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Attitudes of Freshmen in the Pre-Professional Preparation Program at Central Washington State College

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ATTITUDES OF FRESHMEN IN THE PRE-PROFESSIONAL PREPARATION PROGRAM AT CENTRAL WASHINGTON STATE COLLEGE

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CHAPTER I

INTRODUCTION

The Pre-Professional Preparation Program (hereafter referred to as the 4-P Program) was initiated in 1968 by the Education Department of Central Washington State College. The program was designed to provide an earlier exposure to classroom teaching for freshmen who want to become teachers or explore the possibility of teaching as a career.

Each year since the program's inception, letters were sent to most incoming freshmen explaining the program. Interested freshmen replied and were sent additional information and application blanks. Applicants were selected on a first come-first serve basis. One hundred twenty freshmen, sixty men and sixty women, were selected to participate. Students selected live in two adjacent dormitories (Co-ops) in an area of the campus known as Student Village. It was a living-learning experience.

The director of the program, Dr. George Grossman (1970) further described the program, mentioning a basic innovation (the pre-planned quarter) first in a letter to interested freshmen:

> Each quarter one-third of the students in the program will spend an hour and three quarters to two hours a day, four days a week working in the Ellensburg Public Schools. During the quarter the student is in the schools, he will be assigned to a master teacher who

will work with him to provide every opportunity for discovering what teaching is all about. To facilitate the scheduling of the students in the schools, all of the students so assigned will take the same courses that quarter (pre-planned quarter). English 101, 3 credits, a required course in composition; Anthropology 141, 4 credits, Cultural Anthropology, a course which meets the breadth requirements in social sciences; and another three credit course not yet determined will be taught in the Co-Ops. In addition to these courses, you may choose a P. E. activity or some other one or two credit course that does not conflict with the program. Four credits will be given in Education 342, Classroom Management, for your work in the schools. This will give you fifteen or sixteen credits for the quarter. The classes will be scheduled in such a way as to leave Thursdays completely free. This will allow the group to go on field trips to visit exemplary school programs and educational facilities without missing other classes. A minimum of three field trips will be taken by each student.

During two of the three quarters you will be free to take any courses you wish that are open to freshmen students. During these quarters, you will probably want to concentrate on your basic and breadth requirements and start work in your major field. The only program requirement during these quarters will be Education 307, 4 credits, Introduction to Education, which will spread over all three quarters. The course will meet in the evening about six times a quarter and will consist of guest speakers, films, small group discussions and individual projects. You will receive all credits for the course at the end of the Spring Quarter (p. 1).

The History of Living-Learning Residence Halls

Living-learning residence halls have been constructed on many college and university campuses in the past ten years. As of 1967, Michigan State University had 10,800 students housed in the living-learning situation. This

program began in the fall of 1961 with the opening of the first of three residences, Case Hall (Blackman, 1966).

The Stephens College House Plan (Leyden, 1966) began in the fall of 1960 as:

> . . . an experiment to exploit the potential of living-learning aspects of undergraduate education. It was housed in a new residence hall which had been modified to accommodate faculty offices and to adapt space to both recreational and academic use (p. 253).

The Stony Brook Campus of the State University of New York in 1966 developed residences aimed at extending the learning process beyond the classroom and scaling down the size of the modern university. It intended to hold classes within the residence halls (Petrello, 1969).

Living-learning residences have been constructed to meet a varied number of problems. They purport to satisfy student needs as well as the needs of the institution itself.

For the student's benefit, the halls have been designed to make the learning process a part of the total environment of each student rather than the traditional eight hour a day process. Petrello (1969) noted that we have, in past years, separated and verbally isolated intellectual growth from all but the classroom side of college life. He also suggested "the belief that learning involves ones entire environment is a relatively new idea" (p. 166). He implied that our extra curricular environment was not separate and apart from

intellectual growth. According to Petrello and other living-learning enthusiasts, they are inseparable.

If the residence hall and the classroom could be recognized as integral parts of a continuous learning process, it is conceivable that an intellectual atmosphere could develop within the residence. If this was accomplished, Petrello (1969) felt that we would be on the path toward solving the most crucial problem the college freshman faces, the development of good study habits. He also made the observation that "good study habits make for good mental and physical health" (p. 166). According to this rationale, colleges and universities should accept the responsibility of providing an environment which would work in behalf of instead of counter to the intellectual growth of its inhabitants.

Beside intellectual growth, the living-learning residence attempted to provide some social and economic advantages to the college or university as a whole. Blackman (1964) supported the contention that building academic space into the residence hall (up to 10 percent of the total cost of the building) may solve some of the problems of relying on legislative appropriation or the generosity of alumni for some kinds of academic space. For the larger universities, the living-learning residence has been cited as a method of making the university a more personal and friendly

place in which to receive an education. By having classes, instructors and counselors' offices within the residence halls, many of the personal contact features of the small college might be retained within the large university structure.

The general reports from living-learning residences have been positive. Olson (1964), in reference to the Michigan State Plan, pointed out that the faculty members and students remained enthusiastic toward the living-learning units. The previously mentioned Stephens College Plan was also deemed a success and, according to Leyden (1966), the administration favored its retention.

Criticisms of the living-learning residences have been quite minimal with the bulk of them concerning the problems of scheduling, timetables, and a few problems with the way the residence facilities had been constructed (Olson, 1964).

Attitude Definition and Theories

According to Allport (Jahoda, 1966), Herbert Spencer was one of the first psychologists to use the term "attitude". He did so in his book First Principles (1862) where he wrote:

> Arriving at correct judgements on disputed questions, much depends on the attitude of mind we preserve while listening to, or taking part in, the controversy; and for the preservation of a right attitude it is needful that we should learn how true, and yet how untrue, are average human beliefs (Vol. I, i).

In experimental work a significant discovery in the area of attitude was made by L. Lange in 1888 (Jahoda, 1966). He discovered that a subject who was prepared to press a telegraph key immediately upon receiving a signal reacted more quickly than one who was concentrating more on the incoming stimulus than the expected reaction. This "task attitude" was called "aufgabe" and was found to play an important part in most psychological experiments.

