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low ratings on exhibition and heterosexuality. \(^{21}\) In a very revealing U.K. study, Evans compared teacher education students with theology students, engineering students and experienced teachers and found that the teacher education students' attitudes resembled most closely those of the experienced teachers. \(^{22}\) The most telling conclusion of his study was that this resemblance existed before and not as a result of training. Thus as a result of general public influences, a relatively homogenous student population is channelled into teaching, to be subsequently influenced and molded by informal and formal college experiences.

Apart from the above, many empirical studies have dealt with specific educational attitudes in terms of teacher-student relationships and teaching methods and techniques. In each study the decision on the type of measuring instrument to be used is a vital one. The three major categories from which instruments are usually selected include self report techniques (Minnesota Teacher Attitude Inventory, Semantic Differential); observational techniques (Flanders' and Galloway's observation systems for verbal and non verbal behavior);


and projective techniques (Thematic Apperception Test). Of these the self report techniques have been the most frequently adopted in educational studies, usually being presented in the form of a questionnaire containing direct or indirect questions which are to be rated on Likert-type scales.

The Minnesota Teacher Attitude Inventory (M. T. A. I.) has been extensively used to distinguish between good and poor teachers in terms of their relationships with pupils. The instrument was designed specifically to measure practising teachers' attitudes towards democratic values and teaching methods versus autocratic values and teaching methods, but in fact it has been used with a mixed degree of success to predict the teaching ability of preservice teachers. However, Horn and Morrison used factor analysis techniques to demonstrate that the M. T. A. I. does not measure a unifactor attitude but in fact contains at least five attitudinal elements under the democratic attitude rubric.

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Another instrument commonly used to measure teacher attitudes towards **progressivism** and **traditionalism** is the Kerlinger ES-VI and ES-VII.²⁵ Kerlinger states quite explicitly that progressivism is not a unifactor attitude:

> It is permissiveness— it is problem solving with a relative de emphasis on subject matter and knowledge; education as growth; children's interests and needs as basic to education; equality and warmth in interpersonal relationships; internal discipline; and liberal social beliefs which emphasize Education as an instrument of social change and a morality based on social and individual responsibility.²⁶

Wiley used the Kerlinger instrument to measure preservice teachers and noted that a progressive attitude was dominant during college years up to student teaching, but then a regression towards traditionalism became apparent.²⁷

More recently, Sontag and Pedhazur compared Kerlinger's dimensions of progressivism—traditionalism with the three dimensions of naturalism—idealism, radicalism—conservatism and


²⁶ibid., 112.

tendermindedness--toughmindedness developed by two British researchers, Oliver and Butcher. They concluded that cultural background differences were not responsible for variations in the factor structures but that each method had a different theoretical orientation toward educational attitudes.

In the Teacher Characteristics Study, Ryans adopted yet another approach to the measurement of educational attitudes. An opinionnaire instrument entitled the Teacher Characteristics Schedule was developed, consisting of a number of inquiry items to tap teacher attitudes about their pupils, democratic classroom activities and their relationship with other personnel in the school. Dickson utilized this instrument along with the M. T. A. I. and four other measures to compare 4,600 preservice teachers in the U.S.A. and the U.K. An analysis of the results revealed that the Teacher Characteristics Schedule was one of the few instruments to record any significant differences in attitudes between the two samples.

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30 George E. Dickson, et al., The Characteristics of Teacher Education Students in the British Isles and the U.S.A. (Toledo: University of Toledo, 1965), pp. 77-81, 95.
An instrument which has been widely used for measuring attitudes in recent years is the Semantic Differential, the title devised for a graphic rating scale by its originator, C. E. Osgood. The meaning of any concept to a subject is measured in semantic space by using a series of bipolar scales. An added advantage over other instruments is the capacity of the semantic differential to record relatively indirectly, subjects' attitudes toward particular objects or persons. Consequently the instrument has been utilized in a great variety of research areas and in many countries, as substantiated by the more than 1,000 articles and books which had been written about it up to 1969.

In the field of education, Husek and Wittrock had 259 college students in educational psychology rate the concept "school teachers." The semantic differential technique revealed that students not only displayed a basic good/bad evaluative attitude dimension but indicated

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in addition, varying kinds of rigidity as exemplified by such terms as restraint, tenacity, predictability and stability. Teske used the semantic differential to compare the attitudes of preservice teachers from two colleges. 34 He found that there were significant differences on six of the twelve concepts, which he attributed to variations in educational goals and methods between the two colleges.

In a study of 200 Australian preservice teachers, Kitchen discovered positive attitudes pertaining to such concepts as professional image, responsible adult, teaching and authority, discipline and punishment. 35 A very recent study by Langenbach utilized the semantic differential to discriminate between subjects' positive and negative attitudes toward curriculum use and planning. 36

The above examples indicate that instruments measuring educational attitudes tend to be characterized along such continua as progressive versus traditional, integrative versus dominative and


democratic versus autocratic. Nevertheless it is very apparent that such polarities are gross over simplifications and that the relationships of attitudes to specific concepts, as measured by the semantic differential, may prove to be more beneficial in the long run.

Preservice Teacher Attitudes to Inquiry Teaching in Social Studies

Any study of attitudes to inquiry teaching in social studies can only be made with the realization of the range of meanings implicit in the term "inquiry teaching." As outlined in Chapter II, the writer defined inquiry teaching as including a commitment to a general inquiry classroom atmosphere; a commitment to a certain position on the content continuum (ranging from studying general problems to specific structure of the discipline studies); and a commitment to a parallel position on the procedural continuum (ranging from general inquiry to a scholarly sequence).

Enumerating what is "effective teaching" may seem a fool-hardy pursuit, yet it would seem desirable to provide further specifications about "effective inquiry teaching" if we are to evaluate the development of attitudes toward it. For example, Smith and Cox

consider that the four chief components needed for successful inquiry teaching include:

(1) A philosophical commitment to inquiry and the intellectual strength to meet the commitment.  
(2) A thorough knowledge of at least one discipline and a basic understanding of the interrelated disciplines which focus upon man as a political social being.  
(3) An open mind which enables one to appreciate and tolerate the alternative points of view implicit in complex societal questions.  
(4) The ability to design teaching strategies which will challenge students to become active inquirers rather than passive consumers of predigested facts, ideas and generalizations. \(^{38}\)

The writer queries the extent to which graduating preservice teachers in social studies have developed these four attributes. Mere exposure to the course sequence may have provided a student with a good background in the social science disciplines while stimulating methods courses may have provided exceptionally pertinent ideas in the other three components, but this assumes that the student has the attitudes and incentives to profit from these experiences and to want to implement them in the classroom situation. Postman and Wein­gartner remind us of this point when they state that:

The attitudes of teachers are the most important characteristic of the inquiry environment . . . .  
There can be no significant innovation in education

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that does not have at its center the attitudes of teachers, and it is an illusion to think otherwise. 39

Undoubtedly some of the instruments previously described for measuring general attitudes to education could be adapted to measure attitudes to inquiry teaching in social studies. Kerlinger's dimensions of progressivism and traditionalism or the M.T.A.I. components would provide a measure of the inquiry atmosphere generated by a teacher. However, there appears to be very little empirical research on specific attitudes to inquiry teaching. For example, what are teacher attitudes towards examining and discussing controversial issues; towards utilizing data from many social science fields to analyze a problem; or towards using inquiry springboards to initiate an inquiry lesson?

Although research on teacher attitudes in social studies has been very limited, there has been considerable research in past decades on developing pupil attitudes. For example research studies at The Ohio State University in the 1940s included analyses of the effectiveness of the reflective method over traditional methods of

teaching. Subsequent doctoral dissertations in the 1950s and 1960s have included studies about the efficacy of the reflective method but few seem to have focussed specifically upon teacher and preservice teaching attitudes. Throughout the U.S.A. in the 1930s and the 1940s there were a number of studies dealing with pupil attitudes towards such concepts as international understanding, prejudice, political persuasion and democracy. More recent analyses of pupil attitudes include Hoover's study in which he used controversial issues as the vehicle to develop democratic values among secondary social studies students.

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**Examples included:**

Lawrence E. Metcalf, "A Theory of Conceptual Learning and Its Implications for the Teaching of the Social Studies for the Purpose of Clarifying Social Attitudes" (unpublished Ph. D. dissertation, The Ohio State University, 1948), and


Emily B. Schuh, "An Evaluation of the Effectiveness of Two Methods of Instruction in Teacher Education" (unpublished Ph. D. dissertation, The Ohio State University, 1959), and


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Since the early 1960s the rapid growth in the number of inquiry-oriented social studies projects has led to a number of research studies concentrating upon the inquiry method and its relative advantages over other teaching methods. Many ingenious measuring and recording instruments have been used to gauge changes in student recall, critical thinking and reasoning skills as compared with traditional methods of teaching. Yet it seems to have been assumed by researchers that positive teacher attitudes towards inquiry teaching were always present in their experiments. In the writer's analysis of twenty-eight recent empirical studies on inquiry teaching in social studies, he found that in only two instances was any attempt made to train and develop suitable skills and attitudes in the teachers selected to teach the experimental classes.

Glatthorn reiterates this point in his criticism of the many new social studies projects which attempt to cancel out the role of

44 For example:

the teacher through "teacher proof" materials and activities. The writer contends that developing favorable attitudes toward inquiry teaching must be an integral part of any teacher education program and at this point in time much more empirical research needs to be undertaken on this topic. A useful exploratory activity towards this end would be an extensive survey of the characteristics of effective inquiry teachers and preservice teachers.

**Related Teacher Characteristics**

It is not the writer's intention to replicate the many summaries of research on "teacher effectiveness" and related characteristics of effective teachers. Ryans' study alone included over 6,000 teachers from 1,700 different schools, in which he attempted to isolate the characteristics of teachers that correlated highly with successful


47 For example:

  Donald M. Medley and Harold E. Metzel, "Measuring Classroom Behavior by Systematic Observation" in Handbook of Research on Teaching, ed. by N. L. Gage (Chicago: Rand McNally and Co., 1963), pp. 247-328, and

teaching. As Ryans admits himself, correlational studies only reflect what teachers are like here and now, they are specific to a particular teacher population or subpopulation and so few generalizations can be made, and furthermore, they provide taxonomic descriptive information rather than generating explanations. Charters is even more critical of research on teacher effectiveness when he states:

A notable feature of which is the absence of definitive results and fruitfully cumulative findings. This is partly due, we believe, to the fact that educational researchers have been concerned with aspects of the induction process which are institutionally and programmatically important but theoretically barren.

Teacher effectiveness in terms of general characteristics no longer appears to be a central research issue but there is an increasing number of studies dealing with the affective relationships developed by successful teachers. Peck and Tucker, in the most recently published review of research in teacher education, indicate the two current emphases in the field to be a concentration on system

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approaches (training teachers in interaction analysis, microteaching
and behavior modification) and affective approaches (interpersonal
training experiences, creativity fostering techniques and direct
student involvement activities). The systems approach is being
extensively studied, especially in the Research and Development
Centers in Education. Notwithstanding the desirability of enumerating,
observing and measuring specific teacher behaviors (the vogue word
is specificity), there seems some necessity for an affective approach
which emphasizes the personalized aspects of teacher education,
including attitude development.

As will be indicated in subsequent sections, there is consider-
able research at present being undertaken on affective development
in teacher education programs and within this context the writer
considers he is justified in examining the characteristics of teachers
who have demonstrated high levels of affective interaction in the
classroom. That is, the focus is not on the effective teaching
impasse but on a specific sub topic, namely the characteristics of
social studies teachers and preservice teachers who can effectively
use inquiry teaching techniques. To expedite the review of research
on these characteristics, two categories have been delineated,

consisting of personal attributes and significant informal and formal education experiences.

**Personal attributes**

For decades correlational studies have been used to relate specific personal attributes with particular teaching styles. Even though recent studies use more sophisticated measuring instruments, results in this sphere are still very inconsistent and often contradictory.

*Age* was postulated as a factor related to teacher attitudes in Ryans' *Teacher Characteristics Study*. Older teachers (fifty-five years and above) scored below that of the younger teachers on all scales except Yco (systematic and businesslike classroom behavior) and Bco (learning-centered, traditional educational viewpoints). On the other hand, these older teachers scored lower on such inquiry-oriented scales as Xo (warm, understanding, friendly) and Zo (stimulating, imaginative). Oliver and Butcher also found in their study that subjects' scores on their t scale (tendermindedness) were related to age differentials.

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53 R. A. C. Oliver and H. J. Butcher, "Teachers' Attitudes to Education," *British Journal of Educational Psychology*, XXXVIII (1968), 38-44.
Sex was a differentiating factor in the Ryans study. 54 Females tended to attain significantly higher scores on the seven scales measuring friendly, responsible and stimulating classroom behavior; favorable attitudes towards pupils; democratic classroom practices; permissive educational viewpoints and verbal understanding. These qualities would seem to be very desirable in inquiry teaching. By contrast, the male teachers in the study only scored significantly higher than the females on emotional stability. A divergent result was obtained by Kitchen based on his study of 237 preservice teachers. 55 He noted that males surpassed females in their awareness of professional and social responsibilities and the need for skill and practice in teaching.

General statements have been made relating religion with teacher attitudes, but few research studies have produced any significant relationships. 56 In a study of teacher values and attitudes, Wilson and Goethals found that Protestants and Catholics differed significantly on twelve out of sixty-one value statements, chiefly


within the realm of educational goals. They concluded that Protestants tended to be oriented more toward intellectual interests while the Catholics were oriented toward transmission of cultural values and vocational objectives. McLeish noted that changes in religious affiliation occurred frequently during the teacher education program. "There was a swing away from religion, the 'non-religious' group gained overall 128 students of 279 who changed in the total retest sample of 1,478."  

Marital status was not a significant overall factor in the Ryans' study but within the "social studies-English" sample the married group was significantly superior to the single group on Xco (understanding, friendly classroom behavior), Rco (favorable attitudes towards pupils) and Sco (emotional stability).  

Social class has been included as a factor in many studies as represented by occupations of parents, incomes of parents and areas of residence. Few positive findings have resulted, due to a large


59Ibid., p. 186.

60Ryans, "Teacher Behavior Theory," p. 301.
extent to gross oversimplifications about the influences and effects of social class. 61

Although a desirable end, the above studies indicate that the task of relating personal attributes with interests and abilities in inquiry teaching is fraught with many difficulties and there are no unequivocal results at this point in time. If highly significant relationships could be found between specific teaching styles and such immutables as age and sex, or even religion, marital status and social class, it would be realistic for college administrators to use these factors as criteria for screening prospective students. However, because such relationships have not yet been uncovered, there seem little justification for using these variables. Nevertheless recent studies on personality characteristics augur well for their potential as screening factors. The screening aspect is deliberately emphasized as it would appear that although college programs (informal and formal) may be able to foster the development of certain attitudes and skills, they are unable to make radical alterations to college students' personalities. It is important, therefore, to attract particular kinds of student clientele initially into the teacher education programs.

Many recent studies have focused on dogmatism as a personality attribute. McCollum submitted 322 preservice social studies teachers from three universities, including The Ohio State University, to three personality measures. The results indicated that students from all three institutions had relatively high dogmatism scores and in addition, at two institutions had high factual set scores. He concluded that on this basis, they would encounter many problems in the use of the reflective method (inquiry) as an approach to teaching social studies in the classroom. In another study, Musella noted dissonance states of preservice teachers who had been exposed to cooperating teachers with greatly different levels of dogmatism. He noted that preservice teachers with high levels of dogmatism were little affected by their cooperating teachers or their supervisors and, therefore, from an educational standpoint, would gain little from these experiences.

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Another related aspect of personality is an individual's self concept. Recent research such as Lee's study, indicated that an individual's self concept can be improved by sensitivity training. Other researchers have demonstrated that preservice teachers have relatively conventional, teacher stereotype self concepts which are little affected by training. For example, Walberg studied 1009 preservice teachers and noted that their attitudes about themselves as teachers were in such categories as neatness and brightness; clean, sure and strong; accessible; expressive; and narcissism.

The level of professionalism would also appear to be a factor which is not subject to marked change through training. Levin, Hilton and Leiderman refer to the ego involvement in teaching insofar that an individual will only become completely identified in this role if it is congruent with his ideal self picture. Heddendorf's study indicated that preservice teachers with a high level of professionalism


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are a particular personality type (altruistic) and therefore recruitment of suitable personalities is a vital aspect for any teacher education program. 67 A rather sobering note is struck by Pendergast, who in his analysis of beginning social studies teachers, found that less than half of the sample displayed a commitment to teaching as a lifetime career. 68

Therefore, it would seem that the above personality factors and possibly many others are little affected by training programs. Wilk suggests that teacher education institutions decide about the selection of their students by design or by default. The research data points to the need for some comprehensive design to enable a more careful selection of personnel for induction into social studies teacher education programs.

**Significant informal and formal education experiences**

Despite certain personal attributes about individuals which appear to be relatively immutable, the rationale for the existence of


any teacher education program is based on the assumption that there are certain formal and related informal education experiences which are influential and desirable for preservice teachers.

Before examining these specific informal and formal education experiences, mention should be made of an omnibus factor which seems to permeate all educational experiences, namely the size, type and nature of the educational institution itself. For example, Dickson noted in his study that large colleges with corresponding large faculty-student ratios seemed to produce different attitudes to teaching (learning centered) than small colleges (child centered). Le Fevre considered that teachers college graduates are trained to fit into our present school system whereas liberal arts colleges and university graduates are more concerned with introducing change into our schools. On a similar note, but within an Australian context, Bassett contends that "when the control of a teachers college is vested in the employing authority the result is a more restricted organizational climate."

69Dickson, et al., Characteristics of Teacher Education Schools, pp. 215-216.


The particular college focus is likely to influence the range and intensity of informal learning experiences, although there appears to be little research on this aspect. It would certainly appear from Ryans' study of practising teachers that there is a significant correlation between effective teaching and strong interests in reading, music, painting and the arts. Williamsons study of 281 "effective teachers" also revealed a significant correlation between effective teaching and a well developed interest in reading books for pleasure.

London and Larsen's research showed that teachers have strong interests in reading and watching television but they interpreted these leisure pursuits as being passive and uninvolved. It is true that they found little evidence to indicate that teachers undertook active leisure pursuits, but the writer finds difficulty in accepting their conclusion that "if teachers are indeed uninvolved, passive and without choice in their personal lives, how likely is it that they will

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74 Perry London and Donald E. Larsen, "Teachers' Use of Leisure," Teachers College Record, LXV, No. 6 (1964), 538-545.
be able to communicate much zest, enthusiasm, inspiration, joie de vivre, to their students?"  

