or failure to cooperating teachers without significant evidence seems to be an untenable position. Price corroborates the position held by many educators. He found that student teachers tend to change their own attitudes in the direction of those held by their cooperating teachers and, also, the students acquire many of the same teaching practices of their cooperating teachers.

Regarding studies of personalities of student teachers and cooperating teachers as they seem to affect student teaching, McEwin (42) concludes from his study that the personality of the cooperating teacher seems to be the most influential factor in the attitude changes made by the student teachers.

Greenhouse (27) believes that student teachers as a group tend to show a strong similarity in personality traits. However, cooperating teachers tend to rate or give higher

grades to students who are unlike themselves in terms of certain personality traits.

In support of these findings, Ager (1) concludes that personality variables are significantly related to grades in student teaching and supervisory ratings.

Gowinner (23) found a highly negative change in student teacher attitudes during student teaching. This change was influenced by a cooperating teacher who was negative in his attitudes. In agreement, Vittetoe's study (70) reveals that students placed with excellent cooperating teachers had positive increases in attitude over students placed with fair cooperating teachers whose attitudes were negative.

Gowlland (26) indicates that trends were established between student teachers and cooperating teachers. The student teachers became more like their cooperating teacher, regardless of level and specialization of teaching. In agreement, Goodall (25) found that the scores for cooperating teachers and student teachers, as a group, were very similar on the five teacher characteristics measured by Ryan's Teacher Characteristics Scale. In Elliott's study (21), the findings indicate that changes occurred in the openness of the student teachers. The change in openness was directly related to the openness of the cooperating teacher but not to the openness of their college supervisor. Bills and others (5) found that negative changes in the student

teachers were related significantly to the openness of their cooperating teacher.

Research reported thus far corroborates the influence of cooperating teachers upon student teachers; however, some research reaches contradictory conclusions.

Oswald's study (50, pp. 93-95) indicates that the change in attitude of the student teacher is not related to the interaction of high- or low-dogmatic student teachers with high- or low-dogmatic cooperating teachers. Another finding is that student teachers do not change in attitude during the student teaching experience.

In agreement Muto (46) found no significant evidence to support the popular notion that student teacher teaching style changes are related to cooperating teacher influence.

In Holl's study (32) no conclusive evidence was found that indicates attitudes held by student teachers are affected by the attitudes held by their respective cooperating teachers.

In conclusion, much of the research reviewed reveals a significant influence by the cooperating teacher upon the student teacher. This research should serve as a catalyst for continued study of the complex relationships between student teachers and cooperating teachers.

Personal Beliefs of the Student Teacher
Concerning Experimentalism

The student teacher's personal beliefs concerning Experimentalism do not "just happen." Beliefs are usually rooted in and often stem from the environment. The student teacher is prepared by two environments for his ensuing career: the long term text book, lecture, dialogue, verbal environment of the college classroom and the short term working or experiential environment of the elementary classroom.

While Brown (9, pp. 238-248) asserts that teachers should be given more opportunity for development of better understanding of philosophy, most educational research has not been conducted within psychological traditions. Only in rare instances has a philosophical frame of reference been used. The emphasis on psychological orientations has encouraged avoidance of philosophical positions by educators. This is especially evident in the avoidance of positions involving value or ethical judgments.

If it were true that one could suspend his own philosophical biases for a period while engaged in some project, it might be worthwhile. However, this is not possible. Each individual has certain beliefs and partialities that are omnipresent. These partialities influence a person's behavior regardless of the desire to be impartial. Brown sees evidence of this even in looking at research in journals.

Brown does not argue that certain assumptions (such as those set forth by Locke) should not be in educational research but that their implications should not be denied. It must be recognized that subjective behavior is not only observable but also measureable and should be included in educational research. It is necessary, of course, to rid research of beliefs detrimental to the research problem under investigation. To do this, it is necessary first of all to become aware of beliefs and biases.

To achieve this end, educational researchers have turned not to philosophy but to what is labeled social psychological theory, and Brown feels that it is the responsibility of educational researchers to bring to the surface, for the sake of clarity, those basic philosophical beliefs which lie hidden in such theory.

Brown concludes that since philosophical beliefs are effective in differentiating among groups of teachers, teacher education programs should put more emphasis on philosophical roots of specific issues and problems.

In order to carry out his emphasis in this area, Brown developed and made useful the Personal Beliefs Inventory, which measures expressed philosophical beliefs in relation to the philosophy of Experimentalism as professed by John Dewey.

To explain Dewey's philosophy of Experimentalism, Brown (9, pp. 43-46) reviews what he terms the characteristic

beliefs of the Experimental mind. Primarily, the Experimental mind is one of natural orientation rejecting all forms of supernatural belief. Ends are never final and are flexible and subject to change. Everything is relative, and man is in control of his destiny. Therefore, man is active in affairs of his world. Man both acts upon and is acted upon by the environment. Intellect and emotions are closely linked, and knowledge cannot be gained apart from the emotions. Theory is not complete in itself but becomes complete as it is made practical. Therefore, learning involves more than acquiring knowledge; it is a process of inquiry.

Hayes (29) used the Personal Beliefs Inventory to study student teachers' change in level of agreement regarding philosophical beliefs. Hayes' strongest conclusion was that the beliefs these student teachers held prior to their teaching experience were of greater effect than such external influences as cooperating teachers, college supervision, or institutional effects.

Earlier, Williams (72) had studied the effects of personality structure on changes of attitude. He used a scale to measure dogmatism, and by means of two speeches designed to range from open-ended to dogmatic, he determined that the belief system of the listener significantly effected changes in attitude.

Bane's study (3, p. 75) indicates that teachers' practices were found to be more Experimental and more

cognitively complex as their scores on the Personal Beliefs Inventory approached greater agreement with Experimentalism at the fundamental level.

Webb (71) also used the Personal Beliefs Inventory in a study dealing with reliability of classroom observation of teachers. Although she did not find beliefs to be of significance, the fact that she was able to isolate and measure personal beliefs by means of the PBI is significant.

Combs' article (14) brings together in concise form the importance of beliefs as a determinant of teaching methods. Although the article specifically deals with teaching small children, his concepts expand to meet the demands of any level of instruction.

In conclusion, the findings of the limited number of studies using the Personal Beliefs Inventory have yielded significant results. These results should aid researchers in continued study of the relationship between philosophical beliefs and classroom practices.

Summary

One section of this chapter reviews differentiated assignments, pupil autonomy, intra-class grouping, and variety of materials. These four areas have been discussed and documented by various educators as important aspects of individualizing instruction.

Another section considered in this chapter is student teacher attitude changes. The research concerning attitude changes of student teachers seems to be equally balanced between studies finding attitude changes and studies finding no significant attitude changes. Perhaps more study of student teacher attitudes is needed to establish definite directions of changes if changes do occur.