A controversy soon arose as to the place of attitude in consciousness. According to Allport (Jahoda, 1966):

> Clark (1911), a pupil of Titchner, found that attitudes in a large part are represented in consciousness through imagining, sensation, and affection, and that where no such states are reported there is presumably merely a decay or abbreviation of these same constituents (p. 17).

It is interesting to note that the subject of the role of attitude in consciousness still remains largely unresolved.

Concerning the subject of attitudes, Claycomb (1970) makes the following distinction:

> Among those who have given an elaborate definition of attitudes in relation to a theoretical discussion, there seem to be two positions: those who are associated with the behavioristic school of psychology perceive an attitude as the manifestation of behavior, while the other position contends that an attitude is a predisposition to action toward some object (p. 14).

Writers concurring with the behavior theory definition of attitude believe that the attitude and the behavior are the same. Sherif (1965) represented this line of reasoning

When he suggested that attitudes can only be identified from the behavior we observe. He said, "In short, attitudes are inferred from characteristic and consistent modes of behavior toward some class of objects, persons, events and issues over a span of time."

Representing the group which see attitudes as a general preparation to action, Wagner and Sherwood (1969) suggested that an attitude is a "predisposition to behave in a particular way toward a given object" (p. 2). They also presented another definition attributed to Katz which stated, "An attitude is a predisposition of the individual to evaluate some symbol or object or aspect of the World in a favorable or unfavorable manner" (p. 2).

According to Zimbardo and Ebbesen (1969):

> Attitudes have generally been regarded as either mental readiness or implicit predispositions which exert some general and consistent influence on a fairly large class of evaluative responses. These responses are usually directed toward some object, person or group. In addition, attitudes are seen as enduring predispositions but ones which are learned rather than innate. Thus, even though attitudes are not momentarily transient, they are susceptible to change (p. 6).

Summers (1970) suggested that even though there were a varied number of interpretations of the meaning of attitude, there were also some general areas of agreement. These were:

> (1) That an attitude is a predisposition to respond; (2) that an attitude is persistent over time; (3) that an attitude produces consistency in behavioral outcroppings; and (4) that an attitude has directional quality (preference regarding outcomes (p. 2).

The relationship between an attitude and the behavior which follows also deserves consideration. One must ask is there a positive correlation between a person's attitudes and his behavior? A number of authorities say there is.

Gardner (1963) suggested that the goals and achievements a young person sets for himself are largely determined by the attitudes expressed by the adults that surround him.

Combs (1965) discussed a person's "views about the nature of people" in his statement:

> The concept of the good teacher we have been talking about calls for simultaneous, rather than a consecutive, order of experience. The perceptual aspects of the good teacher that we described earlier do not take place one after another but simultaneously. As one changes his views about the nature of people, he also changes his conception of his relationship to them. Such changes in turn have their implications for the ways in which the individual perceives his purposes and procedures. Methods, too, will change with changes in the individual's ways of perceiving himself, his world, and his task. The self of the teacher is an interdependent organization, not a series of isolated boxes which can be dealt with one at a time (p. 116).

Baynham (1963) supported the relationship between attitudes and behavior with the observation:

> Whatever changes and improvements in curriculum and methods are launched, the crucial factor appears to be the teacher's attitude. Teacher expectation, in itself, can have a surprising effect on pupil's achievement, and the teacher who expects achievement and who has faith in the educability of his pupils conveys this hope through every nuance of his behavior (p. 20).

Claycomb (1970) noted:

> The behavioral changes which take place in students now, due to their classroom experiences, may effect the students throughout their total existence. These learning experiences and behavior changes are related to the teacher and his personal characteristics, including his attitudes toward youth (p. 12).

The preceeding four authors appear to be in agreement that attitudes are a predisposition to behavior and that a cause-effect relationship exists between the two.

"Attitude" was operationally defined for this study as the score gained on the Minnesota Teacher Attitude Inventory (MTAI).

History of Pre-Student Teaching Field Experiences in the Public Schools

Pioneering efforts to make field experiences in the public schools in addition to student teaching an integral part of the prospective teacher's curriculum were begun in the 1930's at Ohio State and Wisconsin Universities, at Wayne State and Miners Teachers College (Grinder, 1964).

The "September Field Experience" which has been adopted by many teacher training institutions (including Central Washington State College) originated at Ohio State University in the autumn of 1938 and 1939. This program generally consisted of placing the prospective teacher, usually a college sophomore or junior, in the public classroom for a period of two to three weeks as a "non-paid staff assistant" at the beginning of the public school year (Andrews, 1950a).

In discussing the purpose of the "September Field Experience" at Ohio State, Andrews (1950a) related:

> Students in a professional curriculum are prone to ask, "Why don't you give us something practical, or something we can really use?" Thus, it would be expected that students would respond enthusiastically to an experience through which they can actually become a part of the staff of a school. In recent years, the evidence from student's reports, staff observations, and school ratings show that more than 90 percent have a valuable experience, and at least 80 percent are really enthusiastic about it. A surprising number repeat the experience once or even twice on their own initiative (p. 153).

Considerable effort has been made by many educators to place college students in the public classroom during their sophomore and even freshmen years. Andrews (1950b) favored "exploratory teaching" for freshmen and sophomores where the student proceeds through a progression which includes observation, active participation, and a brief period of exploratory teaching.

Schettler (1966) advocated new programs which place the teacher trainee in the field much earlier than the normal student teaching experience and the few observations many students get during their junior year. He called for new curricula to be established by the teacher training institutions which establish a "more meaningful relationship between theory and practice in the training of teachers" (p. 56).

Cox (1958) made it quite clear that all institutions do not have the same philosophies concerning field experiences. He felt that the most important thing is that the individuals working within a particular college or university understand the basic philosophy of their program. Besides philosophy, Cox emphasized the need to establish objectives and to establish means by which objectives may be achieved.