Contrasting evidence was provided by Cook in her recent study of the leisure habits of preservice teachers college students in Western Australia. She found that students did have a number of active leisure interests as indicated by the overall student rankings of playing sport, reading, working at hobbies, listening to music, watching television.

Parallel formal education components of teacher education programs have been undertaken in diverse tertiary institutions over many decades, yet there is little empirical research to either justify or refute their inclusion. This is especially true of the liberal arts/academic studies component. Writing in 1973, Peck and Tucker could find no recent evidence to counter Denemark and Macdonald's statement in 1967 that although the liberal arts portion of a teacher's training is said to be crucial to effective teaching, there is no

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75 Ibid., 544.

empirical research bearing on this proposition. As an example, Denemark and Macdonald suggested that research was urgently needed on the roles of the disciplines to ascertain the relative effectiveness of students with majors versus those with minors in various areas. Wilk and Cook consider that there are differences among students in various majors as a result of their study of personnel from four groups, including 104 male social studies majors. Nevertheless, there is a need for many more in depth studies into this component of teacher education to ascertain the validity of the few scattered pieces of empirical research.

By contrast, the professional education component has been subjected to a large number of research studies, yet unequivocal generalizations still seem difficult to isolate. Education courses in teacher education programs have been much maligned and ridiculed, but they still remain an integral part of most programs. It would seem that tremendous variations in the quality of presentations, the

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77 Peck and Tucker, "Research on Teacher Education," p. 940. and

78 Denemark and Macdonald, "Preservice and Inservice Education," 236.

range of activities and relevance to the practical classroom situation, are responsible for students' positive reactions to some programs and pronounced denigrations of others. 80

Few studies have focussed specifically on the development of attitudes arising from taking education courses, but those published have obtained chiefly positive results. Hoover and Schutz used a semantic differential instrument with 75 students to measure their changes in attitudes as a result of having taken a basic education course. 81 They found that the attitudes of the students had changed significantly on ten of the thirteen concepts between the pretest and post-test periods. Evans used a battery of instruments including the M.T.A.I. and a values test to measure changes resulting from students taking an education course. 82 The results indicated that student values were little changed by the experience but their attitudes towards children and their general interpersonal relationships were


markedly affected. On the other hand, an earlier study by Jacob revealed that no significant changes occurred in student values and attitudes which could be attributed to the effects of particular college courses. 83

Sandefur's study points to the types of education courses that seem most likely to cause positive changes in attitudes. 84 In his study, Sandefur developed a democratic instructional environment in which no formal lectures were given and no tests were used. The emphasis was on informal, non threatening learning, "dedicated to both cognitive and affective development of the students through the teacher education process." 85 At the completion of the program, the experimental group had acquired many more desirable behaviors and attitudes than the control group, as determined by a battery of observational records and standardized tests.

Similar practices have been expounded by social studies teacher educators for some time, yet in practice it may have been


85Ibid., 395.
sophisticated lip service. Writing in the 1940s, Griffin stated that in the preparation of history teachers, "the subject matter which teachers expect to use in promoting reflection should have been learned through reflection." Similar pleas for active student involvement, especially with regard to inquiry teaching procedures have been made by Farmer and Zahovik. Yet empirical research on social studies methods courses utilizing active student involvement with inquiry techniques, have not been very encouraging. It would appear that some students at least, are not prepared to enter into open-ended discussions or to examine and ground their values and beliefs. The "institutional press" of the school and the cumulative backlog of years of exposure to traditional methods, seem to be at work here. For the same reasons, new instructional techniques such as microteaching and simulations are enthusiastically accepted


87 G. M. Farmer, "Research Experiences and Methods Courses," Improving College and University Teaching, XVI, No. 2 (1968), 148-149.


89 For example:
by many educators, yet empirical research on their efficacy over traditional methods has been very disappointing and in some instances negative. 90

The student teaching experience is the culmination of the teacher education program in many institutions, representing in theory at least, the laboratory in which the neophyte teacher can experiment with all the ideas and principles he has been exposed to during his years of college training. For many students it is the most rewarding experience of all, while for others it is nothing short of traumatic.

A number of studies have shown how a student's positive attitudes toward inquiry and child-centered approaches prior to student teaching, can be drastically changed as a result of the experience. Jacobs studied 1007 preservice teachers and noted definite changes to more rigid and formal attitudes about teaching after they had experienced student teaching. 91 Heddendorf concluded from his

90 For example:

study that the subjects altruistic attitudes were sharply affected by the reality shock of facing up to the classroom situation—"the student perceives the erosion of his value system and expectations as he conforms to the more immediate means and goals of the practitioners' role."92 Yet other studies, such as those by Kropp93 and Swineford,94 demonstrate that there are certain educational attitudes which are tenaciously held, despite the reality shock.

The conflicting evidence points to the fact that there are many variables involved which may make the student teaching valuable or virtually worthless. Key factors would include the degree of compatibility or dissonance between cooperating teachers and student teachers; between supervisors and student teachers; and between classes and student teachers. Casey and McNeil used a semantic differential to pinpoint differences in attitudinal dimensions between student teachers and cooperating teachers.95 Brown used a battery


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of dogmatism and belief scales to ascertain the degree of dissonance in beliefs between the personnel involved. He concluded that education professors and student teachers showed the most congruency. In addition to their incongruencies with other personnel, cooperating teachers had the widest gap between their educational beliefs and their basic philosophic beliefs.

From the above studies it would seem that empirical evidence on the acquisition, maintenance and development of specific attitudes in teaching is a far cry from being either comprehensive or convincing. Yet the evidence, incomplete and deficient that it is, seems to point to the need for the development of positive attitudes to teaching and that in some aspects of teacher education programs, can be successfully established. In the final section to follow, an analysis is made of recent comparative research in teacher education, to discover how other countries have tackled the problems and to ascertain their successes and shortcomings.

Comparative Studies of Preservice Teachers

The sparsity of empirical research on teacher education programs in the U.S.A. would appear bountiful relative to the number

of comparative research studies that have been undertaken and published up to the present time. No doubt there are various reasons for the dearth of comparative studies including such difficulties as the heavy financial costs, the possibilities of communication breakdowns between the countries and the lack of trained personnel to travel, liaise and supervise the research requirements.

One of the most comprehensive comparative studies undertaken in teacher education was the University of Toledo study, directed by George Dickson, to assess and compare the intellectual and personal characteristics of preservice teacher education students in the United Kingdom and the United States of America. In this study, over 2,000 students in each country, representing seventy different colleges, were surveyed. To ascertain preservice teacher attitudes, a battery comprised of Ryans' Teacher Characteristics Schedule and the M.T.A.I. were utilized. The results indicated many similarities between the two countries but one major difference was that the U.S.A. students demonstrated a preponderance of learning centered attitudes. The study was unable to account for these differences in sizes of the colleges, faculty-student ratios and curricula.

97Dickson, et al., Characteristics of Teacher Education Students, pp. 206-213.
A more recent and equally important study by John McLeish was commenced initially as a local survey of ten colleges within the Cambridge Institute area of the United Kingdom in 1965. Subsequently, control groups from the U.S.A. and the British Commonwealth were included in the study. Interpretations of the results of over 1600 students at the beginning and termination of their three year teacher education program revealed that major changes had occurred in student attitudes but little variations were evident in the personalities and personal values of students. The attitudes that revealed marked changes included a considerable reduction in the mean level of religiosity, an increase in positive attitudes towards informal methods of instruction and spontaneous development in children.

Other comparative studies have been more specialized and are only of limited application to this study. In 1960 two small scale comparisons of West Australian and American university students were undertaken. Using the Kerlinger ES-VI and ES-VII attitude instruments, Wheeler compared the performance of seventy-seven West Australian university students with a similar number from an unspecified eastern university in the U.S.A. He contended that his

98McLeish, Student's Attitudes, pp. 1-5.

results of no significant difference on any scores on the Kerlinger scales demonstrated a similarity of educational attitudes between the two samples. Anderson utilized Cattell's Sixteen Personality Factor Questionnaire to compare forty-two American university students with a similar number of West Australian university students. Despite some similarities, he found a number of differences in personality traits especially between males (Americans--more adventurous, more conscientious, less self sufficient) and to a lesser extent between females (Americans--less intelligent, more warm and sociable).

Osgood and his colleagues have undertaken a number of cross cultural studies in more than a dozen different countries but the research designs have all been concerned with validating concepts and scales of the semantic differential and there has been no cross cultural data which could be directly related to teacher attitudes.

The most recent study is one initiated in 1966 by Biddle of the University of Missouri to study the role of the teacher in four


countries, namely U.S.A., U.K., Australia and New Zealand. A very general, interim report has been published in which it was revealed that in all four countries, the teacher still acts as the benevolent despot!

Summary

Teacher educators have the task of molding attitudes that will equip the prospective teacher to relate effectively with his students. However, in specific terms it would seem difficult to ascertain how to develop these attitudes and for that matter, to specify what the attitudes should be. Empirical research in teacher education and especially in social studies programs, is still very incomplete and deficient, despite a considerable upsurge in the middle 1960s. This empirical study is deliberately narrow and specialized, because the focus is on only one aspect of the teacher education process, namely the attitudes of preservice teachers towards using inquiry teaching techniques in social studies.

The concept of attitudes was developed initially within the field of social psychology and has been studied from that frame of reference since the early decades of this century. It was considered

most appropriate for this study to accept Fishbein's rather narrow
definition of attitudes, which includes the affective loading but excludes
beliefs and the actual behavior. There has been a considerable amount
of research on the attitudes of college students, especially in terms
of personality development, but in this study the chief emphasis is on
educational attitudes. Instruments used to measure attitudes can be
categorized as self report, observational or projective. Of these,
the most common and perhaps the most fruitful for examining attitudes
are the self reports, such as the Minnesota Teacher Attitude Inven-
tory, the Kerlinger scales, the Teacher Characteristics Schedule and
the Semantic Differential.

As distinct from the perennial imponderable of defining and
analyzing "effective teaching" there is justification in examining a
specific form of teaching (inquiry) and the characteristics and
attributes of teachers and preservice teachers who have demonstrated
effectiveness in this domain. Personal attributes such as age, sex,
religion, marital status and social class are relatively immutable
factors regardless of the effects of the teacher education program.
Other personality attributes such as dogmatism, self concept and
ego identity appear to be useful criteria to consider when screening
prospective candidates for admission into teacher education programs.
Of greater significance for teacher educators are the informal and formal learning experiences that are correlated with positive attitudes to inquiry teaching. The informal learning experiences that appear to be the most significant include wide interests in reading and in culture and the arts. Formal learning experiences in the teacher education program are contained within the components of liberal arts/academic studies, professional education and student teaching. The latter two components have been the focus of many research studies from which some factors have been isolated that correlate highly with positive attitudes to inquiry teaching.

Comparative studies of teacher education can be of great value for gaining insight into different organizational and procedural strategies and outcomes. With the exception of comprehensive studies by Dickson and McLeish, there has been a general paucity of empirical research.
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EMPIRICAL STUDY--RESEARCH POPULATIONS AND DESIGN

As the study was a comparative one, it was considered necessary to provide more than the usual brief descriptions of the research populations. This was especially important as the hypotheses and dependent variables in the research design were centered upon the personal attributes and education experiences of the respective preservice teacher populations. In the first section of the chapter, data is provided on the two populations, namely preservice social studies teachers at The Ohio State University and the Secondary Teachers' College. Inventory material was utilized for this purpose in addition to information obtained from relevant journals and books. The remaining section of the chapter is devoted to the actual research design, research instruments and implementation procedures.

A. Research Populations

The writer was interested in surveying undergraduate social studies students who had completed the major portion of the requirements for their baccalaureate degree and who intended to graduate.
in 1973. In addition, it was deemed important to interview only
students who had undertaken student teaching, as the research design
required the examination of student attitudes toward specific class-
room techniques. At The Ohio State University (O.S.U.), it would
have been feasible to interview social studies students undertaking
student teaching in any one of the three academic quarters of Autumn,
Winter and Spring. However, because the total student numbers were
only sixty-five for the academic year at the Secondary Teachers'
College (S.T.C.), the nearest number to this at O.S.U. occurred in
the Winter quarter.¹

Seventy-nine O.S.U. students specializing in social studies
education in the College of Education were surveyed at Columbus in
February–March 1973 during the Winter quarter of student teaching.
Only seventy-five questionnaires were accepted, as four students
submitted incomplete entries and it was not possible to establish
further contact with them. The seventy-five students had completed
all their education theory and methods courses and many had com-
pleted the requirements in history and the social sciences. Their
mean score for the number of weeks of student teaching was 9.8

¹The respective numbers of undergraduate social studies
education students per quarter in the College of Education at O.S.U.
for the 1972–73 year were 45 (Autumn), 79 (Winter), and 105 (Spring).
which included September field experience in addition to student teaching.

Sixty-five S.T.C. students specializing in social studies education were surveyed at Perth in March 1973. Only sixty-three questionnaires were accepted due to two students submitting incomplete answers. All of the S.T.C. population had completed their requirements in history and the social sciences and in addition, had completed a large portion of their education theory and methods courses. Their mean score for the number of weeks of student teaching was 12.8.

Personal attributes

The age ranges of the populations were very similar, with the majority being in the twenty to twenty-three years category (Table 2). The only notable difference was that the age category of greatest frequency for the O.S.U. population was twenty-two years compared with twenty-three years for the S.T.C. population. Furthermore, moderate frequencies occurred in the O.S.U. population for age categories up to twenty-five years, whereas the S.T.C. ages tapered off much more markedly beyond twenty-two years. These variations between the two populations may have been due to such factors as the extra year of schooling in U.S.A. high schools; the quarter system at O.S.U. which provides greater opportunity for students to move
in and out of college; the allowances paid to the S. T. C. population which are conditional upon full time attendance at college plus the successful completion of each academic year.

**TABLE 2**

**AGE DISTRIBUTION OF O.S.U. AND S.T.C. POPULATIONS**

<table>
<thead>
<tr>
<th>Age (in yrs.)</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>20</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td>23</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>24</td>
<td>8</td>
<td>11</td>
</tr>
<tr>
<td>25</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>27-32</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33-37</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

N=75 100 N=63 100 138

The sex ratios of the two populations reveal some interesting differences (Table 3). The O.S.U. population had a marked preponderance of males (69%) while the S.T.C. population had an approximately balanced distribution of the sexes (males-43%, females-57%).
TABLE 3

SEX DISTRIBUTION OF O.S.U. AND S.T.C. POPULATIONS

<table>
<thead>
<tr>
<th>Sex</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Males</td>
<td>52</td>
<td>68</td>
</tr>
<tr>
<td>Females</td>
<td>23</td>
<td>32</td>
</tr>
<tr>
<td></td>
<td>N=75</td>
<td>100</td>
</tr>
</tbody>
</table>

Competition from other colleges on campus and related job opportunities may have been factors responsible for these differences.

Specific intelligence quotients were deliberately omitted by the writer, as recent empirical studies have located few significant relationships between intelligence tests scores and teaching. According to Getzels and Jackson, "when such measures are included, the findings are typically inconsequential." However, it would appear from data relating to all S.T.C. students that intelligence quotients have remained relatively stable over the last five years, decreasing only one point from 123 to 122. An earlier study of the intelligence

---


quotients of science students enrolled at the University of Western Australia showed that their mean score was 125. This same pattern of slightly lower general intelligence scores for undergraduate education students was obtained at O.S.U. by Burnett in 1964, although these same education students demonstrated superior performances on the English Placement Test and had higher cumulative point hour ratios than non-education students.

The marital status of the two research populations revealed closely analogous categories (Table 4). A marginally greater number of married students at S.T.C. may have been due to the higher proportion of female students.

Although a comprehensive breakdown of religious affiliations was not undertaken, forced choice categories of Protestant, Roman Catholic, Jewish, "other religion" and "no religion" displayed a number of similarities between the two research populations (Table 5). There was a similar proportion of Protestants and Roman Catholics in both populations, although there was no corresponding proportion


TABLE 4
MARITAL STATUS OF O.S.U. AND S.T.C. POPULATIONS

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>59</td>
<td>79</td>
<td>48</td>
<td>76</td>
<td>107</td>
</tr>
<tr>
<td>Married</td>
<td>15</td>
<td>20</td>
<td>15</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>Divorced</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Remarried</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>N=75</td>
<td>100</td>
<td>N=65</td>
<td>100</td>
<td></td>
<td>138</td>
</tr>
</tbody>
</table>

TABLE 5
RELIGIOUS AFFILIATIONS OF O.S.U. AND S.T.C. POPULATIONS

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Roman Catholic</td>
<td>19</td>
<td>25</td>
<td>20</td>
<td>32</td>
<td>39</td>
</tr>
<tr>
<td>Protestant</td>
<td>30</td>
<td>40</td>
<td>29</td>
<td>46</td>
<td>59</td>
</tr>
<tr>
<td>Jewish</td>
<td>10</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>No Religion</td>
<td>13</td>
<td>18</td>
<td>12</td>
<td>19</td>
<td>25</td>
</tr>
<tr>
<td>N=75</td>
<td>100</td>
<td>N=63</td>
<td>100</td>
<td></td>
<td>138</td>
</tr>
</tbody>
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of students pertaining to the Jewish faith in the S.T.C. population.

The relatively high percentage of students in both populations who
indicated "no religion" seems to parallel the declining religiosity of
undergraduate seniors noted by McLeish in his study of teacher education students in the U.K. and U.S.A.  

Social class categories were estimated in the research populations by using occupations and educational levels of students' parents (Table 6). In both populations the two most frequently listed categories

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**TABLE 6**

**OCCUPATIONS OF FATHERS OF O.S.U. AND S.T.C. POPULATIONS**

<table>
<thead>
<tr>
<th>Hall Jones Scale of Occupations</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Professional qualified and high administrative.</td>
<td>7 9</td>
<td></td>
</tr>
<tr>
<td>Managerial and executive.</td>
<td>6 8</td>
<td></td>
</tr>
<tr>
<td>Inspectional, supervisory and other non manual (higher grade).</td>
<td>11 15</td>
<td></td>
</tr>
<tr>
<td>Inspectional supervisory and other non manual (lower grade).</td>
<td>13 17</td>
<td></td>
</tr>
<tr>
<td>Routine grade of non manual work.</td>
<td>16 21</td>
<td></td>
</tr>
<tr>
<td>Skilled manual.</td>
<td>16 21</td>
<td></td>
</tr>
<tr>
<td>Manual semi-skilled.</td>
<td>1  2</td>
<td></td>
</tr>
<tr>
<td>Manual routine.</td>
<td>5  7</td>
<td></td>
</tr>
<tr>
<td>N=75 100</td>
<td>N=63 100</td>
<td>138</td>
</tr>
</tbody>
</table>

---

on the Hall Jones Scale of Occupations were "skilled manual" (for example, plumbers) and "routine grade of non manual work" (for example, salesmen). Although a lower middle class level predominated, 7 moderate frequencies were evident for higher occupation categories. The S.T.C. population in particular registered 16 per cent in the highest category of "professionally qualified and high administrative" (for example, lawyers).