Included in this chapter is a section on cooperating teacher - student teacher relationships. Many of the studies reviewed found significant influence by the cooperating teacher upon the student teacher. The reviewed studies furnish a background for studying the influence of the cooperating teacher upon the student teacher's attitudes toward individualization of instruction.

The final section of this chapter reviews research relating to personal beliefs of the student teacher concerning Experimentalism. An important finding from this review of research is that beliefs concerning the philosophy of Experimentalism as professed by John Dewey can be measured by using the Personal Beliefs Inventory.

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CHAPTER III

PROCEDURES

The chapter on procedures is divided into three sections. The first section presents in detail a description of the subjects. The second section describes the collection of data and is followed by a third section in which the procedure for the analysis of data is presented.

Description of the Subjects

The subjects in this study were 151 senior student teachers enrolled in elementary education at North Texas State University for the Spring term, 1971, and 136 of their cooperating teachers in the public schools. Because of absences during the administration of the posttest, three of the students' scores were eliminated, thus reducing the total number of students included in the study to 148.

Five intact blocks of student teachers were selected from blocks supervised by university coordinators who were willing for their students to participate in the study. The student teaching block program at North Texas State University is divided into three segments. The first segment consists of intensified classes in Language Arts, Social Studies, and a Seminar on Teaching Problems. These

classes last for five weeks meeting tri-weekly with two all-day sessions and a third session which meets for one-half day. The second segment is the eight-week student teaching experience and is followed by the final segment meeting for three weeks. In this final three weeks the classes in Language Arts, Social Studies, and the Seminar are completed. The students' eight-week student teaching experience was conducted in the Dallas, Fort Worth, and surrounding metropolitan area school districts.

Six of the student teachers taught both in a lower grade and in a kindergarten; therefore, each of these students had two cooperating teachers, one for the lower grade and one for kindergarten. These additional teachers raised the total number of cooperating teachers in the study.

One hundred thirty-six cooperating teachers and 148 student teachers completed all instruments necessary for their part in the study, making a grand total of 284 subjects.

Procedures for Collecting Data

Permission was obtained from the Director of Teacher Education, North Texas State University to conduct this study. The participants were senior student teachers in elementary education and their cooperating teachers. No re-assignment of students between classrooms was involved.

Five intact blocks of student teachers were arbitrarily selected from blocks supervised by college coordinators who were willing to cooperate. There seems to be no reason to suspect that a sample selected in this manner would not be representative with respect to attitude toward individualization of instruction or in personal beliefs concerning Experimentalism.

The Individualization of Instruction Inventory (Appendix A) and the Personal Beliefs Inventory (Appendix C) were administered to five classes of senior student teachers, one week prior to their eight-week student teaching experience. The students were informed that their answers would be used solely as a part of a study and would in no manner influence their grades in student teaching or in any way become a part of their permanent records. They were asked to express their attitudes as to how they would be able to individualize instruction during student teaching by rating themselves on the Individualization of Instruction Inventory. They were also asked to express their personal beliefs concerning Experimentalism by answering the items on the Personal Beliefs Inventory. At the termination of the eight-week student teaching experience, the student teachers were asked to express their attitudes toward individualization of instruction in light of their recent student teaching experience, telling how they thought they would be able to individualize in the future in their own

classrooms. The students were asked to express their personal beliefs concerning Experimentalism. These posttests were conducted when the student teachers returned to campus to complete the block plan for student teaching.

For comparisons between the pretest and posttest scores of the group of student teachers, the one-group pretest-posttest design as described by Campbell and Stanley (1, pp. 7-12) was used. This includes hypotheses 1a, 1b, 1c, 1d, 1e, and hypothesis 6. The pretest and posttest were identical forms of the Individualization of Instruction Inventory (Appendix A).

A letter was mailed to the superintendent of each school system to which student teachers were assigned (Appendix D). Included with the letter was a copy of the Individualization of Instruction Inventory (Appendix A).

After the superintendents gave approval, answer packets were given to the cooperating teachers by their North Texas State University block coordinator or by their student teacher. Included in the answer packet were a letter to the cooperating teacher (Appendix E), a copy of the Individualization of Instruction Inventory (Appendix A), an I. B. M. answer form number 505 (Appendix F), and a self-addressed envelope for the purpose of returning the I. B. M. answer form. A follow-up letter was sent to the cooperating teachers who had not returned the inventory on or before March 26, 1971 (Appendix G). One hundred thirty-six of the

cooperating teachers completed and returned the answer packets.

The cooperating teachers were asked to fill out the Individualization of Instruction Inventory during the first two weeks after the student teachers had arrived in the schools. The cooperating teachers were given instructions asking them to report as objectively as possible the actual instructional situation in their classrooms without fear of being criticized or rated on what was reported since no administrator, consultant, or principal would ever have access to the I. B. M. answer forms. No pressure would be brought upon the teachers to indicate anything other than what actually happened in their classroom (Appendix E). The cooperating teachers were asked to fill out the instrument only once on themselves; they did not have a posttest. The cooperating teachers' scores were divided into two groups. The first group consisted of those teachers who scored above the mean in total individualization. The second group consisted of teachers who scored below the mean in total individualization.

The student teachers were also divided into two groups on the basis of pretest scores. The first consisted of students who scored above the mean in total individualization. The second group consisted of students who scored below the mean in total individualization.

Special care was taken concerning the six student teachers who taught both a lower grade and a kindergarten to prevent invalid results. These students were placed in the matched paired groups only if both their cooperating teachers scored above or below the cooperating teacher mean in total individualization. Only two of the students' cooperating teachers both scored above or below the mean; therefore, four of these students and their cooperating teachers were eliminated from the matched paired groups. This left a total of 128 student teachers and cooperating teachers in the matched paired groups.

The 128 student teachers and cooperating teachers were placed into four groups of matched pairs. The paired groups were as follows:

1. There were 34 pairs of above-the-mean cooperating teachers and above-the-mean student teachers.
2. There were 32 pairs of above-the-mean cooperating teachers and below-the-mean student teachers.
3. There were 29 pairs of below-the-mean cooperating teachers and above-the-mean student teachers.
4. There were 33 pairs of below-the-mean cooperating teachers and below-the-mean student teachers.

For comparisons between the pretest and posttest scores of the groups of matched pairs, each group was analyzed separately by the one-group pretest-posttest design as described by Campbell and Stanley (1, pp. 7-12). This

includes hypotheses 2, 3, 4, and 5. To test hypotheses 7 and 8, a Pearson Correlation Coefficient was calculated. The posttest was administered during the first week of May, 1971. The investigator administered the tests to all the subjects.

Procedures for Analysis of Data

At the conclusion of practice teaching, all data were punched into cards for automatic data processing. Statistical calculations were performed by the North Texas State University Computer Center. Garrett (2) and Roscoe (3) explain the t-test for related samples and the Pearson Correlation Coefficient used in the study.

Hypotheses were tested in the null form using the statistical treatments and level of significance outlined in Table I.