In addition to differences in philosophies, there were also a considerable number of methods emphasized during the actual field experiences. These ranged from intensive structured field work observational assignments (Grinder, 1964) to the proposal of Andrews (1950b) that freshmen and sophomores take over and teach the class.

In contrast, some educators such as Lucina (1959) have warned against placing education students into the schools too early. She emphasized several knowledges, skills, and attitudes which need to be "built by the college teachers" before the students are ready to gain from the field experience.

Fulton and Rupiper (1962) felt that many of the problems associated with field experience observations could be alleviated through the use of proper visual aid materials. One of the conclusions of their study was that: "Independent educational situational film sequences can be used as

media for observational purposes with equal effectiveness with direct observational methods" (p. 164).

The large majority of studies suggest that field experiences for education students are a part of most teacher education programs. There is also a common trend for field experiences to be closer to the beginning of the prospective teacher's program.

The Problem

This study investigated the effect of the Central Washington State College pre-planned quarter on prospective teacher's attitudes toward pupil-teacher relations. For this study, "attitudes toward pupil-teacher relations" was operationally defined as the score gained on the Minnesota Teacher Attitude Inventory.

A key concept introduced by the Pre-Professional Preparation Program at Central Washington State College (in addition to the group living concept) was the actual classroom experience afforded the participants. This was one of the main experiences provided in the pre-planned quarter. If prospective teachers were going to leave college with skills which would give them the best opportunity for teaching success it was felt a conscious effort should be made in selecting curricula which would accomplish this purpose.

The present study sought answers to the following questions: (1) What was the effect of the pre-planned quarter on the attitudes of freshmen teacher candidates? (2) Is there a significant difference between the MTAI score of males and females in the pre-planned quarter? and (3) Is there a significant relationship between the student's proposed area of interest (grade level) and attitude scores?

The following null hypotheses were tested:

1. There is no significant difference in change of attitude, as measured by the MTAI between students who are in the pre-planned quarter and those who are not.

2. There is no significant difference in attitude scores as measured by the MTAI between males and females in the pre-planned quarter.

3. There is no significant difference in attitude scores as measured by the MTAI between S's in the pre-planned quarter who expressed a desire to teach in the elementary schools as compared to those who expressed a desire to teach in the secondary schools.

CHAPTER II

METHOD

Subjects

A total of 102 Ss, all of whom were freshmen students in the Pre-Professional Preparation Program at Central Washington State College during the fall of 1970, participated in the study. Fifty-nine of the Ss were females housed in the Women's Co-op and the remaining 43 were males housed in the Men's Co-op. Of the initial 102 Ss, five were dropped as they did not complete the post-test at the end of the fall quarter.

Two groups were used in the study, one experimental and one control. The experimental group was composed of 36 Ss who were in the pre-planned quarter at the time of the experiment. The control group was composed of 61 Ss who had not yet had their pre-planned quarter and were taking regular classes of their own choosing. All Ss had previously chosen which quarter they preferred for their pre-planned quarter.

Instrument

The instrument used in this study was the Minnesota Teacher Attitude Inventory (MTAI). As mentioned by Cook and others (1950), the test consists of 150 statements which concern attitudes toward the educational process. The scores on the test range from a possible high of +150 to a possible

low of -150. Statements may be answered in five different ways. The choices are: (1) strongly agree; (2) agree; (3) unsure or undecided; (4) disagree; and (5) strongly disagree. According to Buros (1965), the MTAI takes 20-30 minutes to administer and is recommended for elementary and secondary teachers and students in grades 12-17.

The MTAI was chosen for the study because it was a well known instrument for measuring teacher attitudes. It had been used in studies similar to this one where a test-retest method was employed. Norms had also been established for the age group used in this study. This instrument was designed to predict prospective teacher relationships. The authors of the instrument made the assumption the teacher must have certain attitudes. They further assumed desirable goals to be accomplished within the classroom.

Five general areas of attitudes were sampled and are represented by items on the test. They were (Cook and others, 1950):

1. Moral status of children in the opinion of adults, especially as concerns their adherence to adult imposed standards, moral or otherwise. Example: Children should be seen and not heard.

2. Discipline and problems of conduct in the classroom and elsewhere, and methods employed in dealing with such problems. Example: Pupils found writing notes should be severely punished.

3. Principles of child development and behavior related to ability achievement, learning, motivation, and personality development. Example: The boastful child is usually overconfident of his ability.

4. Principles of education related to philosophy, curriculum and administration. Example: Pupils should be required to do more studying at home.

5. Personal reactions of the teacher, likes and dislikes, sources of irritation, etc. Example: Without children life would be dull (p. 10).

The MTAI assumes that a teacher scoring at the high end of the scale should be able to maintain a harmonious classroom situation. The manual states (Cook and others, 1950):

> It is assumed that a teacher ranking at the high end of the scale should be able to maintain a state of harmonious relations with his pupils, characterized by mutual affection and sympathetic understanding. The pupils should like the teacher and enjoy school work. The teacher should like the children and enjoy teaching. Situations requiring disciplinary action should rarely occur. The teacher and pupils should work together in a social atmosphere of cooperative endeavor, of intense interest in the work of the day, and with a feeling of security growing from a permissive atmosphere of freedom to think, act and speak one's mind with mutual respect for the feelings, rights, and abilities of others (p. 3).

In contrast, the teacher at the other end of the scale is not expected to be able to maintain a harmonious classroom situation (Cook and others, 1950).

> At the other extreme of the scale is the teacher who attempts to dominate the classroom. He may be successful and rule with an iron hand, creating an atmosphere of tension, fear and submission; or he may be unsuccessful and become nervous, fearful and distraught in a classroom characterized by frustration, restlessness, inattention, lack of respect, and numerous disciplinary problems. In either case both teacher and pupils dislike school work; there is a feeling of mutual distrust and hostility. Both teacher and pupils attempt to hide their inadequacies from each other. Ridicule, sarcasm and sharp tempered remarks are common. The teacher tends to think in terms of his status, the correctness of the position he takes on classroom

> matters and the subject matter to be covered rather than in terms of what the pupil needs, feels, knows, and can do (p. 3).