A similar distribution pattern to the above was obtained from data relating to the educational level of fathers. Means of 3.2 (O.S.U.) and 3.7 (S.T.C.) possibly reflected in the latter a greater proportion of students from families where the fathers had professional occupations and consequently had obtained relatively high levels of formal education. No major difference was noted in the respective nationalities of the two populations, as indicated by the 88 per cent predominantly American in the O.S.U. population and 84 per cent predominantly Australian in the S.T.C. population.

In an endeavor to compare the degree of openmindedness/dogmatism of the two populations, seven scales were adapted from

7W. W. Charters, Jr., "The Social Background of Teaching" in Handbook of Research on Teaching, ed. by N. L. Gage (Chicago: Rand McNally and Co., 1963), pp. 719-721, concluded that numerous studies of the social class origins of teachers have revealed this level.
the Rokeach Dogmatism Scale and included in the questionnaire (Table 7). No significant differences were evident between the two research populations on any of the seven scales, as measured by analysis of variance (F ratios). Both populations exhibited a moderate level of dogmatism in the three scales (means of 2.4 to 3.4) and relatively high levels of openmindedness (means of 3.3 to 3.9). 8

Informal education experiences

It could be surmised that the informal education experiences in the U.S.A. and Australia would differ very slightly, as both countries are highly urbanized and industrialized and enjoy a high standard of living. More specifically the two cities in which the O.S.U. and S.T.C. populations were located bear very striking resemblances. Both Perth (W.A.) and Columbus, Ohio (U.S.A.) have total populations of almost three quarters of a million and seem to the writer, at least, to have a comparable range of cultural, educational and recreational facilities. Consequently, considerable trial and error was required to determine which measures should be included in the questionnaire. Based on the results of a pilot study,

8The higher level of openmindedness over dogmatism scores might have been a reflection of the neophyte idealism prior to retro-active conservatism setting in from full exposure to the school system, as noted in Chapter III, pp. 113-115.
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<td>-------------------------------------------------------------------------------</td>
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<tr>
<td>1. In the classroom I find myself critical of ideas different from my own.</td>
<td>.78</td>
<td>.85</td>
</tr>
<tr>
<td>2. In a class discussion I take a dominant role.</td>
<td>.63</td>
<td>.79</td>
</tr>
<tr>
<td>3. In the classroom I can maintain a good disciplinary tone.</td>
<td>.73</td>
<td>.71</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Openmindedness Scales</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. In the classroom I allow pupils to search out answers for themselves.</td>
<td>.55</td>
<td>.53</td>
<td>1.07</td>
<td>NS</td>
</tr>
<tr>
<td>2. In the classroom if I find I don't know something I will admit it.</td>
<td>.38</td>
<td>.53</td>
<td>.50</td>
<td>NS</td>
</tr>
<tr>
<td>3. In the classroom I will take time to discuss a point raised by a pupil even if it is off the set topic for that class.</td>
<td>.58</td>
<td>.70</td>
<td>.67</td>
<td>NS</td>
</tr>
<tr>
<td>4. In the classroom it doesn't bother me when pupils disagree over the interpretation of a topic.</td>
<td>1.02</td>
<td>1.10</td>
<td>.86</td>
<td>NS</td>
</tr>
</tbody>
</table>

P < .05 = 1.54
it was decided to focus upon four attributes, namely part-time job experiences, overseas travel experiences, reading habits and television viewing habits.9

A comparison of the number of part-time jobs that students had experienced since beginning high school revealed that the O.S.U. population had a mean score of 4.3 jobs whereas the S.T.C. population had a mean score of only 3.1. The student allowances and bursaries available to S.T.C. students plus the lower fees for college education in Western Australia, may have been factors largely responsible for the disparity.

Data on overseas travel experiences appeared at first glance to show marked differences between the populations, but this may not in fact have been the case (Table 8). A slightly higher percentage of O.S.U. students had travelled to or lived in Europe (O.S.U. 16 per cent; S.T.C. 10 per cent). The S.T.C. students seem to have preferred Asia to Europe, as reflected in the percentages (S.T.C. 13 per cent; O.S.U. zero per cent). Some 48 per cent of the O.S.U. students had travelled to Canada but in many cases this may have been limited to short excursions across the U.S.A. border. If a category for travel to other states in Australia and New Zealand had also been included, a similar figure may have been recorded. Consequently

9See Appendix C and D, pp. 276-293.
**TABLE 8**

OVERSEAS TRAVEL EXPERIENCE OF O.S.U. AND S.T.C. POPULATIONS

<table>
<thead>
<tr>
<th>Categories</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Europe</td>
<td>12</td>
<td>16</td>
</tr>
<tr>
<td>Canada</td>
<td>36</td>
<td>48</td>
</tr>
<tr>
<td>Asia</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>U.S.A./Australia</td>
<td>0(Aust)</td>
<td>0</td>
</tr>
<tr>
<td>South America</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Africa</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>None</td>
<td>25</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>N=75</td>
<td>100</td>
</tr>
</tbody>
</table>

by combining together the O.S.U. students who had not travelled outside of the U.S.A. with those who had travelled to Canada (81 per cent), a concurrence can be noted with the S.T.C. population of whom 73 per cent had not travelled outside of Australia.

The reading habits of the O.S.U. and S.T.C. populations revealed dissimilarities with regard to both nonfiction and fiction books and journals (Table 9). Cook's study of the total S.T.C. population in 1969 indicated that females tended to read more extensively than
### TABLE 9

READING AND TELEVISION VIEWING HABITS OF O.S.U. AND S.T.C. POPULATIONS

<table>
<thead>
<tr>
<th>Reading Habits</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Number of fiction books read per month (on average).</td>
<td>1.0 1.2</td>
<td>2.7 1.5</td>
</tr>
<tr>
<td>2. Number of nonfiction books and journals read per month (on average).</td>
<td>4.2 1.5</td>
<td>6.1 1.6</td>
</tr>
</tbody>
</table>

| Television Viewing Habits                                                      |                   |                   |
|--------------------------------------------------------------------------------|                   |                   |
| 1. Number of times per week watch news programs.                              | 6.3 1.6           | 4.5 1.7           |
| 2. Number of times per week watch nonfiction programs.                        | 4.2 1.6           | 4.1 1.6           |

The greater proportion of females in the present S.T.C. population may have accounted for the higher rate over the O.S.U. population.

Television viewing habits pertaining to news programs and nonfiction programs revealed a difference between the two research populations on the first attribute but not on the second. Reasons for the more frequent viewing of news programs by the O.S.U. population

---

might be attributed to the amenity of color television (not available in Western Australia until 1975), a wider choice of television channels and a more comprehensive and rapid coverage of newsworthy items.

Again, a considerable degree of homogeneity between the research populations was revealed from an examination of selected learning experiences. In the next chapter details are provided which show that many of these informal learning experiences were either positively or negatively linked with attitudes to inquiry teaching.  

**Formal education experiences**

It is by way of formal education experiences that teachers and educational institutions consciously, if not blatantly, try to influence their charges. Consequently it would appear that all three levels of schooling are important and influential, from elementary to high school to college. In this study the writer was chiefly concerned with the college influences upon preservice teachers. However, because of the comparative nature of the study, the writer considered it appropriate to note also the similarities and dissimilarities in the elementary and high school education experiences of the O.S.U. and S.T.C. populations. After all, some of the most sustained attitudes

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11 See Chapter V, pp. 216-220.
held by the students at college may have been gained during their formative years at elementary school or high school.

**Elementary school**

By virtue of their present ages, a large proportion of the O.S.U. and S.T.C. research populations would have attended elementary schools in the 1950s and early 1960s.

It could be assumed that a large proportion of the S.T.C. population received their elementary education in Western Australia. Furthermore, because all centers in Western Australia are controlled and operated under a centralized system of education, similar elementary education programs would have operated in both urban and rural areas.

It cannot be assumed with the same degree of certainty that O.S.U. students would have undertaken their elementary education in Ohio or that similar education programs would have operated in different Ohioan towns and cities. However, 87 per cent of the research population indicated that they had undertaken their high school years in Ohio and therefore it is likely that a similar number would have resided in Ohio during their years of elementary schooling. Further,

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12For example the education background of first year college students at a comparable institution is given in A. Aldridge, *Survey of First Year Student Intake, 1972* (Perth: Mount Lawley Teachers' College Press, 1972), p. 3.
because of the prevalence of textbooks distributed on a nation-wide basis, it is likely that there would have been a number of similarities in elementary school social studies programs.

Contrasts in teacher qualifications and pupil-teacher ratios are quite marked between Western Australia and Ohio. In Western Australia in the 1950s all elementary school teachers were only two year trained and therefore the number possessing a baccalaureate degree was negligible. On the other hand, 67 per cent of the Ohio elementary teachers in 1956 possessed a baccalaureate degree. 13

Official figures on pupil-teacher ratios vary considerably, depending on whether administrative and teaching personnel, or just teaching personnel are included. Nevertheless, comments by visiting educationalists indicate that they were aware of the large classes in Western Australia and the small classes in the U.S.A. For example, Cramer states that:

Each time I have been in Australia I have been impressed by large classes. . . . In a centralized system it is difficult to reduce class size without reducing every class in the state; in Oregon local communities, by voting their own local budgets, insist upon smaller classes and get them in any school if they are willing to pay for them. 14


Specific information was not available to make direct comparisons of teaching methods used in Ohio and Western Australian elementary schools. Still, the respective course outlines in social studies and the social studies textbooks used in the 1950s provided considerable clues to the content emphases and chief teaching interests. For example, in Tables 10 and 11 the course outlines in social studies are listed for Western Australian and Columbus Public Schools (C.P.S.), Ohio, in the 1950s (notwithstanding the point that not all elementary schools in Ohio would follow the curriculum sequence of the Columbus Public Schools).

A concentric circle sequence is evident in both the W.A. and C.P.S. programs. However, it could be inferred that the C.P.S. program has a greater emphasis on human relations in the first three years while the W.A. program seems to move much earlier into factual topics in history, geography and civics. In the middle grades, both the C.P.S. and W.A. systems include studies of their own state and nation although the former seems to emphasize history whereas the latter emphasizes geography and civics.

Further comparisons can be made by analyzing social studies textbooks which would have been used by the respective research populations. This task was relatively simple for Western Australia as all elementary schools in the 1950s used the one social studies text per grade. In the 1950s in Ohio, some five elementary level social
TABLE 10

SOCIAL STUDIES THEMES AT EACH GRADE LEVEL FOR ELEMENTARY SCHOOLS IN PERTH, WESTERN AUSTRALIA AND COLUMBUS PUBLIC SCHOOLS, OHIO

<table>
<thead>
<tr>
<th>Grade</th>
<th>Western Australia</th>
<th>Grade</th>
<th>Columbus Public Schools, Ohio</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Manners, personal hygiene and safety at home and school.</td>
<td>6</td>
<td>Finding out about our school, home and family life--our pets.</td>
</tr>
<tr>
<td>(2)</td>
<td>The home and the family--family needs (food, shelter,</td>
<td>7</td>
<td>How we can help at home caring for our pets--farm and zoo animals-- helpers who come to our door.</td>
</tr>
<tr>
<td></td>
<td>furniture, clothing), activities around us.</td>
<td>8</td>
<td>Workers who serve us in our community--transportation in our community--plants and animals in our community.</td>
</tr>
<tr>
<td>(3)</td>
<td>The home and the neighborhood--little people in other</td>
<td>9</td>
<td>Where we get our food--homes people live in--finding out about clothing.</td>
</tr>
<tr>
<td></td>
<td>neighborhoods of Australia.</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>(4)</td>
<td>Introducing children to the world beyond Australia--</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>survey of the world we know--study of other peoples of</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>the world--survey of the world explorers and</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>navigators--some famous world figures.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(5)</td>
<td>The story of Western Australia--early 10</td>
<td></td>
<td>Primitive people and animals of Ohio pioneers and early settlers--how people live and work today--development of transportation.</td>
</tr>
<tr>
<td></td>
<td>navigators and explorers--industries in our district</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>and selected districts--transportation--social</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>institutions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grade</td>
<td>Western Australia</td>
<td>Grade</td>
<td>Columbus Public Schools, Ohio</td>
</tr>
<tr>
<td>-------</td>
<td>------------------</td>
<td>-------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>(6)</td>
<td>Australia--discovery and settlement --opening up the continent--developing Australia's resources--social institutions.</td>
<td>11</td>
<td>The influence of earlier generations on our way of life (U.S.A.)--how our country grew and became a strong nation--conservation of our human resources.</td>
</tr>
<tr>
<td>(7)</td>
<td>Australia in the world today--Great Britain--the British Commonwealth--our northern neighbors--world personalities--world wide social institutions.</td>
<td>12</td>
<td>Contributions of other people to the American way of life--discoveries that have helped link the world together--conservation of our human resources.</td>
</tr>
</tbody>
</table>

Sources: Data extracted from:
(1) Education Department of Western Australia, Primary Syllabus Outlines in Social Studies (Perth: Government Printer, 1955),
(2) Columbus Public Schools, Agreements Booklet K-6 (Columbus: Columbus Public Schools, 1958).
CHAPTER I

INTRODUCTION

The last decade witnessed an unprecedented concentration of interest, academic activity and massive funding in the development of social studies materials for use in elementary and secondary schools. Starting with several small scale experiments at Harvard and Carnegie-Mellon universities, academic interest in establishing specific social studies programs soon blossomed into over one hundred different projects, supported in no small measure by substantial funding from private foundations and government sources.

The completed projects consist of a diverse array of curriculum materials representing all shades along a continuum from specific organizing concepts in a single discipline to interdisciplinary studies focussing on public issues and controversies. For the first time these published packages contain more than just a students' textbook and teachers' outline. The new assemblage consists of nothing less than a range of audio visual aids (tapes, records, transparencies, slides, maps, charts) and presentation
<table>
<thead>
<tr>
<th>Grade</th>
<th>Similarities</th>
<th>Grade</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>Informal study of home and school.</td>
<td>6</td>
<td>W.A. has greater emphasis on manners, C.P.S. has greater emphasis on growth of self discipline -- greater emphasis on pets.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(K)</td>
<td>W.A. has greater emphasis on manners, C.P.S. has greater emphasis on growth of self discipline -- greater emphasis on pets.</td>
</tr>
<tr>
<td>(2)</td>
<td>Both concerned with the home and people who help supply family needs.</td>
<td>7</td>
<td>W.A. has greater emphasis on specific occupations and care of belongings. C.P.S. has greater emphasis on animals and pets.</td>
</tr>
<tr>
<td>(3)</td>
<td>Both concerned with the neighborhood.</td>
<td>8</td>
<td>W.A. has greater emphasis on the wider environment. C.P.S. has greater emphasis on the local environment. (W.A. grade 2)</td>
</tr>
<tr>
<td>(4)</td>
<td>----</td>
<td>9</td>
<td>W.A. extends outwards to look at people from other lands and starts an historical survey of world explorers and famous world figures. C.P.S. is still at the neighborhood--other neighborhood levels.</td>
</tr>
<tr>
<td>Grade</td>
<td>Similarities</td>
<td>Grade</td>
<td>Differences</td>
</tr>
<tr>
<td>-------</td>
<td>--------------</td>
<td>-------</td>
<td>-------------</td>
</tr>
<tr>
<td>(5)</td>
<td>Both concerned with an historical and geographical study of their own state.</td>
<td>10</td>
<td>W.A. in addition looks at social institutions within the state.</td>
</tr>
<tr>
<td>(6)</td>
<td>Both concerned with an historical and geographical study of their own state.</td>
<td>11</td>
<td>W.A. has greater emphasis on geographical aspects and a corresponding lesser emphasis on historical aspects. W.A. in addition looks at social institutions within the commonwealth.</td>
</tr>
<tr>
<td>(7)</td>
<td>Both concerned with a study of other countries.</td>
<td>12</td>
<td>W.A. does a detailed study of more countries. C.P.S. considers the contributions of other peoples to the American way of life.</td>
</tr>
</tbody>
</table>

Sources: Data extracted from:
(1) Education Department of Western Australia, *Primary Syllabus Outlines in Social Studies* (Perth: Government Printer, 1955),
(2) Columbus Public Schools, *Agreements Booklets K-6* (Columbus: Columbus Public Schools, 1958).
studies textbooks predominated. Of these the writer selected the Paul R. Hanna series published by Scott, Foresman and Company (Grade 6) to compare with a similar grade level textbook written for Western Australian schools by A. E. Williams and C. Eakins.