TABLE I
 SUMMARY, STATISTICAL PROCEDURE, AND ASSIGNED
 LEVEL OF SIGNIFICANCE FOR THE DATA
 ANALYSIS OF EACH HYPOTHESIS

Hypothesis	Procedure	Level of Significance
1a	<u>t</u> -test, Related samples	.05, Two-Tailed
1b	<u>t</u> -test, Related samples	.05, Two-Tailed
1c	<u>t</u> -test, Related samples	.05, Two-Tailed
1d	<u>t</u> -test, Related samples	.05, Two-Tailed
1e	<u>t</u> -test, Related samples	.05, Two-Tailed
2	<u>t</u> -test, Related samples	.05, Two-Tailed
3	<u>t</u> -test, Related samples	.05, One-Tailed
4	<u>t</u> -test, Related samples	.05, One-Tailed
5	<u>t</u> -test, Related samples	.05, Two-Tailed
6	<u>t</u> -test, Related samples	.05, Two-Tailed
7	Correlation Coefficient	.05, Two-Tailed
8	Correlation Coefficient	.05, Two-Tailed

The .05 level of significance was arbitrarily selected as the point of rejection or retention of the null form of the hypotheses. The criterion for a one-tailed test was used on those hypotheses for which directional results were predicted. On the hypotheses for which directional results were not predicted, the criterion for a two-tailed test was used.

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CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The purposes of this study were (1) to determine whether there is a significant change from pretest to post-test in attitudes toward individualization of instruction after the student teaching experience, (2) to measure the cooperating teachers' self-perceived practices of individualization of instruction in order to determine whether there is a relationship between the cooperating teachers' attitudes and any significant change in their student teachers' attitudes toward individualization of instruction, (3) to determine whether the student teaching experience effects a significant change in students' basic philosophical beliefs concerning Experimentalism, and (4) to determine whether a significant correlation exists between students' scores on the Individualization of Instruction Inventory and their scores on the Personal Beliefs Inventory.

The data gathered to implement the purposes of this study are presented in this chapter. The statistical treatment of the data along with findings pertinent to each hypothesis as well as other findings is discussed in the order of the hypotheses as stated in Chapter I.

Hypothesis I

According to research hypothesis one, there would be no significant difference between the student teachers' pretest mean scores and posttest mean scores on the different sub-areas and on total individualization as measured by the Individualization of Instruction Inventory. This hypothesis was tested by performing a t-test for related samples on pretest and posttest scores. The results of the statistical analysis are shown in Table II.

TABLE II

SIGNIFICANCE OF PRETEST AND POSTTEST
DIFFERENCES ON THE I.I.I.* FOR
THE TOTAL POPULATION OF
148 STUDENT TEACHERS

Variables	Mean Difference	t-ratio	P-value
Intra-class Grouping	-0.04730	-0.18405	0.84847
Variety of Materials	0.00676	0.02644	0.97722
Pupil Autonomy	0.16216	0.73393	0.52901
Differentiated Assignments	-0.37162	-1.46677	0.14067
Total Individualization	-0.25000	-0.33806	0.73546

*"I.I.I."--Individualization of Instruction Inventory.

In all cases the value of p is greater than the .05 level. Hypothesis one and its sub-sections, as stated in the null form, are therefore retained. The difference between pretest and posttest scores was not significant at the .05 level.

Hypothesis II

According to hypothesis two, there would be no significant difference between pretest means and posttest means of students who scored above the student - teacher mean on the pretest and were paired with teachers who scored above the teacher mean on the Individualization of Instruction Inventory. The mean score for the student teachers on the Individualization of Instruction Inventory was 81. The mean score for the cooperating teachers was 76. Students who scored above 81 and were paired with teachers who scored above 76 were investigated for a significant change between pretest and posttest scores. The results are shown in Table III.

TABLE III

SIGNIFICANCE OF MEAN DIFFERENCES FOR STUDENT
TEACHERS SCORING ABOVE THE MEAN AND
COOPERATING TEACHERS SCORING
ABOVE THE MEAN ON THE I.I.I.*
N=34

Variables	Mean Difference	t-ratio	P-value
Intra-class Grouping	-0.21212	-0.43123	0.67266
Variety of Materials	0.84848	2.31186	0.02582**
Pupil Autonomy	0.90909	2.97318	0.00567**
Differentiated Assignments	0.27273	0.54906	0.59315
Total Individualization	1.81818	1.50711	0.13805

*"I.I.I."--Individualization of Instruction Inventory.

**Significant at the .05 level.

The data in Table III show that difference between pretest and posttest means for total individualization was not significant at the .05 level ($p = .14$). Hypothesis two, as stated in the null form, is therefore retained.

Although the sub-areas of the Individualization of Instruction Inventory were not hypothesized concerning the matched-paired groups, the sub-area scores were analyzed statistically. It is interesting to note that in two of the four sub-areas (variety of materials and pupil autonomy) there was difference between pretest and posttest scores which was significant at the .05 level. In these two areas the student teachers scored lower on the posttest than on the pretest. In the area of differentiated assignments the student teachers also scored lower on posttest, but the difference was not significant at the .05 level. In the area of intra-class grouping the posttest scores were higher. It appears that this change in the positive direction concerning intra-class grouping helped negate the significant negative changes in the areas of pupil autonomy and variety of materials and thus contributed to the non-significant change of the total scores.

Hypothesis III

Hypothesis three concerns a comparison of means between pretest and posttest scores for student teachers who scored above the student-teacher pretest mean and who were paired

with cooperating teachers who scored below the teacher mean on the Individualization of Instruction Inventory. The hypothesis was tested by t-test and was stated directionally. It was hypothesized that the student teachers would score significantly lower on the posttests. The results of the statistical analysis are shown in Table IV.

TABLE IV
SIGNIFICANCE OF MEAN DIFFERENCES FOR STUDENT
TEACHERS SCORING ABOVE THE MEAN AND
COOPERATING TEACHER SCORING BELOW
THE MEAN ON THE I.I.I.*
N = 29

Variables	Mean Difference	t-ratio	P-value One-Tailed
Intra-class Grouping	1.10345	2.21956	0.01639**
Variety of Materials	0.44828	1.22255	0.11494
Pupil Autonomy	0.82759	1.95079	0.02910**
Differentiated Assignments	-0.20690	-0.37083	0.35716
Total Individualization	2.17241	1.49345	0.07154

*"I.I.I."--Individualization of Instruction Inventory.

**Significant at the .05 level of confidence for a one-tailed test.

Since the hypothesis was stated directionally, the significance level for a one-tailed test was used. Data in Table IV show that difference in total individualization pretest scores and posttest scores was not significant at the .05 level ($p = .07 > .05$). The directional hypothesis

is rejected. The difference was not significant at the .05 level.

In this case, significant differences between pretest and posttest scores on sub-sections of the Individualization of Instruction Inventory were not hypothesized. The data on sub-sections were treated statistically, and Table IV shows that two sub-sections (intra-class grouping and pupil autonomy) registered a significant difference for a one-tailed test at the .05 level. The posttest scores were significantly less, as had been hypothesized. Differentiated assignments, however, showed a higher posttest score, a result which apparently negated the other changes and caused the total score to register no significant difference between pretest and posttest.