Norms have been established by the authors and have been included in the manual for high school seniors and college students as well as experienced teacher norm groups. College group norms have been established for university freshmen, and major fields of study (whether the prospective teacher intends to teach in the elementary or secondary areas).

For tryout purposes the inventory originally had 756 items of which the 150 found in the MTAI form A were the survivors. The validity for the 756 tryout items was defined as "the degree to which each of them would discriminate between teachers who have the desired and those who have the undesired type of pupil-teacher relations (p. 10) (Cook and others, 1950).

The validity and reliability of the MTAI was tested in several studies. The original 756 items were narrowed down to 164 items which constituted the first experimental form of the inventory, X-164. The following criteria were followed in the selection of these 164 items (Cook and others, 1950):

1. Is the item adequate in differentiating the two groups of teachers (desirable and undesirable)?

2. Is the item unambiguous in meaning?

3. Does the content of the item duplicate that of another item?

4. Is the response pattern logical and easy to interpret (p. 10)?

The validity study of the X-164 had three criterion for teacher-pupil rapport: a rating of the teacher by the pupils, a rating of the teacher by the principal, and a rating by a specialist in the area of teaching effectiveness.

When the scores of the randomly selected teachers (100 in number) on the MTAI (X-164) were correlated with the ratings by the three criteria groups, the validity coefficient was .60. The reliability of form X-164 by the Spearman-Brown split-half procedure was .89 (Cook and others, 1950).

A second experimental inventory was also run (the X-239). Form X-239 was constructed by adding 75 additional items from the old list of 756 (those which had the highest correlations) to the 164 items of X-164. The main objective of X-239 was to discover to what degree teacher attitudes are influenced by professional education courses and teaching experience. One of the four groups in this study, the experienced group was tested both before graduation and after they had taught for six months. The correlation after six months of teaching was .66. The teaching experience, it was concluded, resulted in a significant change in the undesirable

direction in 11 percent of the items (Cook and others, 1950).

The final selection of the 150 items which make up the present form A took six main factors into consideration (Cook and others, 1950):

> The discriminating power of the item, the extent to which item responses are influenced by professional education courses, the extent to which item responses are influenced by teaching experience, the extent to which the content of the item duplicates that of another item, the clearness of the statement, and the consistency of the response patterns of the superior and inferior teacher (p. 13).

An additional check of validity was taken on the final form in South Carolina and Missouri in 1951. These studies were conducted using similar criterion ratings (three groups) as on the original X-164 study in 1946. The multiple correlation coefficients were .63 and .46 respectively (the lower .46 was attributed to a very low correlation of the principal's ratings [.19]) (Cook and others, 1950).

The MTAI has a wide history of use in studies concerned with attitude change in the field of education. Brammer and Klingelhofer (1954) administered the MTAI to 111 students before and after taking an introductory education class. The test-retest reliability was .715.

Jack Shaw and others (1952) concurred with the findings of the authors of the MTAI when he said that he felt his study indicated that professional courses in education can

result in change in attitude scores. He employed the MTAI on a test-retest basis in a two-week guidance workshop.

The applicability of the MTAI in college curriculum evaluation is supported by Cook and others (1956), and Kearney and Rocchio (1956).

Additional research on freshmen in education done with the MTAI is cited by Riccio and Peters (1959) at Ohio State University. They thought, because the MTAI contained neither extensive general norms nor sex norms, that it would be useful for them to construct their own. They also suggested that other colleges and universities do the same.

Procedure

The 102 Ss were given the MTAI during the first week of the fall quarter of the 1970-1971 school year. Immediately preceeding the first administration, the Ss were informed that the scores on the test would not be used to evaluate their work in the program and that the sole purpose would be to evaluate the overall program itself in hopes of making it a continually more beneficial experience for the participants. The Ss were then instructed to read the test instruction on the outside of the test booklet. They were asked if there were any questions, and then told to proceed with the test. The Ss were free to leave when they were finished and the E thanked them for their cooperation. They were not given the results of the first test.

At the end of the fall quarter (December 4, 1970), the students were again given the MTAI. A reminder was again given that the test was not to be used for personal evaluative purposes and that their attention to the task at hand would be of benefit to their program. Students were asked to stipulate during the second administration whether they would prefer an elementary or secondary teaching position. Ninety-seven of the original 102 Ss took the second test.

Due to the fact that a third administration of the MTAI was planned for the end of the academic year, the test results were not given to the Ss at the end of the experiment. They were informed that they could learn their results and have them explained by scheduling an appointment with the E after the final administration.

CHAPTER III

RESULTS

The results reported here are for the 97 Ss who completed both the pre- and posttests. Five of the original 102 Ss were dropped. Three of the five did not complete the first quarter in the program and, of the remaining two, one was ill at the time of the posttest and the other chose not to complete the experiment. Prior to the onset of the study it was decided that a .05 level of significance on a two-tailed test would be required to reject the null hypotheses.

The Ss indicated which quarter they would take their pre-planned quarter and were assigned accordingly. Those Ss who chose the fall quarter (1970) became the experimental group while students who would take their pre-planned quarter later were designated control. Because individuals could not be randomly assigned to groups, the experimental and control group's pre-test results were compared. The Mann-Whitney U-Test (Table 1) was used for this comparison.

The Ss in the control group had a mean score of 31.85 on the pre-test while the experimental mean was 29.50. These scores came from a possible range of plus 150 to minus 150. The results yielded a Z-score of .55. A Z-score of 1.86 was needed for a .05 level of significance. These

results suggested that attitudes as measured by the MTAI were not significantly different between the experimental and control groups at the onset of the study.