Major points of similarity and contrast between the two selected textbooks are summarized in Tables 12 and 13. It would appear that the more comprehensive, colorfully illustrated American textbook would have had more appeal than its Australian counterpart. Furthermore, the elaborate teacher instructions in the American textbook might, in many cases, have been all that a class teacher would have used for the bulk of his social studies lessons. On the other hand, what the Western Australian textbook lacks in printing quality is compensated by a wide range of useful sketches, graphs and diagrams. These categories seem to have been relatively scarce in the American textbook. The lack of teacher instructions in the Western Australian textbook might have been a blessing in disguise as it would have required teachers to use their own creativity and


\[\text{16}^\text{Herbert F. Collier, "Teaching for Conformity or Individualism: A Content Analysis of Some Selected High School Social Studies Textbooks" (unpublished M.A. thesis, The Ohio State University, 1961), pp. 5-8.}\]
TABLE 12
A COMPARISON OF AN AMERICAN AND A WEST AUSTRALIAN SOCIAL STUDIES TEXTBOOK FOR TWELVE YEAR OLDS

<table>
<thead>
<tr>
<th>BASIC DATA</th>
<th>West Australian Textbook</th>
<th>American Textbook</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>7&quot; x 9 1/2&quot;</td>
<td>7 1/2&quot; x 10&quot;</td>
</tr>
<tr>
<td><strong>No. of pages</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students Volume</td>
<td>376</td>
<td>504</td>
</tr>
<tr>
<td>Teachers Volume</td>
<td>---</td>
<td>168</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>$2.60</td>
<td>$8.00</td>
</tr>
<tr>
<td>Spacing of Type</td>
<td>narrow</td>
<td>wide</td>
</tr>
<tr>
<td><strong>Number of Authors</strong></td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Academic Standing of Authors</td>
<td>Headmasters of Elementary Schools</td>
<td>Leading Academics</td>
</tr>
<tr>
<td><strong>Program Goals</strong></td>
<td>7 pages</td>
<td>41 pages</td>
</tr>
<tr>
<td>Specific Teaching Instructions</td>
<td>---</td>
<td>124 pages</td>
</tr>
<tr>
<td>Glossary of Terms</td>
<td>present</td>
<td>present</td>
</tr>
<tr>
<td>Appendix of Basic Facts</td>
<td>not present</td>
<td>present</td>
</tr>
<tr>
<td>Index</td>
<td>present</td>
<td>present</td>
</tr>
<tr>
<td>Class Exercises</td>
<td>present</td>
<td>present</td>
</tr>
<tr>
<td>Note Book Entries</td>
<td>present</td>
<td>not present</td>
</tr>
<tr>
<td>Photographs</td>
<td>black &amp; white, poor quality</td>
<td>color, high quality</td>
</tr>
<tr>
<td>Maps</td>
<td>black &amp; white, line only</td>
<td>color, high quality</td>
</tr>
<tr>
<td>Graphs</td>
<td>present</td>
<td>not present</td>
</tr>
<tr>
<td>Sketches and Diagrams</td>
<td>present</td>
<td>not present</td>
</tr>
<tr>
<td>Tables</td>
<td>present</td>
<td>not present</td>
</tr>
</tbody>
</table>

Sources: Data abstracted from:
TABLE 13

A COMPARISON OF AN AMERICAN AND A WEST AUSTRALIAN SOCIAL STUDIES TEXTBOOK FOR TWELVE YEAR OLDS

<table>
<thead>
<tr>
<th></th>
<th>West Australian Textbook Grade 7</th>
<th>Twelve Year Olds</th>
<th>American Textbook Grade 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Program Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Group Work</td>
<td>slight emphasis</td>
<td>major emphasis</td>
<td></td>
</tr>
<tr>
<td>b) Teacher-Pupil Planning</td>
<td>---</td>
<td>slight emphasis</td>
<td></td>
</tr>
<tr>
<td>c) Using Discussions</td>
<td>slight emphasis</td>
<td>major emphasis</td>
<td></td>
</tr>
<tr>
<td>d) Using Committees</td>
<td>---</td>
<td>major emphasis</td>
<td></td>
</tr>
<tr>
<td>e) Using Projects</td>
<td>major emphasis</td>
<td>slight emphasis</td>
<td></td>
</tr>
<tr>
<td>f) Using Inquiry Techniques</td>
<td>slight emphasis</td>
<td>slight emphasis</td>
<td></td>
</tr>
<tr>
<td>2. Discipline Emphasis</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>major emphasis</td>
<td>major emphasis</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>major emphasis</td>
<td>major emphasis</td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>slight emphasis</td>
<td>slight emphasis</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>slight emphasis</td>
<td>slight emphasis</td>
<td></td>
</tr>
<tr>
<td>Economic</td>
<td>slight emphasis</td>
<td>slight emphasis</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Government</td>
<td>---</td>
<td>slight emphasis</td>
<td></td>
</tr>
<tr>
<td>3. Teacher Instructions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lesson Motivation</td>
<td>---</td>
<td>fully detailed</td>
<td></td>
</tr>
<tr>
<td>Specific Questions</td>
<td>---</td>
<td>fully detailed</td>
<td></td>
</tr>
<tr>
<td>Specific Tests</td>
<td>---</td>
<td>fully detailed</td>
<td></td>
</tr>
<tr>
<td>(Objective)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Tests (Essay)</td>
<td>---</td>
<td>fully detailed</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Data abstracted from:


initiative, rather than being the mediator of an almost teacher proof volume.

From the above description it would appear that there were some minor differences in the elementary education received by O.S.U. and S.T.C. students. The O.S.U. population would have had better qualified teachers, smaller classes, a less factually oriented curriculum and more comprehensive, high quality textbooks written by experts from the academic disciplines. Whether these formal education experiences were more conducive to the development of positive inquiry attitudes in O.S.U. students is a matter for conjecture, but the writer feels that this may well have been the case.

High school

As a preliminary to making any objective comparisons about the high school experiences to which the O.S.U. and S.T.C. populations would have been exposed, the writer has included a series of impressions by various authors. These are intended to convey to the reader something of the cross-cultural failings of high schools and the apparent readiness with which writers will vent their vituperations on this topic.

About teaching methods

"History as it is presented in the classroom, by and large, high school or university, is a purely formative discipline. Students
remember and recall, regurgitate and recite. Mentally the student
remains uninvolved."¹⁷ (U.S.A.)

"A daily pattern of verbal teacher questioning and pupil response to
material that has been assigned for home study."¹⁸ (Australia)

About the relative importance of history
and the social sciences

"History and geography are the two social sciences which traditionally
have enjoyed a recognized place in secondary curricula."¹⁹ (Australia)

"Most states have statutory or curricula standards requiring that
American history be taught at specific grade levels. Local and world
history courses are likewise mandated."²⁰ (U.S.A.)

About social studies textbooks

"The textbook assumes an inordinate plane of importance in guiding
the ideas and attitudes of the students."²¹ (U.S.A.)

¹⁷David F. Kellum, The Social Studies: Myths and Realities

¹⁸Robert N. Bush, "The Teacher-Pupil Relationship in
(1958), 41.

News, XI, No. 6 (1967), 5.

²⁰Sam S. Smith, "An Analysis of the Most Commonly Used
American History Textbooks at the Senior High School Level in the
State of Ohio for Apparent Internal Factual Disjunctions" (unpublished

"It would seem that in very many cases, particular textbooks written by private individuals define the content of the course and largely determine its character."\(^{22}\) (Australia)

On a more objective note, it is possible to make a number of comparisons about the high school experiences of the respective populations, despite local variations between individual high schools. For example, all the O.S.U. population would have been exposed to a six year secondary school sequence extending through to their eighteenth year on average, whereas the S.T.C. population would have had only five years, terminating on average in their seventeenth year.

In one sense the O.S.U. population would have been subjected to more compulsory social studies courses, as all Ohio students are required to study:

- Geography, the history of the United States and of Ohio, and national, state, and local government in the United States.
- Every school shall include in the requirements for graduation from any curriculum one unit of American history and government, including a study of the constitutions of the United States and of Ohio.
- Basic instruction in geography, United States history, the government of the United States, the government of the state of Ohio, local government in Ohio, the Declaration of Independence, the United States Constitution, the Constitution of the State of Ohio shall

be required before pupils may participate in courses involving the study of social problems, economics, foreign affairs, United Nations, world government, socialism and communism. 23

The S. T. C. population would have been indirectly channelled into doing certain social studies subjects as a result of their inclusion within specific "academic streams" in which set subjects were offered and taken by all students.

A far greater influence on the S. T. C. population would have been the external examinations taken at the third and fifth years of high school. The successful completion of social studies subjects at the third year level (Junior or Achievement Certificate) is required before fourth or fifth year level subjects can be taken. This hierarchy even extends to the college level in so far that most social science disciplines cannot be studied at this level unless students have successfully passed them at the fifth year high school level (Leaving Certificate). O.S.U. students on the other hand have no prerequisites for taking courses at college although it is recommended that they should have completed some American history and government. 24

23 Columbus Public Schools, Social Studies Resource Guide Senior High Diversified Curriculum (Columbus: Division of Instruction, 1972), pp. 13-14.

24 The Ohio State University, The Ohio State University Bulletin (Columbus: College of Education, 1972), p. 13.
Another major difference is the range of social studies subjects studied at high school (Table 14). The S.T.C. population would have experienced a social studies course during their first three years of high school. This consists of a loosely correlated course in history, geography, economics and civics, organized around major continents and specific countries. Although time is given within the sequence to study Australia and especially Western Australia, they only constitute a moderate share of the total program. By contrast, the first three years of secondary schooling in Ohio schools usually consist of Ohio History and World geography in grade seven, American history in grade eight and an elective, usually civics in grade nine. 25 There would appear to be very little emphasis on any other continents or countries outside of the U.S.A., except to the extent that they were treated in the world geography course.

At the senior high school level the S.T.C. population would have taken one or more of the social studies subjects of history, geography or economics. Other subjects such as sociology, anthropology and political science would have been conspicuously absent in

25This pattern was evident in a number of C.P.S. high schools visited by the writer and confirmed in a nationwide study by W. D. Moreland.
techniques (simulations, case studies, small group activities) all within the rubric of an inquiry/discovery orientation. It was as if Dewey's reflective thinking proposals had been refurbished and represented in a modern day form but with the infusion, in many instances, of definite subject matter concepts introduced and developed in a hierarchical progression.

Despite great variations between the projects in terms of content and procedural emphases, inquiry teaching techniques are dominant in them all. Other distinguishing characteristics of the projects are a little more difficult to isolate but many contain a stress on active thought and reasoning; an emphasis on the processes or stages of thinking; an interdisciplinary examination of problems; the use of relevant concrete cases and an accent in many cases on value clarification. By contrast, traditional forms of social studies teaching have been typically teacher dominated, textbook-recitation approaches, accompanied by little student discussion and often without any supporting audio visual materials. Undoubtedly social studies teachers vary considerably from these two stereotypes, but it would seem that inquiry teaching, as found in the social studies projects, represents a marked change of emphasis.

---

## Table 14

### Social Studies Courses Available at High School in the Western Australian School System and the Columbus Public School System

<table>
<thead>
<tr>
<th>Grade</th>
<th>History (Ancient)</th>
<th>History (American-Australian)</th>
<th>History (State)</th>
<th>History (World)</th>
<th>Geography (State)</th>
<th>Geography (Australian)</th>
<th>Geography (World)</th>
<th>Sociology</th>
<th>Anthropology</th>
<th>Psychology</th>
<th>Economics</th>
<th>Civics</th>
<th>Political Science</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPS 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WA 7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPS 8</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WA 8</td>
<td>150</td>
<td>14</td>
<td>18</td>
<td>150</td>
<td>66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPS 9</td>
<td>75</td>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WA 9</td>
<td>150</td>
<td>134</td>
<td>134</td>
<td>53</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPS 10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WA 10</td>
<td>150</td>
<td>150</td>
<td>150</td>
<td>134</td>
<td>67</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPS 11</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WA 11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CPS 12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**

- CPS = Columbus Public Schools System (Ohio)
- WA = West Australian Schools System

**Sources:**

2. Columbus Public Schools Agreements Booklet, High School (Columbus: Columbus Public Schools, 1962).
all Western Australian high schools. The O.S.U. population would have undertaken more compulsory history courses (possibly world history in grade ten, and American history in grade eleven) and a compulsory government course (possibly problems of democracy in grade twelve). The "newer" social sciences may have been offered in some high schools in the 1960s, but it would seem that this is an innovation which is very recent to the U.S.A. and only then in a few progressive school districts.

Finally, an examination of Table 14 reveals a considerable discrepancy in the number of hours allocated to social studies subjects in the various years of high school. For the first three years of high school, S.T.C. students would have had a slightly greater number of hours in social studies than the O.S.U. students (S.T.C. 380; O.S.U. 450). However, for the senior school years the difference is in favour of the S.T.C. population by up to 204 hours.

In total, the secondary school experiences for the S.T.C. and O.S.U. populations indicate some interesting points of divergence. The Western Australian system appears to include more of the social studies subjects at the junior high school level yet it only caters for

---

26 This is still the case in W.A. high schools. P.H. Partridge, Society, Schools and Progress in Australia (London: Pergamon Press Ltd., 1968), p. 226, considers that this deficiency is due to the intellectual immaturity of the community and the effects of unbiased state controlled Education Departments.
three of the seven social science disciplines at the senior level, despite very liberal time allocations. The American system appears to be heavily weighted toward history, yet a wider choice of the social science disciplines is offered at the senior high school level. It is problematical as to which system would facilitate and encourage inquiry teaching, but on face value it would seem that the S.T.C. students may have had more fruitful experiences.

College

Over the last four or more years the majority of the O.S.U. research population have been located at a large state university which has an annual enrollment of over 40,000 students. Over the last two years they would have been enrolled in the College of Education along with nearly 4,000 other secondary education students and over 200 faculty members. The S.T.C. research population have been located at two institutions over the last four years, namely the Secondary Teachers' College and the University of Western Australia. At the University of Western Australia they would have mixed with some 10,000 other students each year, while at the

27 At the University of Western Australia they would have attended as full time students for the first three years and as part-time students for the fourth year. At the S.T.C. they would have been part-time students for the first three years and full-time students for the fourth year.
Secondary Teachers' College they would have comprised part of the annual number of 1,500 students and interacted with many of the fifty faculty members.

Contrasts between the two systems of college education can best be understood by looking at the components of general education, academic specialization, and professional education (Tables 15, 16 and 17). All the O.S.U. population would have been required to undertake forty-five quarter hours of general education comprising courses from the humanities, literature, foreign languages, music, philosophy, science and social sciences. In addition twelve quarter hours of national defense courses, or their equivalent, are required. The S.T.C. population had no such requirement, the only parallel being the requirement of eight quarter hours from a range of hobbies, arts and crafts (Table 15).

However, the academic specialization component reveals some similarities between the two systems. The S.T.C. population would have undertaken at least forty-five quarter hours in the particular social science that they decided to study for their major. This is somewhat analogous to the thirty quarter hour stipulation for O.S.U. students except that the subject is prescribed, namely history. Other O.S.U. stipulations include eighteen quarter hours of two other

28 The Ohio State University, Bulletin, p. 23.
### TABLE 15

TEACHER EDUCATION REQUIREMENTS IN THE GENERAL EDUCATION COMPONENT AT THE OHIO STATE UNIVERSITY AND THE SECONDARY TEACHERS' COLLEGE

<table>
<thead>
<tr>
<th>O.S.U. Requirements</th>
<th>S.T.C. Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1. SPECIFIC REQUIREMENTS</strong></td>
<td><strong>SPECIFIC REQUIREMENTS</strong></td>
</tr>
<tr>
<td><strong>Cr.</strong></td>
<td><strong>Cr.</strong></td>
</tr>
<tr>
<td><strong>Hrs.</strong></td>
<td><strong>Hrs.</strong></td>
</tr>
<tr>
<td><strong>A. Physical &amp; Health</strong></td>
<td><strong>A. Physical Education</strong></td>
</tr>
<tr>
<td>Education</td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td>Physical Education 4</td>
</tr>
<tr>
<td>Health Education</td>
<td>Health Education 4</td>
</tr>
<tr>
<td></td>
<td><strong>B. American History</strong></td>
</tr>
<tr>
<td></td>
<td>One course if not completed in high school.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>C. English 100</strong></td>
</tr>
<tr>
<td></td>
<td>or equivalent</td>
</tr>
<tr>
<td></td>
<td>English Usage 232 2</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>D. Mathematics</strong></td>
</tr>
<tr>
<td></td>
<td>Mathematics 204 2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td></td>
<td>19</td>
</tr>
<tr>
<td></td>
<td>12</td>
</tr>
<tr>
<td><strong>2. GENERAL EDUCATION</strong></td>
<td><strong>GENERAL EDUCATION</strong></td>
</tr>
<tr>
<td><strong>A. Humanities</strong></td>
<td>Two units or one unit (double time) from the following:</td>
</tr>
<tr>
<td>A minimum of 15 hrs. from 15</td>
<td>Art/Craft</td>
</tr>
<tr>
<td>3 of 4 groups.</td>
<td>Audio Visual Education</td>
</tr>
<tr>
<td>a) Literature</td>
<td>Materials</td>
</tr>
<tr>
<td>English</td>
<td>Clothing and Textiles</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>English Writing</td>
</tr>
<tr>
<td></td>
<td>Drama</td>
</tr>
<tr>
<td>b) Music</td>
<td>Public Speaking</td>
</tr>
<tr>
<td></td>
<td>Film and Television</td>
</tr>
<tr>
<td>c) Philosophy</td>
<td>Manual Arts</td>
</tr>
<tr>
<td>d) Other Humanities</td>
<td>Modern Languages</td>
</tr>
<tr>
<td></td>
<td>Music</td>
</tr>
<tr>
<td></td>
<td>Science</td>
</tr>
<tr>
<td><strong>B. Science</strong></td>
<td><strong>Science</strong></td>
</tr>
<tr>
<td>A minimum of 10 hrs. in biological or physical science and 5 hrs. in remaining section.</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 15--Continued

<table>
<thead>
<tr>
<th>O.S.U. Requirements</th>
<th>S.T.C. Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2. GENERAL EDUCATION</strong></td>
<td><strong>Cr.</strong></td>
</tr>
<tr>
<td><strong>Hrs.</strong></td>
<td><strong>Hrs.</strong></td>
</tr>
<tr>
<td>C. Social Science</td>
<td>15</td>
</tr>
<tr>
<td>A minimum of 10 hrs. in</td>
<td></td>
</tr>
<tr>
<td>one social science and</td>
<td></td>
</tr>
<tr>
<td>5 hrs. in another.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>D. National Defense Option</td>
<td>12</td>
</tr>
<tr>
<td>Military Science, Air</td>
<td></td>
</tr>
<tr>
<td>Force Aerospace, Naval</td>
<td></td>
</tr>
<tr>
<td>Science or 12 credit hrs.</td>
<td></td>
</tr>
<tr>
<td>in other courses not specified above.</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>57</td>
</tr>
</tbody>
</table>
### Table 16

**Teacher Education Requirements in the Professional Education Component at the Ohio State University and the Secondary Teachers' College**

<table>
<thead>
<tr>
<th>O.S.U. Requirements</th>
<th>S.T.C. Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. PROFESSIONAL EDUCATION</strong></td>
<td><strong>Cr.</strong></td>
</tr>
<tr>
<td><strong>Hrs.</strong></td>
<td><strong>EDUCATION</strong></td>
</tr>
<tr>
<td>A. Education Theory</td>
<td>6</td>
</tr>
<tr>
<td>One course from Group 1, one course from Group 2, or Group 3.</td>
<td></td>
</tr>
<tr>
<td>Group 1</td>
<td></td>
</tr>
<tr>
<td>Social Criticism in American Education</td>
<td></td>
</tr>
<tr>
<td>History of Modern Education</td>
<td></td>
</tr>
<tr>
<td>Philosophy of Education</td>
<td></td>
</tr>
<tr>
<td>Group 2</td>
<td></td>
</tr>
<tr>
<td>People, Politics and Schools</td>
<td></td>
</tr>
<tr>
<td>Education in Earlier Times</td>
<td></td>
</tr>
<tr>
<td>Logic in Teaching</td>
<td></td>
</tr>
<tr>
<td>Educational Theory</td>
<td></td>
</tr>
<tr>
<td>Comparative Education</td>
<td></td>
</tr>
<tr>
<td>History of Black Education in America</td>
<td></td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
</tr>
<tr>
<td>Special Topics in History of Education</td>
<td></td>
</tr>
<tr>
<td>Special Topics in Philosophy of Education</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>B. Psychology</strong></th>
<th><strong>B. Psychology</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology 100</td>
<td>5</td>
</tr>
<tr>
<td>Psychology 230</td>
<td>5</td>
</tr>
<tr>
<td>(Ed. Psychology)</td>
<td></td>
</tr>
<tr>
<td>Psychology 551</td>
<td>3</td>
</tr>
<tr>
<td>(Adolescence)</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>13</td>
</tr>
</tbody>
</table>
### TABLE 16--Continued