Hypothesis IV

According to hypothesis four, student teachers who scored below the pretest mean for student teachers and were paired with teachers who scored above the teacher mean on the Individualization of Instruction Inventory would score significantly higher on posttest than on pretest. The hypothesis was tested by a t-test. The results are shown in Table V.

TABLE V

SIGNIFICANCE OF MEAN DIFFERENCES FOR STUDENT TEACHERS
 SCORING BELOW THE MEAN AND COOPERATING TEACHERS
 SCORING ABOVE THE MEAN ON THE I.I.I.*
 N = 32

Variables	Mean Difference	t-ratio	P-value One-Tailed
Intra-class Grouping	-0.40625	-0.69626	0.25089
Variety of Materials	-0.21875	-0.41511	0.34186
Pupil Autonomy	-1.03125	-1.94465	0.02898**
Differentiated Assignments	-0.53125	-1.07124	0.14624
Total Individualization	-2.18750	-1.42280	0.08076

*"I.I.I."--Individualization of Instruction Inventory.

**Significant at the .05 level of confidence for a one-tailed test.

For a one-tailed test, the mean scores on total individualization of instruction showed no significant difference at the .05 level. The directional hypothesis is, therefore, rejected. There was no over-all significant change in scores after the practice teaching experience. Hypotheses were not formulated concerning performance on sub-areas of the test; however, analysis shows that on each sub-area a change was registered but in only one case, the sub-area pupil autonomy, was the difference significant at the .05 level.

Hypothesis V

According to hypothesis five, there would be no significant difference between pretest means and posttest means for those students who scored below the student-teacher

pretest mean and were paired with cooperating teachers who scored below the teacher mean on the Individualization of Instruction Inventory. The hypothesis was tested by t-test. The results are shown in Table VI.

TABLE VI
SIGNIFICANCE OF MEAN DIFFERENCES FOR
STUDENT TEACHERS SCORING BELOW THE
MEAN AND COOPERATING TEACHERS
SCORING BELOW THE MEAN
ON THE I.I.I.*
N = 33

Variable	Mean Difference	t-ratio	P-value
Intra-Class Grouping	-0.68750	-1.17282	0.24849
Variety of Materials	-0.78125	-1.09015	0.28389
Pupil Autonomy	-0.28125	-0.55750	0.58763
Differentiated Assignments	-1.50000	-2.41091	0.02083**
Total Individual	-3.25000	-1.66448	0.10247

*"I.I.I."--Individualization of Instruction Inventory.

**Significant at the .05 level.

The difference between the pretest total individualization score and the posttest score was not significant at the .05 level. Hypothesis five is retained. There was no significant difference in scores on the Individualization of Instruction Inventory following the student teaching experience. Although differences in pretest scores and posttest scores on the separate sub-areas were not hypothesized, it is noted that in each sub-area the posttest scores were higher. In only one area, differentiated

assignments, was the increase in score significant at the .05 level.

Hypothesis VI

Hypothesis six stated that there would be no significant difference between the student teachers' pretest mean score and posttest mean score on the Personal Beliefs Inventory. The hypothesis was tested by performing a t-test on pretest and posttest scores. The results are shown in Table VII.

TABLE VII

SIGNIFICANCE OF PRETEST AND POSTTEST DIFFERENCES
ON THE PERSONAL BELIEFS INVENTORY FOR THE
TOTAL POPULATION OF 148 STUDENT TEACHERS

Variable	Mean Difference	t-ratio	P-value
Personal Beliefs Inventory	-2.46622	-1.83102	0.06559

Table VII shows $p = .065$. The hypothesis is retained. The difference is not significant at the .05 level. It may be noted that the difference is significant at the .10 level, a result which would suggest that personal beliefs concerning Experimentalism are affected to some degree by the student teaching experience.

Hypotheses VII and VIII

According to hypothesis seven, there would be a significant positive correlation between the student teachers' pretest scores on the Individualization of Instruction Inventory and their pretest scores on the Personal Beliefs Inventory. According to hypothesis eight, there would be a significant positive correlation between the student teachers' posttest scores on the Individualization of Instruction Inventory and their posttest scores on the Personal Beliefs Inventory. Pearson product moment correlation coefficients for each set of scores are shown in Table VIII.

TABLE VIII

PEARSON PRODUCT MOMENT CORRELATION
OF PRETEST SCORES AND POSTTEST
SCORES ON THE I.I.I.* AND P.B.I.**
FOR STUDENT TEACHERS

Pretest Scores Correlation P.B.I. and I.I.I.	Posttest Scores Correlation P.B.I. and I.I.I.
0.0115	0.1060

*"I.I.I."--Individualization of Instruction Inventory.

**"P.B.I."--Personal Beliefs Inventory.

Although the coefficients were positive as predicted, the correlation coefficients are not significant at the .05 level. Hypotheses seven and eight are rejected.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

Summary

The primary purposes of this study were (1) to determine whether there is a significant change from pretest to post-test in attitudes toward individualization of instruction, (2) to determine whether the cooperating teacher has any influence upon the student teacher's attitude toward individualization of instruction, (3) to determine whether the student teaching experience effects a change in the student's basic philosophical beliefs concerning Experimentalism, and (4) to determine whether a significant correlation exists between the students' scores on the Individualization of Instruction Inventory and their scores on the Personal Beliefs Inventory.

The subjects for the study consisted of 148 elementary student teachers who were enrolled in student teaching during the Spring semester of 1971 and 136 of their cooperating teachers. The instruments used in the study were the Individualization of Instruction Inventory and the Personal Beliefs Inventory. Eight hypotheses were formulated to achieve the purposes of the study. The main statistical

technique used to test the hypotheses was the t-test; however, the Pearson product moment correlation was used to test hypotheses seven and eight. The statistical findings of the investigation are presented in Chapter IV.

Summary of the Hypothesized Data

For each hypothesis tested in this study, statistical treatment of data showed no effects which were significant at the arbitrarily selected .05 level of confidence. Hypotheses I, II, V, and VI were stated in the null form. Since they did not meet the test of significance, they were retained. Hypotheses III, IV, VII, and VIII were stated directionally. Since they also failed to meet the test of significance, they were rejected.

Findings

An analysis of the data presented in this study reveals the following findings:

1. The student teaching experience produced no significant change in the student teacher's attitude toward individualized instruction as measured by the Individualization of Instruction Inventory. This appears to be true for the composite scores on the instrument as well as for scores in the sub-areas when the student teachers are treated as a group and no consideration is given to whether the student teacher was assigned to a cooperating teacher with similar or dissimilar attitude.

2. When the student teachers who scored above the mean on the Individualization of Instruction Inventory pretest were assigned to teachers who scored above the teacher mean, the student teaching experience produced no significant change in the student teachers' attitude toward individualized instruction as reflected by the composite score.