TABLE 1

MANN-WHITNEY U-TEST: EXPERIMENTAL AND CONTROL GROUP MTAI PRE-TEST SCORES

Source	N	Mean	SD	R	U	Z
Control Group (X)	61	31.85	34.23	3063.50	1023.50	-.55*
Experimental Group (Y)	36	29.50	26.06	1689.50		

* $p > .05$

Attitude Change as a Result of the Pre-planned Quarter

The first concern of the study was to determine whether there was a significant difference between the experimental and control groups on the MTAI pre- and posttest scores. A Mann-Whitney U-Test was used to compare the change in scores between the groups (Table 2).

The smallest U value of 1374.50 yielded a Z-score of 2.44. This proved to be significant to the .05 level as a score of 1.86 or higher was needed. The experimental group recorded a mean change of 12.25 while the control group's

was 3.39. These results indicated that the experimental group made significantly greater improvements in teacher-pupil attitudes as measured by the MTAI. Null hypothesis number one which stated that there would be no significant difference in change of attitude, as measured by the MTAI between students who were in the pre-planned quarter and those who were not was rejected at the .05 level of confidence.

TABLE 2

MANN-WHITNEY U-TEST: EXPERIMENTAL AND CONTROL GROUP DIFFERENCES BETWEEN MTAI PRE- AND POSTTESTS

Source	N	Mean	SD	R	U	Z
Control Group (X)	61	3.39	18.00	2712.50	1374.50	2.44*
Experimental Group (Y)	36	12.25	19.64	2040.50		

* $p < .05$

Attitude Difference Between Males and Females

For the purpose of testing hypothesis number two which stated that there would be no significant difference in attitude scores as measured by the MTAI between males and females in the pre-planned quarter, both pre- and posttest

results were tabulated. Pre-test scores (Table 3) yielded a low U-score of 97 which was significant to the .05 level. The females had a mean score of 39.16 while the males' was 18.70.

TABLE 3

MANN-WHITNEY U-TEST: MALE AND FEMALE SCORES ON MTAI PRE-TEST (EXPERIMENTAL GROUP)

Source	N	Mean	SD	R	U
Females (X)	19	39.16	18.95	416	97*
Males (Y)	17	18.70	28.53	250	

* $p < .05$

The posttest (Table 4) gave a low U-score of 84 which was significant to the .01 level. The mean score for females was 50.63 and for males, 29.47.

In conclusion, females scored significantly higher than males on both the pre- and posttests. As a result, null hypothesis number two was rejected at the .05 level of confidence.

TABLE 4

MANN-WHITNEY U-TEST: MALE AND FEMALE SCORES ON MTAI POSTTEST (EXPERIMENTAL GROUP)

Source	N	Mean	SD	R	U
Females (X)	19	50.63	26.53	429	84*
Males (Y)	17	29.47	19.88	237	

* $p < .01$

Attitude Difference Between Ss According to Grade Level Teaching Preference

Pre- and posttest data were again calculated to test null hypothesis number three which predicted that there would be no significant difference in attitude scores as measured by the MTAI between Ss in the pre-planned quarter who wished to teach in the elementary schools as compared to those who wished to teach in the secondary schools. Pre-test scores (Table 5) yielded a low U-score of 148.50. This score was not significant as a score of 109 or less was required for the .05 level. Ss preferring to teach in the elementary area (grades one through six) had a mean score of 28.94. Those indicating a secondary preference (grades seven through twelve) had a mean of 30.12.

TABLE 5

MANN-WHITNEY U-TEST: COMPARING PROSPECTIVE ELEMENTARY AND SECONDARY TEACHER MTAI PRE-TEST SCORES (EXPERIMENTAL GROUP)

Source	N	Mean	SD	R	U
Elementary (X)	19	28.94	31.53	364.50	148.50*
Secondary (Y)	17	30.12	18.00	301.50	

* $p > .05$

Posttest scores (Table 6) resulted in a low U-score of 151.50. A U-score of 109 or less was necessary for a .05 level of significance. Ss preferring to teach in the elementary area had a mean score of 42.73, while those seeking secondary experience yielded 38.29.

In summary, there was no significant difference in pre- or posttest scores between Ss preferring to teach in the elementary area and those with secondary area aspirations. Null hypothesis number three could not be rejected and, thus, stood as written.

TABLE 6

MANN-WHITNEY U-TEST: COMPARING PROSPECTIVE ELEMENTARY AND SECONDARY TEACHER MTAI POSTTEST SCORES (EXPERIMENTAL GROUP)

Source	N	Mean	SD	R	U
Elementary (X)	19	42.73	28.84	361.50	151.50*
Secondary (Y)	17	38.29	21.94	304.50	

* $p > .05$

CHAPTER IV

DISCUSSION

One of the principal concerns of this study was to investigate the effect of the pre-planned quarter (in the Pre-Professional Preparation Program at Central Washington State College) on prospective teacher's attitudes. The results indicated significantly higher positive changes in Minnesota Teacher Attitude Inventory scores for Ss who were in the pre-planned quarter during the fall of 1970 (experimental group) as opposed to Ss who did not have this experience.

Since significant changes were recorded which indicated that the pre-planned quarter was responsible for improving prospective teacher's attitudes, it seems tenable to infer that the 4-P or similar programs be retained as a part of the student's college curriculum.

A limitation of this portion of the study may be that, while positive change was recorded, it was not possible to attribute this change to any one phase of the pre-planned quarter program. A hypothesis concerning this limitation is favored by this investigator. Since the control group was also involved in general college classes of their own choosing it seems plausible that the general anthropology and English class requirements of the pre-planned quarter may

have played a less instrumental role in the wide discrepancy of attitude changes between the two groups. It seems logical to infer then that the changes were likely a result of the classroom management, field trip enrichment, and/or the one-hour-a-week discussion groups carried on with the experimental group during the quarter. Due to the fact that the classroom observational portion of the pre-planned quarter occupied much more of the Ss time than these other two activities and actively involved them in live teacher-pupil rapport situations, one might hypothesize that this experience probably accounted for the largest portion of attitude change experienced by the experimental group.