<table>
<thead>
<tr>
<th>O.S.U. Requirements</th>
<th>S.T.C. Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. PROFESSIONAL EDUCATION</strong></td>
<td><strong>C. Education Methods</strong></td>
</tr>
<tr>
<td></td>
<td>Education 435</td>
</tr>
<tr>
<td></td>
<td>(Theory and Practice in Secondary Schools)</td>
</tr>
<tr>
<td></td>
<td>Education 526</td>
</tr>
<tr>
<td></td>
<td>(Teaching of Social Studies)</td>
</tr>
<tr>
<td><strong>Cr.</strong></td>
<td><strong>5</strong></td>
</tr>
<tr>
<td><strong>Hrs.</strong></td>
<td><strong>4</strong></td>
</tr>
<tr>
<td></td>
<td>Two to be selected from:</td>
</tr>
<tr>
<td></td>
<td>Economics 202D</td>
</tr>
<tr>
<td></td>
<td>History 202F</td>
</tr>
<tr>
<td></td>
<td>Geography 202E</td>
</tr>
<tr>
<td><strong>Minor Methods</strong></td>
<td><strong>9</strong></td>
</tr>
<tr>
<td></td>
<td>Three to be selected from:</td>
</tr>
<tr>
<td></td>
<td>English</td>
</tr>
<tr>
<td></td>
<td>Health Education</td>
</tr>
<tr>
<td></td>
<td>Music</td>
</tr>
<tr>
<td></td>
<td>Library</td>
</tr>
<tr>
<td></td>
<td>Modern Languages</td>
</tr>
<tr>
<td></td>
<td>Mathematics</td>
</tr>
<tr>
<td></td>
<td>Human Relationships</td>
</tr>
<tr>
<td></td>
<td>Science</td>
</tr>
<tr>
<td></td>
<td>Physical Education</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>9</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>D. Teaching Practice</strong></th>
<th><strong>(Ten Weeks)</strong></th>
<th><strong>32</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>43</strong></td>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
TABLE 17

TEACHER EDUCATION REQUIREMENTS IN THE ACADEMIC
SPECIALIZATION COMPONENT AT THE OHIO STATE
UNIVERSITY AND THE SECONDARY TEACHERS' COLLEGE

<table>
<thead>
<tr>
<th>O.S.U. Requirements</th>
<th>S.T.C. Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. ACADEMIC SPECIALIZATION</td>
<td>Cr.</td>
</tr>
<tr>
<td></td>
<td>Hrs.</td>
</tr>
<tr>
<td>A. History</td>
<td>30</td>
</tr>
<tr>
<td>B. Complete 18 hours in any two of the following social sciences: Political Science Economics Sociology Geography Anthropology</td>
<td>36</td>
</tr>
<tr>
<td>C. Select a minimum of two courses in any of the above social sciences not used in either of the two areas of concentration.</td>
<td>24</td>
</tr>
<tr>
<td>D. Additional courses to complete the 95 hour requirement may be selected from: History Political Science Economics Sociology Geography</td>
<td></td>
</tr>
</tbody>
</table>
### TABLE 17--Continued

<table>
<thead>
<tr>
<th>O.S.U. Requirements</th>
<th>S.T.C. Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4. ACADEMIC SPECIALIZATION</strong></td>
<td><strong>Cr.</strong></td>
</tr>
<tr>
<td><strong>Cr.</strong></td>
<td><strong>Hrs.</strong></td>
</tr>
<tr>
<td>Anthropology</td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td></td>
</tr>
<tr>
<td>International Studies</td>
<td></td>
</tr>
<tr>
<td>Social Studies Program Abroad</td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Data derived from:

1. Education Department of Western Australia, Western Australian Secondary Teachers College Calendar 1972 (Perth: Government Printer, 1972), pp. 66-68.

2. The Ohio State University, The Ohio State University Bulletin--College of Education (Columbus: The Ohio State University, 1972), pp. 23-26 and pp. 49-50.
An evaluation of the effectiveness of these programs now seems warranted since the main flurry of activity has passed and a small but significant number of projects have gone beyond the experimental stage into the hands of the publishers and thence to the schools. Are the new inquiry-oriented projects the panacea that many academics have so glowingly reported?

It would seem that the planning, preparation and publishing of high quality social studies material by top academic scholars was a laudatory and necessary first step. In fact if the leading academics had not become involved it is most unlikely that the substantial amounts of federal funding would have been made available to such a large number of projects. However, this is only the first step in the total sequence of having new social studies curricula taught in high schools. Other important considerations must include gaining the confidence of school systems and more especially, eliciting positive responses from teachers so that they will be ready and eager to teach the new courses.

It is in the area of teacher attitudes that the writer is most interested, because without the grassroots concern of the classroom teacher the multi million projects will be doomed to failure. The writer considers that the diffusion of the new projects will only be successful if intensive orientation programs are undertaken at the teacher education level to ensure a sizeable supply of teachers well
social sciences; a minimum of two courses in any of the remaining three social sciences, philosophy or the social studies study abroad program.

It is evident from Table 17 that far less rigid prescriptions are required of the S. T. C. students. Apart from the forty-five quarter hours in their major subject, there is a relatively unrestricted number of subjects that can be included to make up the total of 117 quarter hours.\(^{29}\) It should be noted, however, that the S. T. C. students have a much more limited range of courses available to them due to the relative sizes of the colleges and the levels of specialization. As an example, a complete listing of all history courses available at the University of Western Australia and The Ohio State University is shown in Table 18.

The professional education component, consisting of education theory, psychology, education methods and student teaching is included in varying proportions in both systems (Table 16). At O.S.U., students are only required to take six quarter hours in education theory whereas their S. T. C. counterparts would have completed

\(^{29}\)For example, students majoring in history could choose from a wide range of emphases including: History with Economics studies; with Geography studies; with Classical studies; with a foreign language; with English; with Anthropology; with Philosophy; and with Politics, as listed in University of Western Australia, The University of Western Australia: 1972 Calendar (Perth: Alpha Print, 1971), pp. 268-269.
TABLE 18
RELATIONSHIP BETWEEN COURSES AVAILABLE IN HISTORY AT THE OHIO STATE UNIVERSITY AND THE UNIVERSITY OF WESTERN AUSTRALIA

<table>
<thead>
<tr>
<th>History (per quarter)</th>
<th>The Ohio State University</th>
<th>University of Western Australia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>U credit hours</td>
<td>U-G credit hours</td>
</tr>
<tr>
<td>Ancient Greek Roman</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>Mediaeval</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Africa &amp; Middle East Jewish</td>
<td>30</td>
<td>29</td>
</tr>
<tr>
<td>Americas</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>North America</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Great Figures</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Latin America</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Central America</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>British Great Figures</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>East Asia</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Japan</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Chinese</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Russian</td>
<td>5</td>
<td>34</td>
</tr>
<tr>
<td>Australian</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Europe Great Figures</td>
<td>10</td>
<td>96</td>
</tr>
<tr>
<td>Western Civilization</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Thematic Courses</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Research Methods</td>
<td>arr</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The Ohio State University</td>
<td>University of Western Australia</td>
</tr>
<tr>
<td>------------------</td>
<td>---------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>History (per quarter)</td>
<td>U credit hours</td>
<td>U-G credit hours</td>
</tr>
<tr>
<td>Interdepartmental Seminars</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Individual Studies</td>
<td>3</td>
<td>arr</td>
</tr>
<tr>
<td>Group Studies</td>
<td>5</td>
<td>10</td>
</tr>
</tbody>
</table>

**Abbreviations**

- **U** = Courses available only to Undergraduates
- **U-G** = Courses available to Undergraduates and Graduates
- **G** = Courses available only to Graduates
- **SG** = Seminar Courses available only to Graduates
- **arr** = Credit hours are arranged on an individual basis

**Sources:** Data abstracted from:


- University of Western Australia, Faculty of Arts Course Offerings, (Nedlands: University of Western Australia, 1972), pp. 23-27.
twenty-seven quarter hours. A similar pattern is noted in the O.S.U. requirements of nine quarter hours of methods courses (general method, social studies method) whereas S.T.C. students undertake twenty-one hours (general method; two out of history method, geography method; economics method; social studies method and two other minor methods). The same trend is noted with the respective requirements for student teaching. S.T.C. students undertake twenty-two weeks of student teaching compared with only ten weeks for O.S.U. students.

Teacher certification for O.S.U. students is accomplished upon completion of the above requirements for the baccalaureate degree. Each individual has then the unenviable task of making applications to numerous school districts in an endeavor to secure his first teaching position. Teacher certification for the S.T.C. population is accomplished after completion of the baccalaureate degree plus the diploma of education (or its equivalent). Since all S.T.C. students are admitted into college as "employees" on an annual allowance, they are automatically placed into suitable teaching positions upon graduating. However, beginning teachers are required to work for the Western Australian Education Department for a minimum of three years as a bond in exchange for the allowances they received whilst attending college.
The differing student roles and statuses implied above may have important repercussions in terms of student attitudes about education in general and teaching in particular. Critics condemn the master-servant relations implicit within the inbred system which has operated at S.T.C.\(^{30}\) Because the students are paid employees they are even required to undertake courses at S.T.C. during the university holidays. In addition, they are required to have regular consultations with a S.T.C. tutor who checks their performance in all their university courses.

These relationships may appear onerous to many educationalists but in some ways, it would seem that a definite professionalism and a sense of purpose is created by requiring students to undertake a lengthy and strenuous program. From their initial entry into S.T.C., students have one purpose, namely to become successful and effective high school social studies teachers.

On the other hand, the O.S.U. students have far less restrictions on their time. They have to be financially independent and for many this entails maintaining a part-time job concurrently with their studies. The range of social, cultural and political organizations on campus enable the preservice teacher students to mix readily with all

types of students including a large number of graduate students holding influential campus positions. The atmosphere on campus would appear to encourage diversity and nonconformity compared with the conforming, conservative practices required of the S.T.C. students.

In the next chapter a series of sub-hypotheses about college experiences are tabled and tested out with the questionnaire data. To a certain extent the nonconformist/conformist dichotomy between the two populations is evident in the statistical results.

B. Research Design

The above details about the two research populations point up some of the many similarities and dissimilarities between their backgrounds, especially with regard to formal education experiences. It was the realization of some of these differences, particularly at the college level, which led the writer to research, design and implement the present study.

It was not intended to produce a research design to evaluate the efficacy of inquiry teaching techniques. Rather, it was assumed that inquiry teaching in social studies permeates a whole range of techniques which may provide effective, satisfying teaching and thereby effective learning experiences. The major focus around which the research design was built involved two separate but interrelated issues. The first of these centered upon what preservice teachers knew and felt about inquiry teaching techniques in social studies.
The second focussed on the sources of these understandings and attitudes and whether they were related to particular college courses.

In many ways the writer considers this to be an exploratory study. As indicated on the following pages there are severe limitations to studying merely the attitudes of preservice teachers. On the other hand, if the study is considered as a preliminary in which promising hypotheses can be re-examined in the future within a more comprehensive design, there does seem some justification for it. The paucity of research on comparative teacher education topics indicates that such an initial venture, even though limited in size and scope, is urgently needed. In the words of Campbell and Stanley we can justify these studies "not as a panacea but rather as the only available route to cumulative progress"—and that we must be willing to accept not only "a poverty of finances but also a poverty of experimental results."\(^31\)

This study utilizes the static group comparison research design in which outcomes from two populations are examined at a point in time. The outcomes or dependent variables are the preservice teacher attitudes to inquiry teaching and the related teacher characteristics.

Limitations

The design makes the assumption that the populations are homogeneous on all other aspects except X, the dependent variable. As indicated earlier in this chapter, homogeneity of the populations was evident for many personal attributes (age, intelligence, marital status, native born, religion, social class, dogmatism, openmindedness) and several informal education experiences (overseas travel experience, reading and television viewing habits). However, there is no certainty that the writer has included all relevant non X factors. To this end an extensive study of the literature and a pilot study was utilized to try to include all relevant data about the populations, but this still remains an inherent weakness of the design.

Another limitation is the measure of the relationships between the variables. The attitudes to inquiry teaching and related preservice teacher characteristics are both measured in terms of their degree of correlation. Significant correlations between variables do not necessarily indicate "strong" relationships and consequently there is no basis for attributing causality or making predictions based upon these associations. Instead, correlational relationships are chiefly useful in providing pointers for comprehensive experimental research, as indicated previously. For example:
If a zero correlation is obtained the credibility of a hypothesis is lessened. If a high correlation occurs, the credibility of the hypothesis is strengthened in that it has survived a chance of disconfirmation.32

Results from correlational studies must be considered as relatively equivocal until such time as they have been replicated in different situations with different populations.

Certain difficulties are also involved when the total population size is relatively small, in this instance only 138. Administrative problems precluded obtaining a larger sample from S. T. C., Western Australia and consequently from O. S. U. Nevertheless an analysis of the results supported many of the findings cited by other researchers in teacher education.33 On this basis it would seem that the research populations did represent a normal population of such individuals as might choose the teaching of social studies in secondary schools as a profession.

Any empirical study is confined to the assumptions underlying the measuring instrument that is adopted.34 In this instance the semantic differential was chosen, because unlike other instruments,

32Ibid., p. 232.

33See research findings by Cook, McLeish and Dickson as described in Chapter III, pp. 116-117.

it could be used specifically to measure inquiry teaching attitudes among preservice teachers. Despite a great number of supportive studies that have been undertaken with the semantic differential, there is always the unsubstantiated assumption that this instrument is suitable for measuring attitudes. More specifically, it is assumed without any means of verification, that the research populations understood the directions and scales of the instrument.

The choice of the optimum time for administering a survey is always open to question. In this study the writer arranged for both research populations to complete the questionnaire after they had all experienced at least five weeks of student teaching. The rationale behind this move was to ensure that all the preservice teachers had an experiential base which could be drawn upon to answer certain questions in the survey.

Finally, any study is limited by the activities of the personnel who administer the instruments. Comparability of administrative procedures was designed by providing elaborate questionnaire instructions for both the S.T.C. population and the O.S.U. population. The writer administered the survey to the O.S.U. population and a

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35 For example, other standardised instruments such as the Carnegie Test for Social Studies Inquiry Skills, M.T.A.I., Kerlinger's ES-VI, and Rokeach's Dogmatism Scale don't have this degree of flexibility.
acquainted with the material and having the necessary desires to want to use them. Practising teachers with established routines and teaching styles may readily accept the new techniques, but the chances are surely less than with preservice teachers who have not developed definite classroom strategies.

Little empirical research is available on either the efficacy of individual social studies projects or on teachers' attitudes about the projects in general and inquiry teaching techniques in particular. This study is being undertaken in an attempt to provide some specific information and thereby to help reduce the research void.

**Delimitation of the Study**

In this study the writer will focus on specific inquiry teaching techniques common to the social studies projects, including both teacher initiated and student initiated activities. That is, the emphasis will not be on any one project but the teaching techniques common to most of them.

The populations with which the writer will be concerned comprise preservice social studies teachers who have completed all or a large proportion of their academic specialization and education courses and have had student teaching experience. Consequently, the surveys will be concerned with tapping the attitudes and opinions of preservice teachers at the termination of their teacher education experience prior to their appointment as class teachers.
professorial colleague in Western Australia administered the survey
to the S. T. C. population. It would appear that no major complications
arose in the administration of the surveys but it cannot be assumed
that there were no differential effects due to slight variations in
administrative procedures.

Hypotheses

This study had three major hypotheses stated in the null form.

1. That there are no positive attitudes toward selected inquiry
techniques in social studies among preservice teacher populations
from The Ohio State University (U.S.A.) and the Secondary
Teachers' College (W.A.).

2. That no differences in attitudes toward selected inquiry teaching
techniques in social studies exist between the preservice teacher
population from The Ohio State University (U.S.A.) and the
preservice teacher population from the Secondary Teachers'
College (W.A.).

Specifically:

a) That no difference exists between the O.S.U. and S.T.C. popu-
lations on the basis of total evaluation scores derived from the
semantic differential.

b) That no difference exists between the O.S.U. and S.T.C. popu-
lations on the basis of total potency scores derived from the
semantic differential.

c) That no difference exists between the O.S.U. and S.T.C.
populations on the basis of total activity scores derived from the semantic differential.

d) That no difference exists between the O.S.U. and S.T.C. populations on the basis of specific teacher behavior items included in the semantic differential.

e) That no difference exists between the O.S.U. and S.T.C. populations on the basis of specific student behavior items included in the semantic differential.

3. That there are no statistically significant relationships between preservice teacher characteristics and their attitudes to selected inquiry teaching techniques in social studies.

Specifically:

Personal Attributes

a) That no difference exists between the scores of male and female preservice teachers in the O.S.U. and S.T.C. populations.

b) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of age.

c) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of nationality.

d) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of marital status.

e) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of religious affiliation.

f) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of social class.

g) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of dogmatism.

h) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of openmindedness.
i) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of career orientation.

**Information Education Experiences**

j) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of part-time job experiences.

k) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of overseas travel experience.

l) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of reading habits (fiction books).

m) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of reading habits (nonfiction books).

n) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of television viewing habits (nonfiction programs).

o) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of television viewing habits (news programs).

**Formal Education Experiences**

p) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of selected high school opportunities to search out answers and test hypotheses.

q) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of having undertaken selected general education courses at college.

r) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of having undertaken selected courses in history and the social sciences at college.
s) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of education theory courses taken at college.

t) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of social studies methods courses taken at college.

u) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of student teaching experiences.

Measuring instruments

1. The Semantic Differential

The semantic differential is a graphic rating instrument which has been extensively used to measure peoples' reactions to objects and events in terms of ratings on scales. It has been particularly successful for measuring attitudes because the purposes of the instrument are more obfuscated than with other techniques and consequently subjects don't seem to be so concerned about the social repercussions of their ratings.