3. When student teachers who scored above the mean on the Individualization of Instruction Inventory were assigned to cooperating teachers who scored below the teacher mean, the student teaching experience produced no significant change in the student teacher's attitude toward individualization of instruction as reflected by the composite score.

4. When student teachers who scored below the mean on the Individualization of Instruction Inventory were assigned to cooperating teachers who scored above the teacher mean, the student teaching experience produced no significant change in the student teachers' attitude toward individualization of instruction as reflected by the composite score.

5. When student teachers who scored below the mean on the Individualization of Instruction Inventory were assigned to cooperating teachers who scored below the mean, the student teaching experience produced no significant change in the student teachers' attitude toward individualization of instruction as reflected by the composite score.

6. Comparison of student teachers' pretest scores with posttest scores on the Personal Beliefs Inventory showed that the change in philosophical beliefs concerning Experimentalism following the student teaching experience was not significant at the .05 level of confidence. However, the change which occurred was significant at the .10 level. The mean score increased from pretest to posttest, a result which suggests a shift toward belief in Experimentalism.

7. The correlation coefficient between pretest scores on the Individualization of Instruction Inventory and the pretest scores on the Personal Beliefs Inventory was 0.0115. The correlation coefficient for posttest scores on the same two instruments was 0.1060. These results indicate that there is no significant relationship between attitude toward individualization of instruction and personal beliefs concerning Experimentalism as measured by the two instruments.

Other Findings

Although composite scores on the Individualization of Instruction Inventory showed no significant change for each hypothesis tested, significant changes in some cases did occur between the pretest and posttest mean scores on the four sub-areas of the instrument. These significant differences occurred only when student teacher scores were analyzed after the scores had been grouped into matched pairs with the cooperating teachers' scores. This finding

suggests that assigning a student teacher to a cooperating teacher who scored either high or low might influence the student teacher during the student teaching experience. Yet no particular pattern is distinguishable in the changes detected. Out of the four comparisons, pupil autonomy showed significant changes on three occasions. Twice the posttest scores on this sub-area were significantly lower and once the posttest scores were significantly higher. The decrease occurred when student teachers who scored high on pretest were placed with cooperating teachers who scored high, and in another case when student teachers who scored high were placed with cooperating teachers who scored low. The increase in this sub-area occurred when the student teachers who scored low were assigned to cooperating teachers who scored high.

The remaining three cases of a significant difference occurred once in each of the other three sub-areas. Posttest scores on intra-class grouping were significantly lower when student teachers who scored high were placed with cooperating teachers who scored low. Posttest scores on the sub-area variety of materials were significantly higher in the case where student teachers who scored high were assigned to cooperating teachers who scored high. Posttest scores on the sub-area differentiated assignments were higher in the case where student teachers who scored low were

placed with cooperating teachers who scored low. It is difficult to discern any definite pattern for such results.

Conclusions

The conclusions drawn from this study are not claimed for population groups other than those represented in this study. The data collected for this study were obtained during the spring term of 1971 at North Texas State University, Denton, Texas. Similar conclusions for other groups and studies should not be drawn on the basis of this study alone.

From the analysis of the findings, the following may be concluded:

1. Student teachers do not change their attitude toward individualization of instruction during student teaching. More specifically, change in attitude of the student teachers is not related to the interaction of students scoring above or below the mean on the Individualization of Instruction Inventory when paired with cooperating teachers scoring above or below the mean.
2. Student teachers do not change their beliefs concerning Experimentalism during student teaching.
3. There is no relationship between individualization of instruction and personal beliefs concerning Experimentalism.

4. The student teachers have positive attitudes toward individualization of instruction.

5. The cooperating teachers' attitudes toward individualization of instruction are not as positive as the student teachers' attitudes.

6. The student teachers made a slight increase toward belief in Experimentalism after student teaching.

Recommendations

The recommendations listed below are based upon the findings and conclusions of this study:

1. Further research should be done concerning the different sub-areas included on the Individualization of Instruction Inventory. The scope of such research should be narrowed in order to focus on the particular sub-areas. It may be possible that high or low scores in one sub-area bear little relationship to scores in other areas. This aspect should be investigated.

2. Further data concerning the influence of the cooperating teacher upon the student teacher's attitude toward individualization of instruction should be gathered using instruments and experimental designs which will carefully examine such influence within each sub-area on the Individualization of Instruction Inventory.

3. Further research concerning the change in philosophical beliefs about Experimentalism as measured by the

Personal Beliefs Inventory is recommended. The basis for this recommendation is that the scores recorded in this study showed an increase from pretest to posttest which was significant at the .10 level. Since the change was not significant at the .05 level, the directional hypothesis of this study was rejected, but the fact that the .10 level of significance was met indicates a need for further investigation.

4. The Personal Beliefs Inventory should be given three times. The first and second administration should be two weeks apart; the second and third should be eight or more weeks apart. The scores should be compared on only the second and third administrations of the test. The first administration of the test would give the students an opportunity to become more familiar with the terminology on a philosophical test.

Implications

The results of this study imply that a student's attitude toward individualization of instruction or his agreement or disagreement with the philosophical beliefs of John Dewey concerning Experimentalism does not change significantly during the student teaching experience. Although some changes were registered in specific sub-areas of the Individualization of Instruction Inventory, overall results indicate that assignment of student teachers to

cooperating teachers of similar or dissimilar attitudes produces no significant change in the student teacher's attitude toward individualization of instruction. It seems logical to infer that if the development of positive attitudes in the areas of intra-class grouping, variety of materials, pupil autonomy, and differentiated assignments is an educational objective for individualization of instruction, plans should be made for such development in classes other than the student teaching block. If attitudes are built prior to student teaching, it appears unlikely that they will be significantly altered after student teaching is completed.

APPENDIX A

INDIVIDUALIZATION OF
INSTRUCTION INVENTORY

Instrument 1f

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1965

LAMAR STATE COLLEGE OF TECHNOLOGY

BEAUMONT, TEXAS

HOW WELL IS INSTRUCTION BEING INDIVIDUALIZED??

Directions:

This inventory is intended for use by teachers and others as they consider the amount and type of individualization of instruction actually occurring in a given classroom. Descriptive ratings on the twenty lettered items below permit the user to make an objective analysis of teaching as observed. A teacher may describe himself or have another observer describe him using this inventory.

Circle the number on each five-point scale below that best describes the teaching under consideration.