A second consideration of this study was to test if there was a significant relationship between prospective teacher's sex and their attitudes. The results dealing with score differences between males and females support the findings of Cook, Leeds and Callis (1951), Hudson (1967), Riccio and Peters (1959) and Claycomb (1970). The investigator found females scored higher on the MTAI than their male counterparts on all studies where the hypothesis was tested.

The fact that females scored consistently higher leaves some questions for further research: (1) Is the MTAI biased toward female respondents? (2) Does the male role in our culture tend to make male respondents more apt to respond in an authoritarian-directive line in teacher-pupil communica-

tion (a response resulting in lower MTAI scores)? (3) Do these differences in scores continue throughout the teacher's career? and (4) Are males merely less likely to take an extreme position (select the "strongly agree" and "strongly disagree" responses on the MTAI)? If they tend to take a more moderate response position, the findings of Budd and Blakely (1958) suggest that this could lower MTAI scores.

While significant difference between male and female scores on the MTAI has been demonstrated time and again, the reasons have not been fully explored. Additional research on this problem is needed to resolve the issue.

The third concern of the study was to discover whether there was a significant difference in attitude scores between Ss who indicated a preference for teaching in the elementary area as opposed to those who aspired to secondary teaching positions. These findings provided contradictory evidence to the findings of Claycomb (1970), Hudson (1967), and Cook, Leeds and Callis (1951). The above mentioned studies found that prospective teachers who chose the elementary area scored significantly higher on the MTAI than those who chose secondary. The present study found no significant difference between the two groups.

A possible explanation for this difference in results might be the age (college freshmen) of the Ss in this study. The other studies cited dealt primarily with older students

and teachers in the field. The statements and behavior of the Ss in weekly discussion groups seemed to suggest to the author that their greatest concern was to decide whether to teach at all. As a result, the decision about level of specialization might not have been seriously considered and the responses may have been somewhat hastily conceived and invalid.

The mean scores achieved by entering freshmen in this study suggest there may be a trend of increasing MTAI scores in college freshmen over the past twenty years. The average score for 384 college freshmen at the time of the standardization of the MTAI in 1951 was 4.80 (Cook, Leeds, and Callis, 1951). Seven years later during the 1958-1959 academic year at Ohio State, 397 freshmen teacher education students were tested with a resulting mean score of 15.60 (Riccio and Peters, 1959). The present experiment, conducted during the 1970-1971 school year at Central Washington State College yielded a mean score of 30.98 for the 97 teacher education freshmen tested (this is the mean score from the pre-test).

It may be helpful in the consideration of the preceeding data to eliminate the standardization study of 1951 as the results were taken from a representative sample of all college freshmen rather than only those expressing an interest in teacher education. An analysis of the Ohio State and present study suggests several possible explanations for

their discrepancies in mean score on the MTAI. One possible answer might be that students in the 4-P Program (present study) because of the necessity for applying and being admitted to a special program may have been more motivated toward education and/or a generally higher caliber potential teacher. Another explanation might be simply that Central Washington State College attracts a generally more positively oriented teacher education candidate than Ohio State. Another alternative favored by this investigator is that teacher candidates have more liberal views toward classroom management than they did ten or twenty years ago (individuals with more liberal views toward teacher-pupil rapport tend to score higher on the MTAI).

This study had the problem of all studies of attitude, that of making judgements and classifying attitudes. An added complication was the use of a paper and pencil type instrument as a means of communicating and measuring attitude (Getzels and Jackson, 1963).

Another problem was determining whether the responses of the Ss correspond with how they really feel or how they think they should feel. The author believes that all tests of this nature are somewhat susceptible to faking. As a result, an attempt was made to assure the Ss that there was no reward for high or more "socially acceptable" responses but that honest responses might help the student and the 4-P Program.

A final concern in the measurement of potential teacher effectiveness was pointed out by Anderson and Hunka (1963) who stated, "Teaching proficiency is multi-dimensional and there are many kinds of effectiveness for different kinds of teachers, programs and situations" (p. 75).

The authors of the MTAI considered this problem. They stated (Cook, Leeds, and Callis, 1951):

> Since scores on the Inventory reflect at least to some extent the educational philosophy of the authors, the potential user should determine whether his own philosophy of education corresponds with that reflected by the Inventory before he uses it for the purposes of selection. It is possible that an administrator who scored low on the Inventory (i.e., whose philosophy is at variance with that reflected by the Inventory) might find that teachers who scored high would be out of place in his school system (p. 4).

A final limitation would seem to be that in any attempt to measure attitudes the biases of the authors of the instrument used must be considered as a possible contaminant.

CHAPTER V

SUMMARY

The present study represented an investigation of the effect of the pre-planned quarter (in the Pre-Professional Preparation Program at Central Washington State College) on prospective teacher's attitudes toward pupil-teacher relations. The following null hypotheses were tested:

1. There is no significant difference in change of attitude, as measured by the MTAI between students who are in the pre-planned quarter and those who are not.

2. There is no significant difference in attitude scores, as measured by the MTAI, between males and females in the pre-planned quarter.

3. There is no significant difference in attitude scores, as measured by the MTAI, between Ss in the pre-planned quarter who expressed a desire to teach in the elementary schools as compared to those who expressed a desire to teach in the secondary schools.

The 102 Ss who participated in the study were all freshmen students in the Pre-Professional Preparation Program at Central Washington State College during the fall of 1970. Sixty-one of the Ss who had not yet experienced their pre-planned quarter served as the control group. The remaining 36 Ss were in the pre-planned quarter and made up

the experimental group for the study. Fifty-nine of the Ss were females and 43 were males. Of the initial 102 Ss, five were dropped as they did not complete the posttest at the end of the fall quarter. Three of these five did not complete the first quarter in the program. Of the remaining two, one was ill at the time of the posttest and the other chose not to complete the experiment.

The 97 Ss who completed the study were given the Minnesota Teacher Attitude Inventory both at the beginning and end of the fall quarter. The Mann-Whitney U-Test was used to analyze the results.