Practically any concept can be measured by the semantic differential, from single words to phrases. In the past such concepts have included "Democrat," "progressive," "myself as a teacher," "the fifth amendment," "high school social studies," "United Nations" and "communist infiltration into local institutions."36 A series of

bipolar adjective scales are used to rate each concept. Each scale in effect, sets up a semantic space, which can be represented by a straight line function divided into a number of equal intervals. Usually the number of intervals is limited to seven, as research has shown that most subjects are unable to make more than seven discriminations simultaneously. 37

The adjectives selected for the bipolar opposites depend on the dimensions which the experimenter wants the instrument to measure. Factor analyses of semantic differential data consistently demonstrate that there are three major dimensions of rating response--evaluation, activity and potency. 38 That is, adjectives such as "good-bad" would measure the evaluation dimension, "fast-slow" would measure the activity dimension and "strong-weak" would measure the potency dimension. Because the evaluation dimension consistently accounts for more than twice the variance of either of the other two, it is usual for a majority of evaluation scales to be included with a smaller representation of activity and potency scales.


38 The three dimensions have emerged in studies utilizing twenty-four different languages as described in David R. Heise, Ibid., 413.
An example is possibly the most effective way of describing the scoring of a concept on the semantic differential.

### TABLE 19

**AN EXAMPLE OF THE FORMAT OF A SEMANTIC DIFFERENTIAL CONCEPT**

<table>
<thead>
<tr>
<th>To Treat Controversial Issues</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>(E) optimistic</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(1) pessimistic</td>
</tr>
<tr>
<td>(A) passive</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(7) active</td>
</tr>
<tr>
<td>(E) interesting</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(1) boring</td>
</tr>
<tr>
<td>(P) strong</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>(1) weak</td>
</tr>
<tr>
<td>(A) static</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>(7) dynamic</td>
</tr>
<tr>
<td>(E) meaningless</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>(7) meaningful</td>
</tr>
<tr>
<td>(P) constrained</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>(7) free</td>
</tr>
<tr>
<td>(E) regressive</td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td>(7) progressive</td>
</tr>
<tr>
<td>(E) successful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
<td></td>
<td>(1) unsuccessful</td>
</tr>
</tbody>
</table>

In this example subjects are asked to rate the concept "to treat controversial issues" using the nine bipolar scales which are comprised of five evaluation (E), two activity (A) and two potency (P). The desired adjective of each pair has been randomly placed in both columns to prevent guessing. The subjects are asked to interpret what the concept means to them after it has been explained.
that it is an individual decision and that there are no right or wrong answers.

In each line they place a mark in the interval which accords with how appropriate the bipolar opposites appear to them for describing the concept. Each subject's markings on the concept can then be quantified using the number key indicated in parenthesis on each line. Thus in the above example the subject's score on the evaluation scales would be 6, 5, 6, 6, 5, a total of 28; 5, 7, a total of 12 on the activity scales; and 7, 7, a total of 14 on the potency scales; giving a total score of 54 for the concept.

It is likely that the validity and reliability of the semantic differential is very high indeed. In one of the latest reviews of research utilizing the semantic differential Heise maintains that:

There is probably no social psychological principle that has received such resounding cross-group and cross-cultural verification as the evaluation-potency-activity structure of semantic differential ratings. Furthermore, few traditions of research are associated with comparable productivity or with the richness of findings that has developed in semantic differential applications. 39

Nevertheless, researchers have pointed out certain precautions that must be checked in any study utilizing the semantic differential. Deese warns of the necessity of choosing truly opposite

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39Ibid., 421.
adjective pairs. Di Vesta and Dick indicate that evaluation scales should comprise a large proportion of the scales as they have the highest test-retest correlations. To prevent concept-scale interaction (mixing of the three dimensions) it is important to include a sufficient number of concepts, covering several areas of interest.

Selection of scales and concepts

In this study the writer attempted to overcome the above weaknesses by using a comprehensive pilot study to determine the most suitable scales and concepts.

In an endeavor to select suitable concepts to measure attitudes to inquiry teaching techniques, the writer surveyed over twenty-five recently published books and journals dealing with inquiry teaching in social studies. From these sources a list of one hundred and two concepts was compiled. The next step involved a thorough perusal of the list, selecting those concepts that appeared to evoke a wide range of opinions and being careful to eliminate those that were largely


The resulting fifty-five concepts were then listed in random order and presented to sixty-three seniors enrolled in the social studies methods course in the Autumn quarter at O.S. U.

These results were then subjected to a factor analysis program from which it was relatively easy to select the eleven concepts which received the highest factor loadings. These eleven concepts were then presented in random order in the final form of the semantic differential.

To curb the occurrence of scale errors it was decided that nine scales should be used and that they would consist of five evaluation, two activity and two potency. In an attempt to procure factorially pure scales for each of the three dimensions, bipolar adjectives were selected from Osgood's Thesaurus study. An initial list was compiled consisting of twenty-three evaluation, eight potency and seven activity paired—adjectives. This list was then given to sixty-two social studies student teachers during the Autumn quarter at O.S. U. They were asked to rank the adjectives on each of these three sets of scales in terms of their suitability for describing teaching methods and techniques in social studies. It was then

43It was necessary to select equal numbers of positive and negative concepts about inquiry teaching techniques, of which one half referred to teacher behaviors and one half to student behaviors.

possible to select the five most frequently listed evaluation pairs, and in a similar manner two activity and two potency word pairs.

Details of the pilot studies are listed in Appendix A and the final form of the semantic differential as given to the O.S.U. and S.T.C. populations is included in Appendix B.

2. **The Personal Inventory**

It was necessary to include an extensive biographical inventory to compare attitude scores with selected teacher characteristics. In an endeavor to provide an appropriate instrument the writer undertook another pilot study.

As a preliminary step, an extensive review of research on teacher characteristics was undertaken. From an analysis of these studies a series of questions were compiled relating to preservice teachers' personal attributes, informal education experiences and formal education experiences. The number of questions pertaining to each of these three sections consisted of ten, twenty-four and forty-one respectively, making a total inventory of seventy-five questions. In this trial inventory forced choice answers were required in the form of "yes/no" or "very useful/fair/not useful" categories.

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45 This is described in Chapter III, pp. 96-115.
MARSH, Colin James, 1939-  
A COMPARATIVE STUDY OF PRESERVICE TEACHER ATTITUDES TO SELECTED INQUIRY TEACHING TECHNIQUES IN SOCIAL STUDIES AT THE OHIO STATE UNIVERSITY (UNITED STATES OF AMERICA) AND THE SECONDARY TEACHERS' COLLEGE (WESTERN AUSTRALIA).

The Ohio State University, Ph.D., 1973
Education, teacher training

University Microfilms, A XEROX Company, Ann Arbor, Michigan

THIS DISSERTATION HAS BEEN MICROFILMED EXACTLY AS RECEIVED.
The writer fully appreciates the limitation of his study in so far that no attempt will be made to measure subjects' teaching activities in the classroom. However, the writer considered that an observation of subjects in their student teaching situation would have been inappropriate because of the artificial controls maintained by cooperating teachers and supervisors. Conceivably it might take a beginning teacher even longer than his first year of teaching to try out and experiment with specific techniques and methods. That is, a truly comprehensive study of inquiry teaching would by necessity have to be longitudinal in nature; involve surveys for each year of college training and for the first several years of teaching; and utilize a battery of instruments including questionnaires, interviews and observation ratings. By contrast, what the writer is proposing is indeed minor but it may have value as an exploratory study in a research field characterized by a dearth of empirical evidence.

The study as proposed is analogous to a medical practitioner taking a patient's temperature prior to his undertaking a certain activity. During the activity the patient's temperature might rise considerably or even fall, but the initial assessment by the doctor would give some indication of his likely temperature level during the activity. The surveying of preservice teachers prior to their appointment as classroom teachers may not be entirely appropriate. In the classroom situation a subject may reject the techniques
The trial inventory was administered to forty-five O.S.U. students who were undertaking student teaching with social studies classes during the Autumn quarter. The completed questionnaire results were put on punch cards and submitted to a computer program from which a correlation matrix and factor analysis were obtained. Four major factor patterns were obtained, which the writer labelled as "awareness of teaching techniques," "interest in teaching," "attitude to inquiry teaching" and "mature teaching outlook." The results were sufficiently encouraging, even with the small population, to indicate that it was possible to isolate characteristics that were correlated with positive attitudes to inquiry teaching techniques in social studies. Towards this end and using information gained from the pilot study, the writer made extensive alterations to the trial inventory. As a result many deletions and additions were made, with a large number of items being reworded (Tables 20-22). The forced choice alternatives were increased to four and standardized adjective categories were utilized.

The final version of the inventory consisted of 151 items with the format sequence being personal attributes, informal education experiences and formal education experiences. A separate inventory had to be produced for each population to accommodate variations in

46 The details are set out in Appendix C.
### TABLE 20

**A SUMMARY OF ITEM ACCEPTANCE ON PERSONAL ATTRIBUTE VARIABLES INCLUDED IN THE TRIAL INVENTORY**

<table>
<thead>
<tr>
<th>Personal Attributes</th>
<th>Retained</th>
<th>Modified</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Sex</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Religious Denomination</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Frequency of attendance at church</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>5. Marital status</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>6. Occupation of father</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>7. Educational level of father</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>8. Income level of father</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>9. Number of children in the family</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>(of which you are a son or daughter)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Parental control over you as a child</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

the titles of high school and college subjects and other minor differences in nomenclature. Every effort was made to maintain complete parity between the two inventories.

---

47 See Appendix D.


<table>
<thead>
<tr>
<th>Informal Education Experience</th>
<th>Retained</th>
<th>Modified</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overseas travel experience</td>
<td>x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Full time jobs prior to entering college</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>3. Part time jobs prior to entering college</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>4. Reading interests</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>5. Television viewing interests</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>6. Interest in current events</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>7. Positions of responsibility in local community</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>8. Positions of responsibility in sporting organizations</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>9. Positions of responsibility in educational organizations</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>10. Positions of responsibility in religious organizations</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>11. Positions of responsibility in civic organizations</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>12. Positions of responsibility in aesthetic and cultural organizations</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>13. Category of residence whilst attended college</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>14. Choice of area for first teaching appointment</td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>
TABLE 22

A SUMMARY OF ITEM ACCEPTANCE ON FORMAL EDUCATION VARIABLES INCLUDED IN THE TRIAL INVENTORY

<table>
<thead>
<tr>
<th>Formal Education Experiences</th>
<th>Retained</th>
<th>Modified</th>
<th>Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Listing of subjects undertaken at high school</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>2. Preferences (likes and dislikes) for these high school subjects</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>3. Reasons for preferences for these high school subjects</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>4. Listing of courses undertaken at college</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>5. Preferences (likes and dislikes) for these college courses</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>6. Reasons for preferences for these college courses</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>7. Evaluation of the social studies methods course</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>8.-14. Suitability for undertaking inquiry teaching</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>15.-19. Personal development and professionalism</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>20. Number of weeks of student teaching</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>21.-25. Classroom techniques</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>26. Did you like social studies at high school?</td>
<td></td>
<td></td>
<td>x</td>
</tr>
<tr>
<td>27. Listing of teaching techniques that good teachers used at high school</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>28. Listing of subjects at high school in which teachers used inquiry techniques</td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>29. Listing of courses at college in which instructors used inquiry techniques</td>
<td></td>
<td>x</td>
<td></td>
</tr>
</tbody>
</table>
Implementation

Both instruments were administered in the one session which for most students took approximately one hour. The writer administered the instruments to the O.S.U. population. He was careful to point out that the anonymity of the questionnaire respondents would be upheld and because of this assurance, students should provide honest, accurate answers. A specific instruction sheet was supplied with the semantic differential and this was carefully presented by the instructor before allowing students to commence the papers. Exactly the same instructions were posted to the writer's colleague at the Secondary Teachers College in Western Australia. From subsequent correspondence with Mr. John McKenzie, Head of the Department of Social Sciences at the Secondary Teachers College, the writer was assured that the procedures had been carried out as requested. The survey sessions for both groups occurred during February-March, 1973.

Statistical Analysis

The completed questionnaire from both populations were duly processed and the data was placed on punch cards. Computer programs were selected and run on the computers available within the Baker Systems Engineering building at The Ohio State University. The statistical measures used included t tests of significance for
hypothesis one, analysis of variance (F ratios) for hypothesis two, and correlation matrices, factor analyses and t tests of significance for hypothesis three. A detailed analysis and interpretation of the results is presented in the next chapter.

**Summary**

Because of the comparative nature of the study, it was considered that background information on the research populations was needed prior to detailing the research design and instruments. The background data was provided within the same format utilized in the preceding chapter, namely personal attributes, informal education experiences and formal education experiences.

An examination of selected personal attributes of the O.S.U. and S.T.C. populations revealed a considerable degree of homogeneity especially with regard to age, intelligence level, marital status, religious affiliation, social class and level of dogmatism. Of the informal learning experiences selected for comparison, similarities were noted for overseas travel experience and television viewing habits, with moderate dissimilarities for part-time job experiences and reading habits.

The major focus however was on formal education experiences through elementary school, high school and college, despite the realization that diversities between schools permitted only general
comparisons to be made. At the elementary school level it was considered that the S.T.C. and O.S.U. research populations had been exposed to similar learning experiences in social studies. In both countries in the 1950s concentric circle curriculum sequences predominated in social studies. Minor contrasts between the two countries were in terms of the relative importance and use of textbooks and differences in emphasis between studying the native country in some depth (O.S.U.) versus introducing students to other countries at an early age (S.T.C.)

At the high school level more substantial contrasts were noted between the O.S.U. and S.T.C. populations. The American sequence of high school courses with a strong emphasis on American history, state history and government had no parallel in Western Australia. Other dissimilarities were noted in terms of a correlated social studies course for three years (S.T.C.) and in the wider choice of electives in the senior years (O.S.U.).

The college education experiences for both populations were analyzed in some detail. Apart from physical differences in campus size, major contrasts were revealed in terms of general education, academic specialization and professional education components. It was conjectured that the O.S.U. students had less restrictions placed upon them but that they may in turn have experienced other
problems such as the financing of their college years and the obtaining of a teaching position.

In the second section of the chapter details were given of the research design utilized with the two populations. A static group comparison design was described in which attitudes to inquiry teaching and selected teacher characteristics were the dependent variables. It was stressed that the study was largely explorative in so far that only attitudes prior to permanent classroom teaching were being measured.

The three major hypotheses pertaining to attitudes to inquiry teaching techniques and related teacher characteristics were related in full as were the two instruments to be used to assess their validity. The semantic differential and personal inventory were described in terms of their format, methods of scoring and levels of reliability and validity. Details of pilot studies were also included as these played a vital part in determining suitable scales and concepts for the semantic differential and specific category items for the personal inventory. Finally, a brief delineation was made of the administrative procedures and the types of statistical analysis to be utilized.
The basic analysis procedure for analyzing the data involved taking each of the 102 variables for the two research populations and statistically testing for significant differences. The most appropriate format for analyzing and presenting the results appeared to be in terms of the hypotheses. Consequently in this chapter the sequence of analysis is in terms of the three hypotheses and their respective subsections.

Hypothesis 1

That there are no positive attitudes toward selected inquiry teaching techniques in social studies among preservice teacher populations from The Ohio State University (U.S.A.) and the Secondary Teachers' College (W.A.).

The attitude scores from the semantic differential in terms of total scores and three component scores of evaluation, potency and activity are set out in Tables 23-26. An examination of the frequencies revealed that normal curve distributions were evident for all
TABLE 23

DISTRIBUTION OF TOTAL SCORES ON THE SEMANTIC DIFFERENTIAL

<table>
<thead>
<tr>
<th>Range</th>
<th>O.S.U. Population f</th>
<th>S.T.C. Population f</th>
</tr>
</thead>
<tbody>
<tr>
<td>676 - 700</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>651 - 675</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>626 - 650</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>601 - 625</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>576 - 600</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>551 - 575</td>
<td>11</td>
<td>7</td>
</tr>
<tr>
<td>526 - 550</td>
<td>16</td>
<td>SM(531) 17</td>
</tr>
<tr>
<td>501 - 525</td>
<td>SM(524) 14</td>
<td>7</td>
</tr>
<tr>
<td>476 - 500</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>451 - 475</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>426 - 450</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>401 - 425</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>376 - 400</td>
<td>TM(396) 1</td>
<td>TM(396) 0</td>
</tr>
<tr>
<td>351 - 375</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>326 - 350</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>301 - 325</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>276 - 300</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>251 - 275</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>226 - 250</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>201 - 225</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>176 - 200</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>151 - 175</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>126 - 150</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>99 - 125</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

N = 75

N = 63

(SM = Sample Mean; TM = Theoretical Mean)
completely due to faculty pressure, the school press or just unruly classes! Nevertheless an assessment of the subjects' initial attitudes should give an indication of his future activities in the classroom.

Empirical research is replete with experiments involving traditional teaching versus non-traditional teaching. In an endeavor to avoid conceptual and practical errors implicit in establishing groups with and without teacher education exposure to inquiry teaching techniques, the writer will adopt an alternative approach. For purposes of comparison a similar number of preservice teachers in another country will be utilized, namely social studies students at the Secondary Teachers' College, Western Australia.

The Western Australian education system is characterized by a high degree of central control in which external examinations tend to influence the curriculum and the courses available. On face value, the system appears to be markedly at variance with the American decentralized system containing a diversity of courses with no major external examination controls. Taking the contrasts still further, no upsurge of activity in the social studies occurred in Western Australia in the 1960s. There were no academic scholars devising major curriculum changes and no financial encouragement forthcoming from private or federal government agencies. The only changes to social studies courses over the last decade have been low key, ad hoc
**TABLE 24**

**DISTRIBUTION OF EVALUATION SCORES ON THE SEMANTIC DIFFERENTIAL**

<table>
<thead>
<tr>
<th>Range</th>
<th>O.S.U. Population $f$</th>
<th>S.T.C. Population $f$</th>
</tr>
</thead>
<tbody>
<tr>
<td>370 - 384</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>355 - 369</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>340 - 354</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>325 - 339</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>310 - 324</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>295 - 309</td>
<td>12</td>
<td>13</td>
</tr>
<tr>
<td>280 - 294</td>
<td>SM(288) 20</td>
<td>SM(289) 10</td>
</tr>
<tr>
<td>265 - 279</td>
<td>9</td>
<td>13</td>
</tr>
<tr>
<td>250 - 264</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>235 - 249</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>220 - 234</td>
<td>TM(220) 4</td>
<td>TM(220) 3</td>
</tr>
<tr>
<td>205 - 219</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>190 - 204</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>175 - 189</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>160 - 174</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>145 - 159</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>130 - 144</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>115 - 129</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>100 - 114</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>85 - 99</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>70 - 84</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55 - 69</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**N = 75**  
**N = 63**

*(SM = Sample Mean; TM = Theoretical Mean)*
TABLE 25

DISTRIBUTION OF POTENCY SCORES ON THE SEMANTIC DIFFERENTIAL

<table>
<thead>
<tr>
<th>Range</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>154 - 164</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>143 - 153</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>132 - 142</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>121 - 131</td>
<td>23</td>
<td>17</td>
</tr>
<tr>
<td>110 - 120</td>
<td>SM(118) 17</td>
<td>SM(120) 19</td>
</tr>
<tr>
<td>99 - 109</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>88 - 98</td>
<td>TM(88) 7</td>
<td>TM(88) 4</td>
</tr>
<tr>
<td>77 - 87</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>66 - 76</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55 - 65</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>44 - 54</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33 - 43</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>22 - 32</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

N = 75          N = 63

(SM = Sample Mean; TM = Theoretical Mean)

categories. This is a necessary prerequisite for the tests of significance which were used with the results.