- | | | | | |
|---|--|---|--|---|
| a. Pupils do advanced level or enrichment work. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Nearly half of the pupils do obviously advanced level or enrichment work. | Several pupils do advanced level or enrichment work. | No pupil does advanced level or enrichment work. |
| b. The arrangement of furniture promotes flexible groupings. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Desks and chairs are arranged in varying patterns for a variety of types of work. | At least one special arrangement is provided for group work. | All desks and chairs are arranged in rank-and-file or other uniform pattern. |
| c. Materials used are at different levels of difficulty. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | All pupils work with materials that reflect different levels of difficulty. | Nearly half the pupils use materials reflecting several different levels of difficulty. | All pupils use the same material. |
| d. Pupils lead the class or groups within the class. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Teacher arranges for one or more pupils to lead the class or a group for a substantial period of time. | One or more pupils are permitted to lead the class or a group but only for brief moments. | No pupil is permitted to lead the class or a group. |
| e. A variety of assignments is made to individuals and small groups. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Identical assignments are given only to small groups. | Identical assignments are given to all of the class only occasionally. | All pupils are given identical assignments most of the time. |
| f. Pupils work independently in intra-class groups. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Pupils work in small groups with little direction for prolonged periods of time. | Most pupils work independently in small groups for short periods of time. | Pupils work in small or large groups under the direction of the teacher at all times. |
| g. A variety of reference material is in use by both the teacher and the pupil. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Encyclopedias, dictionaries, atlases, supplementary texts, and other materials that are available are being used extensively. | Encyclopedias, dictionaries, etc., are used but in limited ways. | Little or no reference material is being used. |
| h. Pupils help each other with their work. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Pupils frequently help each other in constructive ways. | Pupils help each other on occasion. | Pupils attend strictly to their own individual tasks at all times. |
| i. Routine duties are being shared by pupils in a planned fashion. | <div style="display: flex; justify-content: space-between; width: 100%;"> 5 4 3 2 1 </div> <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> | Systematic procedures are employed to assure each student an opportunity to assume his share of | Students have opportunities to share in assuming routine responsibilities but this is not systematic nor | There is little or no pupil sharing of routine duties. |

j. There is freedom of movement within the class.	5 Pupils are permitted to change work stations as needs arise.	4 3 Teacher suggests or approves all changes that are made in work stations.	2 1 Pupils remain at work station for nearly all activities.
k. A wide variety of teacher-made materials such as work-sheets, games, transparencies, charts, and other aids is in use.	5 These materials are used frequently and in great variety.	4 3 These materials are used periodically but only in limited variety.	2 1 These materials are used sparingly or not at all.
l. Pupils are permitted to help in planning learning activities.	5 All pupils are actively involved in short- and long-range planning.	4 3 Pupils are permitted to offer suggestions for teacher planning.	2 1 Pupils are permitted little or no opportunity to help with planning.
m. Pupil participation is differentiated so as to be active, challenging, and purposeful to each individual.	5 All pupils participate actively with purposes that challenge their different abilities.	4 3 Pupils participate actively with purposes that challenge most.	2 1 Pupils participate passively with purposes that challenge only a few.
n. Intra-class groups vary in size and number to reflect pupil needs.	5 Groups range from one person to as much as half the class.	4 3 Groups vary in size but only two or three groups are employed.	2 1 No intra-class grouping is employed.
o. A variety of newspapers, pamphlets, and magazines is in use.	5 Pupils use a variety of magazines and newspapers as a regular part of their work.	4 3 Pupils use few newspapers and magazines occasionally.	2 1 Pupils make little use of any newspapers or magazines.
p. Pupils find and correct their own errors.	5 Pupils are encouraged to find and correct their own mistakes and to look for reasons.	4 3 The teacher points out errors and asks pupils to correct them.	2 1 The teacher finds and corrects mistakes for pupils.
q. Pupils reflect an interest in the class work.	5 Nearly every pupil reflects interest in the assigned work.	4 3 Most pupils reflect interest in the assigned work.	2 1 Most pupils appear to have little or no interest in assigned work.
r. Intra-class groupings are flexible and task-oriented.	5 Small groups are formed and changed frequently to serve a variety of instructional purposes.	4 3 Small groups are formed and changed occasionally for some special purpose.	2 1 Small groups, if formed, are fairly permanent arrangements retained for months.
s. A variety of library books is in use.	5 Pupils use a wide variety of library books both within and outside the classroom.	4 3 Pupils use a variety of library books as recreational reading but sparingly for class assignments.	2 1 Pupils make limited use of library books.
t. Pupils are held responsible for their own actions.	5 The teacher leaves pupils free to carry out assignments independently.	4 3 The teacher gives advice to pupils while assignments are being carried out.	2 1 The teacher closely directs, checks, and advises pupils while assignments are being carried out.

**PROFILE FOR
INDIVIDUALIZATION**

Directions:

Analyze the ratings previously made.* Transfer the numerical rating for each item to the corresponding blank below. Sum the ratings for each cluster of items, and enter these totals in the boxes at the right designated A, B, C, and D. Sum all ratings for the total in the last box.

Class _____ Date _____

Ratings by _____

* * *

A. Intra-Class Grouping

Items:	b. Furniture arrangement	_____	
	f. Independent work	_____	
	j. Free movement	_____	A <input style="width: 40px; height: 20px;" type="text"/>
	n. Group size	_____	
	r. Group flexibility	_____	

B. Variety of Materials

Items:	c. Different levels	_____	
	g. Reference materials	_____	
	k. Teacher-made materials	_____	B <input style="width: 40px; height: 20px;" type="text"/>
	o. Periodicals	_____	
	s. Library books	_____	

C. Pupil Autonomy

Items:	d. Pupil leadership	_____	
	h. Mutual assistance	_____	
	l. Pupil planning	_____	C <input style="width: 40px; height: 20px;" type="text"/>
	p. Self-evaluation	_____	
	t. Pupil responsibility	_____	

D. Differentiated Assignments

Items:	a. Advance or enriched	_____	
	e. Variety	_____	
	i. Routine duties	_____	D <input style="width: 40px; height: 20px;" type="text"/>
	m. Active, challenging, and purposeful	_____	
	q. Interesting	_____	

TOTAL INDIVIDUALIZATION

APPENDIX B

INSTRUMENT NUMBER 1

BASIC TEACHING PROCEDURES SCALE

Circle the numeral that you think best expresses your teaching and classroom.

DIFFERENTIATING ASSIGNMENTS

Routine duties being rotated among pupils in a planned fashion

5	4	3	2	1
There is evidence of a plan for rotating routine tasks		Teacher assigns duties to various pupils without apparent plan		Little or no evidence of the rotation of routine duties

Identical assignments

5	4	3	2	1
No large group working on identical assignments		Majority of class working on identical assignments		All pupils working on identical assignments

Graded materials used are at different levels

5	4	3	2	1
All pupils working with graded materials that reflect different levels of difficulty		Nearly half the pupils are using materials reflecting several different levels of difficulty		All pupils appear to be using the same graded material

Only a few pupils require individual assistance

5	4	3	2	1
All pupils seem able to proceed with assignments independently		Assignments seem too difficult for several pupils		Only a few pupils are able to proceed independently

Pupils finish assignments or make significant progress in the allotted time

5	4	3	2	1
Nearly all pupils are able to finish assignments or make significant progress in time allotted		Assignments seem too lengthy for several pupils		Assignments are too lengthy for all but a few pupils