Null hypothesis number one was rejected as Ss in the pre-planned quarter made significantly greater increases in their MTAI scores than the control group did. The results were significant to the .05 level. It was concluded that, due to the positive increase in attitude scores attributed to the pre-planned quarter, this experience was beneficial and should be retained in the Central Washington State College education student's curriculum.

Null hypothesis number two was also rejected as it was found that the females in the study scored significantly higher than males on both the pre- and posttests (significant to .05). This finding supported the conclusions of other studies of this hypothesis.

No significant difference was found in the scores of students aspiring to teach in the elementary area as opposed to those seeking secondary positions. As a result, null hypothesis number three was supported. These results contradicted other studies. Age and degree of commitment were hypothesized as possible explanations for the contradiction.

REFERENCES

REFERENCES

Anderson, C. C., and Hunka, S. M. Teacher evaluation: Some problems and a proposal. Harvard Educational Review, 1963, 33, 74-95.

Andrews, L. O. School exploratory experience for prospective teachers. Educational Research Bulletin, 1950, 29, 147-157, 168. (a)

Andrews, L. O. Experimental program of laboratory experience in teacher education. Journal of Teacher Education, 1950, 1, 259-267. (b)

Baynham, D. The great cities projects. National Education Association Journal, 1963, 52(4), 17-21.

Blackman, E. B. Does American higher education need to seek new directions? Journal of Higher Education, 1964, 35, 165-167.

Blackman, E. B. Residence halls an integral part of the learning environment. Current Issues in Higher Education, The proceedings of the 21st annual national conference on higher education, 1966, 250-252.

Brammer, L. M., and Klingelhofer, E. L. Some aspects of the reliability and validity of the Minnesota Teacher Attitude Inventory. California Journal of Educational Research, September, 1954, 5, 184-185.

Budd, W. C., and Blakely, L. S. Response bias on the Minnesota Teacher Attitude Inventory. Journal of Educational Research, 1958, 51, 707-709.

Buros, O. The sixth mental measurement yearbook. New Jersey: Gry-Phon Press, 1965.

Claycomb, C. M. An exploratory study of attitudes toward children expressed by undergraduate teacher candidates. Unpublished doctoral dissertation, Michigan State University, 1970.

Combs, A. The professional education of teachers. Boston: Allyn and Bacon, 1965.

Cook, W. W., Leeds, C. H., and Callis, R. Minnesota Teacher Attitude Inventory, manual. New York: Psychological Corporation, 1950.

Cook, W. W., Kearney, N. C., Rocchio, P. D., and Thompson, A. Significant factors in teacher's classroom attitudes. Journal of Teacher Education, 1956, 7, 274-279.

Cox, D. Initiating a program of pre-student teaching. Journal of Teacher Education, 1958, 9, 159-161.

Fulton, W. R., and Rupiper, O. J. Observation of teaching: Direct versus vicarious experiences. Journal of Teacher Education, 1962, 13, 157-164.

Gardner, J. W. Self renewal: The individual and the innovative society. New York: Harper & Row, 1963.

Getzels, J. W., and Jackson, P. W. The Minnesota Teacher Attitude Inventory. Handbook of Research on Teaching, Ed. by Gage, N. L. Chicago: Rand McNally, 1963.

Grinder, R. E. New emphasis on observation in a secondary student pre-teaching program. Journal of Teacher Education, 1964, 15, 310-315.

Grossman, G. C. Pre-professional Preparation Program. Unpublished letter to interested freshmen, Central Washington State College, Ellensburg, Washington, 1970.

Hudson, D. C. Attitude change in student teachers and its relationship to cooperating teacher's ratings of student teachers. Unpublished master's thesis, Central Washington State College, Ellensburg, Washington, 1967.

Jahoda, M., and Warren, N. Attitudes. Baltimore: Penguin Books, 1966.

Kearney, N. C., and Rocchio, P. D. The effect of teacher education on teacher attitude. Journal of Educational Research, 1956, 49, 703-708.

Leyden, R. C. Residence halls as an integral part of the learning environment. Current Issues in Higher Education, The proceedings of the 21st annual national conference on higher education, 1966, 253-256.

Lucina, M. Readiness for professional laboratory experience. Journal of Teacher Education, 1959, 10, 310-314.

Olson, L. A. Living-learning units. Journal of Higher Education, 1964, 35(2), 83-86.

Petrello, G. J. Residence hall as learning center. Improving College and University Teaching, Summer, 1969, 17, 166-168.

Riccio, A. C., and Peters, H. J. Freshman teacher education norms for the Minnesota Teacher Attitude Inventory. Journal of Educational Research, 1959, 52, 361.

Schettler, R. C. Field experience of the future. Journal of Education, 1966, 148, 56-59.

Shaw, J., Klausmeier, H. J., Luker, A. H. and Reid, H. T. Changes occurring in teacher-pupil attitudes during a two-weeks guidance workshop. Journal of Applied Psychology, 1952, 36, 304-306.

Sherif, C. W., Sherif, M., and Nebergall, R. E. Attitude and attitude change. Philadelphia: W. B. Saunders, 1965.

Summers, G. F. Attitude measurement. Chicago: Rand McNally, 1970.

Wagner, R. V., and Sherwood, J. J. The study of attitude change. Belmont, California: Wadsworth, 1969.

Zimbardo, P., and Ebbesen, E. B. Influencing attitudes and changing behavior. Reading, Massachusetts: Addison-Wesley, 1969.