The first hypothesis has no subsections and simply states that both populations had positive attitudes about inquiry teaching techniques in social studies. This is a vital assumption as all subsequent hypotheses are based upon this premise. The chief difficulty lies in determining a quantitative meaning for "positive attitudes" as no control groups were used and there is consequently no benchmark for comparison.
TABLE 26
DISTRIBUTION OF ACTIVITY SCORES ON THE SEMANTIC DIFFERENTIAL

<table>
<thead>
<tr>
<th>Range</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>154 - 164</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>143 - 153</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>132 - 142</td>
<td>10</td>
<td>9</td>
</tr>
<tr>
<td>121 - 131</td>
<td>18</td>
<td>SM(120) 26</td>
</tr>
<tr>
<td>110 - 120</td>
<td>SM(117) 23</td>
<td>17</td>
</tr>
<tr>
<td>99 - 109</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>88 - 98</td>
<td>TM(88) 4</td>
<td>TM(88) 2</td>
</tr>
<tr>
<td>77 - 87</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>66 - 76</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>55 - 65</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>44 - 54</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>33 - 43</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>22 - 32</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

N = 75
N = 63

(SM = Sample Mean; TM = Theoretical Mean)

Fortunately, statisticians have at their disposal a measure which can be used when there is only one sample and no criterion group. In this case the sample mean of the population can be compared with the theoretical mean for the same population. The minimum total score possible on the semantic differential was ninety-nine while the highest possible score was 693. The theoretical mean for the population was therefore 396. That is, in a normal distribution it could be assumed, ceteris paribus, that scores on the semantic differential should be clustered around the mean of 396. The fact that they were
clustered around much higher means, namely 524 for the O.S.U. population and 531 for the S.T.C. population, indicates that positive attitudes to inquiry teaching were present in both groups.

The differences can be shown statistically, using the following formula:

\[
t = \frac{\bar{X} - \bar{Y}}{\sqrt{\frac{SD^2}{N-1}}}
\]

where \( t \) = t test value

\( \bar{X} \) = sample mean

\( \bar{Y} \) = theoretical mean

\( SD \) = standard deviation of sample

\( N \) = sample size

O.S.U. \( t = 19.45 \) = significant at .01 level (2.37)
S.T.C. \( t = 19.48 \) = significant at .01 level (2.39)

That is, the t ratios for both populations were well above the levels required to indicate statistically significant differences. Based upon this evidence, it can be stated that both populations did contain students with positive attitudes to selected inquiry teaching techniques in social studies.

Statistical analysis of the three component totals corroborates this finding.
Evaluation Totals:  
O.S.U.  \( t \) value = 18.65 (sig.)  
S.T.C.  \( t \) value = 18.40 (sig.)  

Potency Totals:  
O.S.U.  \( t \) value = 18.72 (sig.)  
S.T.C.  \( t \) value = 15.69 (sig.)  

Activity Totals:  
O.S.U.  \( t \) value = 16.97 (sig.)  
S.T.C.  \( t \) value = 19.10 (sig.)  

Therefore on the basis of this evidence the first null hypothesis is rejected.

**Hypothesis 2**

That no differences in attitudes toward selected inquiry teaching techniques in social studies exist between the preservice teacher population from The Ohio State University (U.S.A.) and the preservice teacher population from the Secondary Teachers' College (W.A.).

This hypothesis was subdivided further into five sub-hypotheses which will be examined separately. The analysis of variance (\( F \) ratios) and the 5 per cent level of significance were used to assess the results. The analysis of variance is simply a technique to test the significance of the differences between means of a number of populations. If the population means differ from each other the \( F \) ratio will be greater than unity. If the \( F \) ratio is found to be significantly greater than unity, this may be construed to be evidence for the rejection of the
null hypothesis.\(^1\) For these populations, the F ratio significance level was 2.53.

a) That no difference exists between the O.S.U. and S.T.C. populations on the basis of total evaluation scores derived from the semantic differential.

**TABLE 27**

**ANALYSIS OF VARIANCE OF TOTAL EVALUATION SCORES**

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between colleges</td>
<td>1</td>
<td>0.31</td>
<td>0.03 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>136</td>
<td>9.56</td>
<td></td>
</tr>
</tbody>
</table>

The analysis of variance of the total evaluation scores for the O.S.U. and S.T.C. populations yielded a result of no significance. The only minor difference between the two populations was a wide dispersion of the O.S.U. scores (standard deviation (O.S.U.) 45.4, (S.T.C.) 29.5). Therefore the null hypothesis is accepted.

b) That no difference exists between the O.S.U. and S.T.C. populations on the basis of total potency scores derived from the semantic differential.

TABLE 28
ANALYSIS OF VARIANCE OF TOTAL POTENCY SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between colleges</td>
<td>1</td>
<td>43.98</td>
<td>0.26 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>136</td>
<td>170.24</td>
<td></td>
</tr>
</tbody>
</table>

The analysis of variance of the total potency scores for the O.S.U. and S.T.C. populations yielded a result of no significance. Therefore the null hypothesis is accepted.

c) That no difference exists between the O.S.U. and S.T.C. populations on the basis of total activity scores derived from the semantic differential.

TABLE 29
ANALYSIS OF VARIANCE OF TOTAL ACTIVITY SCORES

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between colleges</td>
<td>1</td>
<td>267.70</td>
<td>1.33 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>136</td>
<td>200.80</td>
<td></td>
</tr>
</tbody>
</table>

The analysis of variance of the total activity scores for the O.S.U. and S.T.C. populations yielded a result of no significance. Nevertheless it should be noted that the F ratio was highest on this
total, even though considerably short of the $P < .05$ of 2.53. Therefore the null hypothesis is accepted.

d) That no difference exists between the O.S.U. and S.T.C. populations on the basis of specific teacher behavior items included in the semantic differential.

Six items dealing with specific teacher behaviors were included in the semantic differential (Tables 30 and 31). This grouping consisted of three concepts depicting positive aspects of inquiry teaching (concepts 2, 3 and 6) and three concepts depicting negative aspects (concepts 1, 4 and 5). The scoring of the negative concepts was carried out in the reverse order to that used with the positive concepts. Consequently there is not a wide divergence between concepts in terms of means and standard deviations (Table 32).

The analysis of variance results are depicted in Tables 30 and 31. It is evident that only one concept, "to develop an intellectually permissive atmosphere" yielded a significant difference on the evaluation sub-score. An examination of the means for concept three in Table 32 shows the nature of the difference, namely that the O.S.U. population recorded higher scores than the S.T.C. population on this concept. That is, the attitudes of the S.T.C. population towards developing an intellectually permissive atmosphere in the classroom were significantly weaker than those of the O.S.U. population.
TABLE 30
ANALYSIS OF VARIANCE ON CONCEPTS 1-3 IN THE SEMANTIC DIFFERENTIAL

<table>
<thead>
<tr>
<th>Concept</th>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;to maintain a quiet classroom&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 1 (Evaluation)</td>
<td>Between colleges</td>
<td>1</td>
<td>15.39</td>
<td>0.30 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>50.98</td>
<td></td>
</tr>
<tr>
<td>Concept 1 (Potency)</td>
<td>Between colleges</td>
<td>1</td>
<td>0.01</td>
<td>0.01 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>8.64</td>
<td></td>
</tr>
<tr>
<td>Concept 1 (Activity)</td>
<td>Between colleges</td>
<td>1</td>
<td>7.52</td>
<td>0.69 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>10.95</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;to use a range of resource materials&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 2 (Evaluation)</td>
<td>Between colleges</td>
<td>1</td>
<td>8.97</td>
<td>0.50 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>17.91</td>
<td></td>
</tr>
<tr>
<td>Concept 2 (Potency)</td>
<td>Between colleges</td>
<td>1</td>
<td>0.01</td>
<td>0.01 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>3.87</td>
<td></td>
</tr>
<tr>
<td>Concept 2 (Activity)</td>
<td>Between colleges</td>
<td>1</td>
<td>1.83</td>
<td>0.56 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>3.27</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;to develop an intellectually permissive atmosphere&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 3 (Evaluation)</td>
<td>Between colleges</td>
<td>1</td>
<td>66.01</td>
<td>3.20 *</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>20.63</td>
<td></td>
</tr>
<tr>
<td>Concept 3 (Potency)</td>
<td>Between colleges</td>
<td>1</td>
<td>1.34</td>
<td>0.33 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>4.05</td>
<td></td>
</tr>
<tr>
<td>Concept 3 (Activity)</td>
<td>Between colleges</td>
<td>1</td>
<td>0.45</td>
<td>0.12 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>3.78</td>
<td></td>
</tr>
</tbody>
</table>

*P < .05.
TABLE 31

ANALYSIS OF VARIANCE ON CONCEPTS 4-6 IN THE SEMANTIC DIFFERENTIAL

<table>
<thead>
<tr>
<th>Concept</th>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;to use one comprehensive textbook&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 4 (Evaluation)</td>
<td>Between colleges</td>
<td>1</td>
<td>85.03</td>
<td>2.40 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>35.45</td>
<td></td>
</tr>
<tr>
<td>Concept 4 (Potency)</td>
<td>Between colleges</td>
<td>1</td>
<td>3.50</td>
<td>0.53 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>6.58</td>
<td></td>
</tr>
<tr>
<td>Concept 4 (Activity)</td>
<td>Between colleges</td>
<td>1</td>
<td>7.04</td>
<td>0.93 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>7.56</td>
<td></td>
</tr>
<tr>
<td>&quot;to specify 'right' attitudes&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 5 (Evaluation)</td>
<td>Between colleges</td>
<td>1</td>
<td>34.63</td>
<td>0.54 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>63.93</td>
<td></td>
</tr>
<tr>
<td>Concept 5 (Potency)</td>
<td>Between colleges</td>
<td>1</td>
<td>4.38</td>
<td>0.38 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>11.53</td>
<td></td>
</tr>
<tr>
<td>Concept 5 (Activity)</td>
<td>Between colleges</td>
<td>1</td>
<td>13.69</td>
<td>1.30 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>10.56</td>
<td></td>
</tr>
<tr>
<td>&quot;to encourage freedom of expression and movement&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 6 (Evaluation)</td>
<td>Between colleges</td>
<td>1</td>
<td>5.12</td>
<td>0.27 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>19.25</td>
<td></td>
</tr>
<tr>
<td>Concept 6 (Potency)</td>
<td>Between colleges</td>
<td>1</td>
<td>1.33</td>
<td>0.53 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>2.49</td>
<td></td>
</tr>
<tr>
<td>Concept 6 (Activity)</td>
<td>Between colleges</td>
<td>1</td>
<td>1.10</td>
<td>0.44 (n.s.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>136</td>
<td>2.50</td>
<td></td>
</tr>
</tbody>
</table>

P < .05.
curriculum revisions, incorporating to a limited degree some of the changes proposed by social studies educators in the United States.

The writer considered that the formal education emphases were so different that the two populations would form ideal comparison groups for studying attitudes about inquiry teaching. Optimistically, the ultimate purpose of the study is to assist with the diffusion of inquiry teaching into high school social studies classes. By examining the present situation at the teacher education level, tentative comments can be made about how preservice teachers in social studies feel toward inquiry and inquiry teaching techniques. It will provide some indication of the degree to which inquiry programs are being promulgated at the high school and college levels and in particular, highlight formal education components that appear to be conducive to encouraging and developing positive attitudes about inquiry teaching. Furthermore, the inclusion of survey questions about preservice teacher personal attributes and education experiences may bring to light variables which would be of value as screening criteria for prospective teacher education candidates. Because data will only be collected from two college populations, any findings can only be tentative, but they may form a sound basis for comprehensive longitudinal studies in the future.
TABLE 32
MEANS AND STANDARD DEVIATIONS FOR CONCEPTS 1-11
IN THE SEMANTIC DIFFERENTIAL FOR O.S.U. AND
S.T.C. POPULATIONS

<table>
<thead>
<tr>
<th>Concept</th>
<th>Evaluation</th>
<th>Potency</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>19.15</td>
<td>18.48</td>
<td>7.91</td>
</tr>
<tr>
<td>S.D.</td>
<td>7.33</td>
<td>6.90</td>
<td>2.81</td>
</tr>
<tr>
<td>Concept 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>30.52</td>
<td>31.03</td>
<td>11.64</td>
</tr>
<tr>
<td>S.D.</td>
<td>4.88</td>
<td>3.29</td>
<td>2.06</td>
</tr>
<tr>
<td>Concept 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>30.01</td>
<td>28.57</td>
<td>11.96</td>
</tr>
<tr>
<td>S.D.</td>
<td>3.98</td>
<td>5.13</td>
<td>1.79</td>
</tr>
<tr>
<td>Concept 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>25.90</td>
<td>24.32</td>
<td>11.11</td>
</tr>
<tr>
<td>S.D.</td>
<td>5.53</td>
<td>6.43</td>
<td>2.12</td>
</tr>
<tr>
<td>Concept 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>21.95</td>
<td>22.95</td>
<td>9.29</td>
</tr>
<tr>
<td>S.D.</td>
<td>8.02</td>
<td>7.97</td>
<td>3.42</td>
</tr>
<tr>
<td>Concept 6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>29.95</td>
<td>30.33</td>
<td>12.20</td>
</tr>
<tr>
<td>S.D.</td>
<td>4.78</td>
<td>3.87</td>
<td>1.65</td>
</tr>
<tr>
<td>Concept 7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>27.05</td>
<td>27.52</td>
<td>10.77</td>
</tr>
<tr>
<td>S.D.</td>
<td>5.20</td>
<td>4.24</td>
<td>2.14</td>
</tr>
<tr>
<td>Concept 8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.</td>
<td>24.39</td>
<td>25.35</td>
<td>10.01</td>
</tr>
<tr>
<td>S.D.</td>
<td>6.25</td>
<td>6.52</td>
<td>2.83</td>
</tr>
</tbody>
</table>
Two other concepts had results which were below the required F ratio of 2.53 needed for a significant difference but were sufficiently high to warrant some discussion. Concept four, "to use one comprehensive textbook," yielded an F ratio of 2.40. Upon examination of the respective population means, the difference was interpreted as a stronger attitude by the O.S.U. population against using one comprehensive textbook. Concept five, "to specify 'right' attitudes," yielded an F ratio of 1.30. The higher mean for the S.T.C. population indicated that they had a stronger attitude against specifying right attitudes in social studies lessons.
The three measures for each of the six concepts yielded only one significant difference out of a possible total of eighteen. Therefore, the writer concludes that there was a high degree of concurrence of attitudes towards these selected aspects of inquiry teaching techniques. Nevertheless, in terms of the stated hypothesis, the one case which yielded a significant difference is sufficient to warrant a rejection of the null hypothesis.

e) That no difference exists between the O.S.U. and S.T.C. populations on the basis of specific student behavior items included in the semantic differential.

Five items dealing with specific student behavior were included in the semantic differential. This grouping consisted of three concepts depicting positive aspects about student behavior in inquiry lessons (concepts 7, 9, and 11) and two concepts depicting negative aspects (concepts 8 and 10).

The analysis of variance results are shown in Tables 33 and 34. Concept eight, "to be a passive listener" yielded a significant difference on both the potency and activity scores. An examination of the respective means in Table 32 reveals that this difference can be interpreted as a stronger attitude by the S.T.C. population against students being passive listeners in social studies lessons. That significant differences were only obtained on activity and potency
TABLE 33
ANALYSIS OF VARIANCE ON CONCEPTS 7-9 IN THE SEMANTIC DIFFERENTIAL

<table>
<thead>
<tr>
<th>Concept</th>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;to do problem solving in groups&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 7</td>
<td>Between colleges</td>
<td>1</td>
<td>7.58</td>
<td>0.33</td>
</tr>
<tr>
<td>(Evaluation)</td>
<td>136</td>
<td>22.98</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 7</td>
<td>Between colleges</td>
<td>1</td>
<td>0.74</td>
<td>0.18</td>
</tr>
<tr>
<td>(Potency)</td>
<td>136</td>
<td>4.12</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 7</td>
<td>Between colleges</td>
<td>1</td>
<td>43.68</td>
<td>7.94*</td>
</tr>
<tr>
<td>(Activity)</td>
<td>136</td>
<td>5.50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;to be a passive listener&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 8</td>
<td>Between colleges</td>
<td>1</td>
<td>31.72</td>
<td>0.78</td>
</tr>
<tr>
<td>(Evaluation)</td>
<td>136</td>
<td>40.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 8</td>
<td>Between colleges</td>
<td>1</td>
<td>43.68</td>
<td>6.11*</td>
</tr>
<tr>
<td>(Potency)</td>
<td>136</td>
<td>7.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 8</td>
<td>Between colleges</td>
<td>1</td>
<td>27.91</td>
<td>4.43*</td>
</tr>
<tr>
<td>(Activity)</td>
<td>136</td>
<td>7.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&quot;to cast and test hypotheses&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 9</td>
<td>Between colleges</td>
<td>1</td>
<td>59.95</td>
<td>2.31</td>
</tr>
<tr>
<td>(Evaluation)</td>
<td>136</td>
<td>25.91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 9</td>
<td>Between colleges</td>
<td>1</td>
<td>0.25</td>
<td>0.04</td>
</tr>
<tr>
<td>(Potency)</td>
<td>136</td>
<td>6.04</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 9</td>
<td>Between colleges</td>
<td>1</td>
<td>12.75</td>
<td>1.90</td>
</tr>
<tr>
<td>(Activity)</td>
<td>136</td>
<td>6.70</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .05.
TABLE 34

ANALYSIS OF VARIANCE ON CONCEPTS 10-11 IN THE SEMANTIC DIFFERENTIAL

<table>
<thead>
<tr>
<th>Concept</th>
<th>Source</th>
<th>df</th>
<th>ms</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&quot;to conform&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 10</td>
<td>Between colleges</td>
<td>1</td>
<td>1.73</td>
<td>0.04 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>(Evaluation)</td>
<td>136</td>
<td>43.30</td>
<td></td>
</tr>
<tr>
<td>Concept 10</td>
<td>Between colleges</td>
<td>1</td>
<td>1.25</td>
<td>0.17 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>(Potency)</td>
<td>136</td>
<td>7.38</td>
<td></td>
</tr>
<tr>
<td>Concept 10</td>
<td>Between colleges</td>
<td>1</td>
<td>2.29</td>
<td>0.24 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>(Activity)</td>
<td>136</td>
<td>9.41</td>
<td></td>
</tr>
<tr>
<td></td>
<td>&quot;to formulate theories&quot;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept 11</td>
<td>Between colleges</td>
<td>1</td>
<td>6.3</td>
<td>0.23 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>(Evaluation)</td>
<td>136</td>
<td>28.55</td>
<td></td>
</tr>
<tr>
<td>Concept 11</td>
<td>Between colleges</td>
<td>1</td>
<td>6.33</td>
<td>1.08 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>(Potency)</td>
<td>136</td>
<td>5.86</td>
<td></td>
</tr>
<tr>
<td>Concept 11</td>
<td>Between colleges</td>
<td>1</td>
<td>0.04</td>
<td>0.01 (n.s.)</td>
</tr>
<tr>
<td></td>
<td>(Activity)</td>
<td>136</td>
<td>6.41</td>
<td></td>
</tr>
</tbody>
</table>

P < .05.

scores indicates that certain non-evaluation attitude components predominated on this concept.