Pupils do advanced level or enrichment work

5	4	3	2	1
Nearly half of the pupils are doing obviously more advanced work or enrichment work		Several pupils doing more advanced work or enrichment work		No child appears to be doing advanced work or enrichment work

Pupil participation is active and purposeful

5	4	3	2	1
All pupils participating actively with apparent purposes they share		Majority of pupils participating actively and purposefully		Only a few pupils participating

A variety of interests are reflected in assignments

5	4	3	2	1
Nearly every pupil expresses interest in the assigned tasks		Most pupils reflect interest in the assigned tasks		Only a few pupils reflect interest in the assigned tasks

USE OF INTRACLASS GROUPING

Arrangement of furniture promotes flexible groupings

5	4	3	2	1
Desks and chairs are arranged in varying patterns for a variety of types of work		At least one special arrangement is provided for a group to work		All desks and chairs are arranged in rank and file or other uniform pattern

Flexible groupings are employed to meet a variety of needs

5	4	3	2	1
Groupings are changed frequently so as to meet a variety of pupil needs		Grouping is employed, but only one or two patterns are in evidence		No grouping employed except for total group

Pupils help each other with work

5	4	3	2	1
Pupils frequently help each other in constructive ways		Pupils are seen helping each other on occasion		No evidence of one pupil helping another or if it is discouraged when it does occur

Teacher maintains check on progress of groups

5	4	3	2	1
Teacher often moves among groups to check progress		Teacher calls one group at a time to her for checking		Little or no evidence that teacher is checking on progress of groups

Groups work independently

5	4	3	2	1
All groups seem to know what to do when teacher is busy		At least one group is able to work independently		All groups seem confused and restless

Teacher is aware of group behavior

5	4	3	2	1
Teacher consistently maintains visual check on all groups		Teacher seems somewhat unaware of group behavior		Little or no evidence that teacher is keeping visual account of group behavior

Freedom of movement within groups

5	4	3	2	1
Pupils permitted to change desks or places as need arises		Teacher suggests that certain changes be made		Groups remain more or less static until dismissed

Groups vary in size and number to reflect pupil needs

5	4	3	2	1
Groups range from one person to as much as half the class		Groups vary in size but only two or three groups are employed		Only one or two groups are employed with little size variation

USE OF MULTIMEDIA TEACHING

Displays relate to activities in progress

5	4	3	2	1
Work on display is related to work children are now doing		Work on display seems unrelated to ongoing activity		Little or no use being made of displays related to activities in progress

A variety of reference materials are in use by both the teacher and the pupil

5	4	3	2	1
Encyclopedias, dictionaries, atlases, supplementary texts, and other materials that are available are being used		Encyclopedias, dictionaries, etc. are used sparingly		Little or no reference materials being used

A variety of maps, charts, globes, and models are in use by both teacher and pupils

5	4	3	2	1
Maps, charts, globes, and models that are available are used extensively		Maps, charts, globes, and models used sparingly		Little or no evidence of the use of maps, globes, charts, and models

A variety of projected materials are in use by both teacher and pupil (filmstrips, 16mm film, visuals, etc.)

5	4	3	2	1
Use of projected materials is frequent and in variety		Materials are used sparingly or only one kind is in use		No evidence that any of these materials are used except on rare or special occasions

A wide variety of teacher-made worksheets is in use

5	4	3	2	1
Teacher frequently uses worksheets she has made in relation to on-going assignment		Teacher-made worksheets used sparingly or are unrelated to what pupils are doing		No evidence that teacher-made worksheets are ever used

A variety of library books is in use

5	4	3	2	1
Pupils using a wide variety of library books		Pupils use library books sparingly		Almost no evidence that library books are used in the classroom

A variety of newspapers and magazines is in use

5	4	3	2	1
Pupils using a variety of magazines and newspapers as a part of their work		A few newspaper and magazines in evidence but not being used		No evidence of newspapers or magazines

A variety of pupils' work is on display

5	4	3	2	1
A great deal of pupil work is on display around the room (all pupils represented)		A few pieces of pupil work are on display (a few pupils represented)		Little or no pupil work on display

Teacher-made displays are colorful, well-designed, timely, and serve specific teaching purposes

5	4	3	2	1
Displays are attractive and appropriate, and they serve teaching purposes		Displays are mainly decorative or are still on display after usefulness is past		Little or no evidence of teacher-made displays

PROMOTION OF SELF-DIRECTION IN LEARNING

Pupils permitted to help in planning

5	4	3	2	1
Teacher actually encourages all children to participate in planning		Each pupil is permitted to make opinions known		Little or no evidence of pupil planning

Pupils allowed to select goals

5	4	3	2	1
Each pupil allowed to arrive at his own goal independently		Pupils allowed to select from various stated goals		Little or no evidence that pupils have a voice in setting goals

Pupils occasionally lead class

5	4	3	2	1
Teacher actually invites a child to lead class for brief period		Child is permitted to lead class when he has a particular need or desire to do so		No evidence that any child ever leads class

Pupils seek aid from many sources

5	4	3	2	1
Pupils voluntarily seek aid from various sources		Teacher suggests that child seek aid from various sources		Little or no evidence that pupils go beyond an assigned source

Pupils find and correct own errors

5	4	3	2	1
Pupils are encouraged to find and correct mistakes and to look for reasons		Teacher points out error and asks child to correct it		Teacher finds and corrects mistakes

Pupils use various problem solving methods

5	4	3	2	1
Pupils encouraged to use many problem solving methods - some unique		Teacher only occasionally permits an unusual approach to problem solving		Teacher insists on one problem solving method

Pupils suggest procedures

5	4	3	2	1
Teacher actually asks for pupil suggestions on best procedure		Pupils permitted to offer suggestions but not specifically encouraged to do so		Little or no evidence of pupil-suggested procedure being used

Pupils are held responsible for their own actions

5	4	3	2	1
Teacher leaves pupils free to carry out assignments independently		Teacher gives a great deal of guidance and advice while assignment is carried out		Teacher completely dominates the work session

APPENDIX C

PERSONAL BELIEFS INVENTORY**Form A - B**

This is a study of what people believe about a number of basic philosophical questions. The best answer to each statement below is your personal belief. Many different and opposing points of view are presented here. You will find yourself believing some of the statements, not believing some, and uncertain about others. Whether you believe or do not believe any statement, you can be sure that many people feel the same as you do.

Mark each statement on the answer form by blacking 1, 2, 3, 4, or 5. If your choice is 6, leave your answer form blank.