APPENDIX A

RAW DATA

APPENDIX A

MANN-WHITNEY U-TEST: EXPERIMENTAL AND CONTROL GROUP MTAI PRE-TEST SCORES

X (control)		Y (experimental)		Rx	Rx	Ry	Ry
94	38	84	10	96.5	52	95	21
94	34	67	5	96.5	47	87	17
83	31	66	-16	94	45	86	10
81	31	61	-34	93	45	82	4
80	29	55	-40	92	43	78	3
79	26	53		91	40.5	75.5	
73	22	53		90	38	75.5	
72	21	48		89	36	71	
71	21	47		88	36	67	
64	18	46		85	33	64	
63	17	45		84	31.5	62.5	
62	16	43		83	30	59.5	
59	15	42		80.5	28.5	57.5	
59	12	42		80.5	25	57.5	
57	8	37		79	20	50	
54	7	37		77	19	50	
51	6	37		73.5	18	50	
51	4	36		73.5	16	48	
48	0	31		71	14.5	45	
48	0	27		71	14.5	42	
47	-1	26		67	13	40.5	
47	-4	23		67	12	39	
47	-5	21		67	11	36	
47	-18	19		67	8.5	34	
45	-18	17		62.5	8.5	31.5	
44	-21	15		61	7	28.5	
43	-26	13		59.5	6	27	
41	-30	12		56	5	25	
40	-53	12		54	2	25	
40	-61	11		54	1	22.5	
40		11		54		22.5	

$N_1 = 61$ $N_2 = 36$ $\Sigma Rx = 3063.5$ $\Sigma Ry = 1689.5$

APPENDIX A (Continued)

MANN-WHITNEY U-TEST: EXPERIMENTAL AND CONTROL GROUP DIFFERENCES BETWEEN MTAI PRE- AND POSTTESTS

X (control)		Y (experimental)		Rx	Rx	Ry	Ry
48	4	47	-4	97	42.5	96	26
36	4	46	-8	91	42.5	95	21.5
34	4	43	-20	89	42.5	94	8
33	0	40	-26	88	36	93	6
32	0	38	-36	85.5	36	92	1
32	0	35		85.5	36	90	
28	-1	32		83	33	85.5	
26	-1	32		80	33	85.5	
26	-2	27		80	29.5	82	
20	-5	26		75	25	80	
18	-6	25		72.5	24	78	
15	-7	22		71	23	77	
14	-8	21		68.5	21.5	76	
14	-9	19		68.5	18.5	74	
13	-9	18		65.5	18.5	72.5	
13	-9	14		65.5	18.5	68.5	
11	-9	14		64	18.5	68.5	
10	-10	8		62	15.5	56.5	
10	-10	8		62	15.5	56.5	
10	-12	7		62	13.5	53	
9	-12	6		59.5	13.5	50	
9	-13	5		59.5	12	46.5	
8	-14	4		56.5	11	42.5	
8	-16	3		56.5	10	39.5	
7	-17	3		53	9	39.5	
7	-26	2		53	6	38	
6	-26	-1		50	6	33	
6	-33	-2		50	3.5	29.5	
5	-33	-2		46.5	3.5	29.5	
5	-35	-2		46.5	2	29.5	
5		-3		46.5		27	

$N_1 = 61$ $N_2 = 36$ $\Sigma Rx = 2712.5$ $\Sigma Ry = 2040.5$

APPENDIX A (Continued)

MANN-WHITNEY U-TEST: MALE AND FEMALE SCORES ON MTAI PRE-TEST (EXPERIMENTAL GROUP)

X (females)	Y (males)	Rx	Ry
84	66	36	34
67	53	35	30.5
61	48	33	29
55	43	32	25
53	42	30.5	23.5
47	42	28	23.5
46	27	27	17
45	19	26	13
37	15	21	11
37	13	21	10
37	12	21	8.5
36	12	19	8.5
31	11	18	6.5
26	5	16	4
23	-16	15	3
21	-34	14	2
17	-40	12	1
11		6.5	
10		5	
$N_1 = 19$	$N_2 = 17$	$\Sigma Rx = 416$	$\Sigma Ry = 250$

APPENDIX A (Continued)

MANN-WHITNEY U-TEST: MALE AND FEMALE SCORES ON MTAI POSTTEST (EXPERIMENTAL GROUP)

X (females	Y (males)	Rx	Ry
92	64	36	28.5
87	57	35	25
78	50	34	23.5
76	49	33	21.5
69	49	32	21.5
68	44	31	19.5
67	40	30	18
64	38	28.5	16
63	26	27	14
62	20	26	12
50	19	23.5	10.5
44	13	19.5	7
39	12	17	6
34	7	15	5
21	6	13	4
19	4	10.5	3
18	3	9	2
14		8	
-3		1	
$N_1 = 19$	$N_2 = 17$	$\Sigma Rx = 429$	$\Sigma Ry = 237$

APPENDIX A (Continued)

MANN-WHITNEY U-TEST: COMPARING PROSPECTIVE ELEMENTARY AND SECONDARY TEACHER MTAI PRE-TEST SCORES (EXPERIMENTAL GROUP)

X (elementary)	Y (secondary)	Rx	Ry
84	66	36	34
67	55	35	32
61	48	33	29
53	45	30.5	26
53	43	30.5	25
47	42	28	23.5
46	42	27	23.5
37	37	21	21
37	31	21	18
36	21	19	14
27	19	17	13
26	13	16	10
23	12	15	8.5
17	12	12	8.5
15	11	11	6.5
11	10	6.5	5
-16	5	3	4
-34		2	
-40		1	
$N_1 = 19$	$N_2 = 17$	$\Sigma Rx = 364.5$	$\Sigma Ry = 301.5$

APPENDIX A (Continued)

MANN-WHITNEY U-TEST: COMPARING PROSPECTIVE ELEMENTARY AND SECONDARY TEACHER MTAI POSTTEST SCORES (EXPERIMENTAL GROUP)

X (elementary)	Y (secondary)	Rx	Ry
92	76	36	33
87	69	35	32
78	64	34	28.5
68	64	31	28.5
67	50	30	23.5
63	50	27	23.5
62	49	26	21.5
57	44	25	19.5
49	40	21.5	18
44	38	19.5	16
39	26	17	14
34	20	15	12
21	19	13	10.5
19	18	10.5	9
13	14	7	8
12	6	6	4
7	4	5	3
3		2	
-3		1	
$N_1 = 19$	$N_2 = 17$	$\Sigma Rx = 361.5$	$\Sigma Ry = 304.5$