1: I AGREE VERY MUCH
2: I AGREE ON THE WHOLE
3: I AGREE A LITTLE

4: I DISAGREE A LITTLE
5: I DISAGREE ON THE WHOLE
6: I DISAGREE VERY MUCH

1. Change is a basic characteristic of nature, and man has some measure of control over this change by using his intelligence.
2. Knowledge is truth to be accepted, held, and treasured for its own sake.
3. A statement of fact may be both true and untrue depending on the standpoints and conditions of the observations.
4. To know something is to know the inner nature of things, i. e., as they really are prior to investigation.
5. Man doesn't have a "spirit" which is separable from his body and the material world.
6. Questions of value and moral judgment ought to be open to experimentation and scientific inquiry.
7. All "truths" are relative.
8. Man gains knowledge by having things impressed upon his mind.
9. Truth exists ready-made somewhere; the task of the scholar is to find it.
10. Practice is subordinate to knowledge, merely a means to it.
11. Learning is an application of mental powers to things to be known.

Mark each statement on the answer form by blacking 1, 2, 3, 4, or 5. If your choice is 6, leave your answer form blank.

- | | |
|-------------------------|----------------------------|
| 1: I AGREE VERY MUCH | 4: I DISAGREE A LITTLE |
| 2: I AGREE ON THE WHOLE | 5: I DISAGREE ON THE WHOLE |
| 3: I AGREE A LITTLE | 6: I DISAGREE VERY MUCH |

12. Man's destiny is in the hands of a supernatural power.
13. The mind is a group of "contents" which come from having certain material presented to it.
14. "Mind" is purely intellectual and cognitive; bodily activity is an irrelevant and intruding physical factor.
15. The ends and laws which should regulate human conduct have been determined by the superior intelligence of an ultimate Being.
16. Knowledge is the sum total of what is known, as that is handed down by books and learned men.
17. What something may be when totally independent of any observer or frame of reference is a scientifically meaningless question.
18. The mind is formed from without, as one molds and shapes a piece of clay.
19. Man's primitive impulses are neither good nor evil, but become one or the other according to the objects for which they are employed.
20. There is no spiritual realm which lies beyond man's experience in the natural world.
21. What is morally right and wrong ought to be decided on warranted evidence -- the findings of empirical science.
22. Knowledge is the result of theoretical insight on the part of scholars.
23. There can be no final, absolute ends to which all men aspire.
24. The mind turns outward to truth; the emotions turn inward to considerations of personal advantage and loss.
25. The use of the scientific method can be extended to solve the problems of men in the area of values and moral judgments.
26. Man is capable of managing his own destiny in an understandable and predictable natural world.
27. The mind possesses faculties for remembering, imagining, reasoning, willing, and so forth, which are developed by exercise and discipline.

Mark each statement on the answer form by blacking 1, 2, 3, 4, or 5. If your choice is 6, leave your answer form blank.

1: I AGREE VERY MUCH
2: I AGREE ON THE WHOLE
3: I AGREE A LITTLE

4: I DISAGREE A LITTLE
5: I DISAGREE ON THE WHOLE
6: I DISAGREE VERY MUCH

28. What is right and good at one time and place may not be right and good for all times and places.
29. You can never prove that any fact is unconditionally true.
30. The senses and muscles are merely external inlets and outlets of the mind.
31. Man's destiny is determined by circumstances of nature which are beyond his control.
32. Knowledge is artificial and ineffective in the degree in which it is merely presented as truth to be acquired and possessed for its own sake.
33. Man's choices are good only if they prove successful in helping him live with some degree of security and equilibrium in the world of nature.
34. Reaching a condition in which there were no more problems would be the ideal life.
35. In the absence of a moral code supported by absolute authority, bodily appetite and passion overpowers intelligence.
36. Questions of value and moral judgment ought to be open to experimentation.
37. Learning is the sum of impressions made on the mind as a result of presentation of the material to be known.
38. Nothing is or can be unchanging, absolutely certain.
39. The nature of a thing is determined by what it does, or can be used for; it is what it becomes with intelligent use.
40. Questions of values and morals should be taken out of their traditional supernatural setting and put in a naturalistic setting.

APPENDIX D

LETTER TO SUPERINTENDENTS

Dear Sir:

Your school system has elementary student teachers from North Texas State University at the present time. These students are participants in a research project concerning their attitudes toward individualization of instruction.

The data gathered from this research will be the basis for my doctoral dissertation at North Texas State University. One part of this study involves the placing of student teachers and their cooperating teachers into groups of matched pairs according to the Individualization of Instruction Inventory. The scores of the cooperating teachers will be used only to obtain the matched paired groups, in which no names will be involved.

The enclosed inventory can be completed in only 10 to 12 minutes. The instrument will be given to the cooperating teacher by the North Texas coordinator as he visits student teachers in your city.

Permission has been given by Dr. Clarke, Director of Teacher Education at North Texas State University, to use the student teachers for this study. Before I give this inventory to your cooperating teachers, I need your permission to do so.

Sincerely,

Bill Harlan
Doctoral Fellow

APPENDIX E

LETTER TO COOPERATING TEACHERS

Dear Teacher:

You are now working with an elementary student teacher from North Texas State University. Your student is participating in a research project concerning her attitudes toward individualization of instruction.

The data gathered from this research will be the basis for my doctoral dissertation at North Texas State University. One part of this study involves the placing of student teachers and their cooperating teachers into groups of matched pairs according to the Individualization of Instruction Inventory. Your score will be used only to obtain these matched paired groups.

Please report as objectively as possible the actual instructional situation in your classroom without fear of being criticized or rated on what you report since no administrator, consultant, or principal will ever have access to the blanks.

When you have completed the inventory on the IBM answer blank, please place it in the return addressed envelope for mailing.

As a former elementary teacher I know you are busy and I certainly appreciate your help.

Sincerely,

Bill Harlan
Doctoral Fellow

APPENDIX F

NAME _____ DATE _____ AGE _____ SEX _____ DATE OF BIRTH _____
LAST FIRST MIDDLE M OR F
SCHOOL _____ CITY _____ GRADE OR CLASS _____ INSTRUCTOR _____

NAME OF TEST _____ PART _____ 1 _____ 2 _____

DIRECTIONS: Read each question and its numbered answers. When you have decided which answer is correct, blacken the corresponding space on this sheet with a No. 2 pencil. Make your mark as long as the pair of lines, and completely fill the area between the pair of lines. If you change your mind, erase your first mark COMPLETELY. Make no stray marks; they may count against you.

IDENTIFICATION NUMBER

0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9
0	1	2	3	4	5	6	7	8	9

SAMPLE

1. CHICAGO is
1-1 a country 1-4 a city
1-2 a mountain 1-5 a state
1-3 an island

SCORES

1	5
2	6
3	7
4	8

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144
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APPENDIX G

FOLLOW-UP LETTER TO COOPERATING TEACHERS

Dear Teacher:

A few weeks ago, your student teacher or North Texas block coordinator forwarded to you an inventory to be completed as a part of the research for my dissertation.

As of yet, I have not received your reply, and I would appreciate it very much if you would fill out the form and send it to me. The inventory is to be processed in the North Texas State University Computer Center during the Easter holidays. Therefore, it would be greatly appreciated if you would return the form before your school is dismissed for the Easter holidays.

Thank you for your cooperation.

Sincerely,

Bill Harlan
Doctoral Fellow

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