A significant difference was also obtained from the activity score on concept seven, "to do problem solving in groups." The higher mean for the S.T.C. population can be interpreted as a stronger attitude towards having students do problem solving in groups in social studies lessons (Table 32).
The evaluation score on concept nine, "to cast and test hypotheses" was 2.31 which indicates that it just failed to reach the required minimum to be considered a significant difference. Here again the evaluation mean for the S.T.C. population was higher than that of the O.S.U. population, thereby indicating a stronger attitude towards the concept.

The three measures for each of the five concepts produced only three significant differences, out of a total of fifteen. Therefore it would have to be concluded that there was a high degree of concurrence between the attitudes of the O.S.U. and S.T.C. populations on the selected concepts. However for the testing of the stated hypothesis, the three significant differences justify the rejection of the null hypothesis.

Although nothing definitive can be made from it, the writer considered it interesting, if not important, that the stronger O.S.U. population attitudes were all concerned with teacher activities (concepts three and four) while the stronger S.T.C. population attitudes were chiefly concerned with student activities (concepts seven, eight and nine). It would require additional concepts in these areas and a larger population sample to ascertain whether in fact this was a major attitudinal difference between the two countries.
On face value this tentative statement appears analogous to Dickson's results for United Kingdom and U.S.A. teacher education students.\(^2\)

**Hypothesis Three**

That there are no statistically significant relationships between preservice teacher characteristics and their attitudes toward selected inquiry teaching techniques in social studies.

A series of statistical measures including correlations, factor analysis and t tests of significance were used to test out this hypothesis and its many subsections. The correlations proved to be very valuable for pinpointing relationships between attitude scores and teacher characteristics. An examination of respective means enabled judgments to be made about the direction of these relationships.

Factor analysis takes the correlation technique a step further. From a large initial number of variables and their respective correlations, the factor analysis technique produces new variables called factors that represent or summarize small sets of the original variables. The chief aim of this procedure is to attain scientific parsimony or economy of description.\(^3\)


In this study the principal components methods of factor analysis was used to produce initial correlation matrixes and communalities. Ten factors were derived for each population and within each factor loading values were produced for the initial variables. Factor scores were also computed to ascertain the number of subjects belonging to each of the factor patterns.

The relevant correlations for each of the sub-hypotheses are presented first, followed by a statistical comparison of the two populations based on the factor analysis results.

Sub-Hypotheses (Personal Attributes)

a) That no difference exists between the scores of male and female preservice teachers in the O.S.U. and S.T.C. populations.

The correlation matrices displayed in Table 35 (O.S.U.) and Table 36 (S.T.C.) indicates a number of significant positive correlations between the male/female variable and attitude scores. Because the scoring system for the variable was male = 1 and female = 2, the positive correlations can be interpreted as showing a significant relationship between females and high attitude scores. In the case of the O.S.U. population the significant correlations were moderately high, ranging from .26 to .31. This result was particularly noteworthy considering that females only comprised 32 per cent of the O.S.U. population. Correlations at a significant level were also
TABLE 35

CORRELATION TABLE OF PERSONAL ATTRIBUTES AND ATTITUDE SCORES FOR THE O.S.U. POPULATION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Male/female</td>
<td>(M 1.3)</td>
<td>.31*</td>
<td>.28*</td>
<td>.18</td>
</tr>
<tr>
<td>2. Age</td>
<td>(M 5.9)</td>
<td>-.01</td>
<td>.03</td>
<td>.07</td>
</tr>
<tr>
<td>3. Nationality</td>
<td>(M 8.4)</td>
<td>-.12</td>
<td>-.06</td>
<td>-.08</td>
</tr>
<tr>
<td>4. Marital Status</td>
<td>(M 1.2)</td>
<td>.08</td>
<td>.08</td>
<td>.05</td>
</tr>
<tr>
<td>5. Religion</td>
<td>(M 2.5)</td>
<td>.08</td>
<td>.11</td>
<td>.15</td>
</tr>
<tr>
<td>6a. Occupation of father</td>
<td>(M 3.8)</td>
<td>-.12</td>
<td>-.07</td>
<td>-.02</td>
</tr>
<tr>
<td>6b. Education level of father</td>
<td>(M 3.2)</td>
<td>-.04</td>
<td>-.05</td>
<td>-.10</td>
</tr>
<tr>
<td>7. Dogmatism</td>
<td>(M 2.1)</td>
<td>-.10</td>
<td>-.15</td>
<td>-.12</td>
</tr>
<tr>
<td>7a. In the classroom I find myself critical of ideas different to my own.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7b. In a class discussion I take a dominant role.</td>
<td>(M 3.4)</td>
<td>-.18</td>
<td>-.15</td>
<td>-.12</td>
</tr>
<tr>
<td>7c. In the classroom I can maintain a good disciplinary tone.</td>
<td>(M 3.2)</td>
<td>-.20*</td>
<td>-.19*</td>
<td>-.18</td>
</tr>
<tr>
<td>8. Openmindedness</td>
<td>(M 3.5)</td>
<td>.06</td>
<td>.13</td>
<td>.10</td>
</tr>
<tr>
<td>8a. In the classroom I allow pupils to search out answers for themselves.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8b. In the classroom if I find I don't know something I will admit it.</td>
<td>(M 3.9)</td>
<td>.22*</td>
<td>.23*</td>
<td>.20*</td>
</tr>
</tbody>
</table>
TABLE 35--Continued

<table>
<thead>
<tr>
<th>Personal Attributes</th>
<th>Attitude Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>8c. In the classroom I will (M 3.0)</td>
<td>.26*</td>
</tr>
<tr>
<td>take time to discuss</td>
<td></td>
</tr>
<tr>
<td>a point raised by a</td>
<td></td>
</tr>
<tr>
<td>pupil even if it is off</td>
<td></td>
</tr>
<tr>
<td>the set topic for that</td>
<td></td>
</tr>
<tr>
<td>class.</td>
<td></td>
</tr>
<tr>
<td>8d. In the classroom it (M 3.0)</td>
<td>.31*</td>
</tr>
<tr>
<td>doesn't bother me</td>
<td></td>
</tr>
<tr>
<td>when pupils disagree</td>
<td></td>
</tr>
<tr>
<td>over the interpreta-</td>
<td></td>
</tr>
<tr>
<td>tion of a topic.</td>
<td></td>
</tr>
<tr>
<td>9. Career Orientation</td>
<td></td>
</tr>
<tr>
<td>What is the likelihood (M 3.2)</td>
<td>.10</td>
</tr>
<tr>
<td>of you making a life-</td>
<td></td>
</tr>
<tr>
<td>time career of</td>
<td></td>
</tr>
<tr>
<td>teaching?</td>
<td></td>
</tr>
</tbody>
</table>

(*P < .05; (M 1.3) = Mean of 1.3)

achieved with the S. T. C. population, but the magnitude of the relationship was lower, namely .21 to .23.

Because correlations at a significant level were produced between females and high attitude scores on the semantic differential, the null hypothesis is rejected.

b) That no difference exists among the scores of O.S.U. and S. T. C. preservice teachers on the basis of age.
Objectives

The three major objectives of the study are as follows:

1. To ascertain whether preservice social studies teachers have positive attitudes about selected inquiry teaching techniques as measured by the semantic differential.

2. To ascertain whether preservice social studies teachers' attitudes towards selected inquiry teaching techniques are related to specific characteristics in terms of personal attributes, informal education experiences and formal education experiences.

3. To ascertain whether there are any significant differences in attitudes and related teacher characteristics among preservice social studies teachers from an American population (The Ohio State University) and an Australian population (Secondary Teachers' College).

Major hypotheses, expressed in null form, will be formulated within the framework of these general objectives. The first hypothesis will test the presence or absence of positive attitudes towards inquiry teaching techniques in social studies. Five sub-sections will be included in the second hypothesis which will test for significant differences in attitudes between the two populations. By necessity, the third hypothesis will contain twenty-one sub-sections as it will test out the relationships between attitudes to inquiry teaching and a
### TABLE 36

CORRELATION TABLE OF PERSONAL ATTRIBUTES AND ATTITUDE SCORES FOR THE S.T.C. POPULATION

<table>
<thead>
<tr>
<th>Personal Attributes</th>
<th>Attitude Scores</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Male/Female</td>
<td>(M 1.6)</td>
<td>.21*</td>
<td>.01</td>
<td>.23*</td>
<td>.20*</td>
</tr>
<tr>
<td>2. Age</td>
<td>(M 7.3)</td>
<td>-.08</td>
<td>.02</td>
<td>.02</td>
<td>-.16</td>
</tr>
<tr>
<td>3. Nationality</td>
<td>(M 1.5)</td>
<td>.16</td>
<td>-.04</td>
<td>-.09</td>
<td>.06</td>
</tr>
<tr>
<td>4. Marital Status</td>
<td>(M 1.2)</td>
<td>.07</td>
<td>-.01</td>
<td>.18</td>
<td>.13</td>
</tr>
<tr>
<td>5. Religion</td>
<td>(M 2.3)</td>
<td>.08</td>
<td>.03</td>
<td>.06</td>
<td>.04</td>
</tr>
<tr>
<td>6a. Occupation of father</td>
<td>(M 4.1)</td>
<td>.04</td>
<td>.14</td>
<td>-.02</td>
<td>.04</td>
</tr>
<tr>
<td>6b. Education level of father</td>
<td>(M 3.7)</td>
<td>.01</td>
<td>-.05</td>
<td>.11</td>
<td>.02</td>
</tr>
<tr>
<td>7. Dogmatism</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7a. In the classroom I find myself critical of ideas different to my own.</td>
<td>(M 2.4)</td>
<td>-.01</td>
<td>-.23*</td>
<td>-.22*</td>
<td>-.03</td>
</tr>
<tr>
<td>7b. In a class discussion I take a dominant role.</td>
<td>(M 3.0)</td>
<td>-.28*</td>
<td>-.23*</td>
<td>-.23*</td>
<td>-.24*</td>
</tr>
<tr>
<td>7c. In the classroom I can maintain a good disciplinary tone.</td>
<td>(M 3.6)</td>
<td>-.15</td>
<td>-.06</td>
<td>-.12</td>
<td>-.11</td>
</tr>
<tr>
<td>8. Openmindedness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8a. In the classroom I allow pupils to search out answers for themselves.</td>
<td>(M 3.6)</td>
<td>-.20</td>
<td>-.08</td>
<td>-.09</td>
<td>-.18</td>
</tr>
<tr>
<td>8b. In the classroom if I find I don't know something I will admit it.</td>
<td>(M 3.8)</td>
<td>.05</td>
<td>.04</td>
<td>-.04</td>
<td>.04</td>
</tr>
<tr>
<td>8c. In the classroom I will take time to discuss a point raised by a pupil even if it is off the set topic for that class.</td>
<td>(M 3.3)</td>
<td>-.06</td>
<td>.05</td>
<td>.01</td>
<td>-.03</td>
</tr>
</tbody>
</table>
TABLE 36—Continued

<table>
<thead>
<tr>
<th>Personal Attributes</th>
<th>Attitude Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>8d. In the classroom it doesn't bother me when pupils disagree over the interpretation of a topic.</td>
<td>(M 3.1)</td>
</tr>
<tr>
<td>9. Career Orientation</td>
<td>What is the likelihood of you making a lifetime career out of teaching?</td>
</tr>
</tbody>
</table>

(*P < .05; (M 1.6) = Mean of 1.6)

An examination of the correlation matrices in Tables 35 and 36 reveals very low, non-significant correlations. Therefore the null hypothesis is accepted.

c) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of nationality.

No correlations at a significant level were yielded for this variable. The weak negative correlations with the O.S.U. population and largely positive correlations with the S.T.C. population possibly reflect the scoring system which had American and Australian nationalities at opposite ends of the scale. Therefore the null hypothesis is accepted.
d) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of marital status.

The correlations yielded on this variable were very low and consequently the null hypothesis is accepted.

e) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of religious affiliation.

On this variable there was a very weak relationship between "no religion" and high attitude scores but because no correlations were produced at the level of significance, this null hypothesis is also accepted.

f) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of social class.

Two items, namely occupation of father and educational level of father were used as indicators of social class. With reference to Tables 35 and 36, it can be seen that very low correlations were produced for both populations. Therefore the null hypothesis is accepted.

g) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of dogmatism.

Three items were included as measures of dogmatism and it was evident that a number of significant correlations were achieved (Tables 35 and 36). However an examination of the respective item means and scoring keys revealed that the correlations were largely
due to high dogmatism scores being related to low attitude scores and not the reverse relationship. The O.S.U. population yielded a correlation of significance on one item whereas the S.T.C. population had significant correlations on two items. Therefore the null hypothesis can be rejected.

h) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of openmindedness.

Four items were used as indicators of openmindedness. An examination of Tables 35 and 36 reveals that the S.T.C. population had no correlations at a level of significance whereas the O.S.U. population had correlations at a level of significance on three out of four items. The O.S.U. population had high item means which together with the positive correlations, can be interpreted as a positive relationship between high openmindedness scores and high attitude scores.

These significant correlations for the O.S.U. population seem to substantiate a difference between the two populations which was noted earlier. When the results of the major hypothesis were being discussed (pages 199-207), it was found that the semantic differential item "to develop an intellectually permissive atmosphere" yielded significantly higher scores for the O.S.U. population. It would appear, but cannot be firmly established from this study alone, that openmindedness has a positive relationship with certain inquiry teaching techniques in social studies.
The number of statistically significant correlations on this variable justifies a rejection of the hypothesis for the O.S.U. population, but not for the S.T.C.

i) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of career orientation.

This variable yielded a low but statistically significant correlation for the O.S.U. population only. By contrast the S.T.C. population correlations were all negative and failed to reach the level of significance. An examination of the item mean for the S.T.C. population revealed that the high scores on average for this variable were associated with relatively low attitude scores.

Once again, the significant correlation for the O.S.U. population justified rejecting the null hypothesis, but this was not the case for the S.T.C. population.

Sub-Hypotheses (Informal Education Experience).

j) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of part-time job experiences.

An examination of the correlation matrices in Tables 37 and 38 reveals two statistically significant correlations for the O.S.U. population but none at all for the S.T.C. population. A mean of 3.6 for this variable indicated that the negative correlations probably included both inverse relationships, namely subjects having a high
attitude score and little job experience and subjects having a low attitude score and considerable job experience. The S. T. C. population on average had less part-time experience and it wasn't unexpected that no statistically significant correlation was produced on this variable. Therefore the null hypothesis is rejected for the O. S. U. population but has to be accepted for the S. T. C. population.

**TABLE 37**

**CORRELATION TABLE OF INFORMAL EDUCATION EXPERIENCES AND ATTITUDE SCORES FOR THE O. S. U. POPULATION**

<table>
<thead>
<tr>
<th>Informal Education Experiences</th>
<th>Attitude Scores</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overseas travel experiences</td>
<td>-.01</td>
<td>-.08</td>
<td>-.08</td>
<td>-.07</td>
<td>N.S.</td>
<td></td>
</tr>
<tr>
<td>2. Part-time job experiences</td>
<td>-.20*</td>
<td>-.19</td>
<td>-.16</td>
<td>-.21*</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>3. Number of non fiction books and journals read per month</td>
<td>.21*</td>
<td>.21*</td>
<td>.09</td>
<td>.16</td>
<td>*</td>
<td></td>
</tr>
<tr>
<td>4. Number of fiction books read per month</td>
<td>.03</td>
<td>-.01</td>
<td>-.01</td>
<td>.01</td>
<td>N.S.</td>
<td></td>
</tr>
<tr>
<td>5. Number of times per week watch TV news programs</td>
<td>-.01</td>
<td>-.07</td>
<td>-.09</td>
<td>-.04</td>
<td>N.S.</td>
<td></td>
</tr>
<tr>
<td>6. Number of times per week watch TV non fiction programs</td>
<td>-.06</td>
<td>-.15</td>
<td>-.03</td>
<td>-.06</td>
<td>N.S.</td>
<td></td>
</tr>
</tbody>
</table>

*P < .05.

k) That no difference exists among the scores of O. S. U. and S. T. C. preservice teachers on the basis of overseas travel experience.
TABLE 38

CORRELATION TABLE OF INFORMAL EDUCATION EXPERIENCES AND ATTITUDE SCORES FOR THE S.T.C. POPULATION

<table>
<thead>
<tr>
<th>Informal Education Experiences</th>
<th>Attitude Scores</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overseas travel experiences</td>
<td>.01 .12 .12* .13 *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Part-time job experiences</td>
<td>.11 -.10 -.03 .15 N.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Number of non fiction books and journals read per month</td>
<td>.22* .07 .31* .25* *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Number of fiction books read per month</td>
<td>.29* .27* .25* .28* *</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Number of times per week watch TV news programs</td>
<td>-.18 -.08 -.15 -.19 N.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Number of times per week watch TV non fiction programs</td>
<td>.02 -.02 .06 .04 N.S.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* P < .05.

As indicated in Tables 37 and 38, only the S.T.C. population had a statistically significant correlation on this variable. However because the scoring was based on reverse magnitude and because 73 per cent of the S.T.C. population had not travelled overseas (Table 8) it can be interpreted as an inverse correlation. That is, students who had not travelled overseas tended to have high attitude scores. Consequently the null hypothesis is rejected for the S.T.C. population but not for the O.S.U. population.

1) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of reading habits (fiction books).
On this variable a correlation at a level of significance was only obtained for the S.T.C. population. Although the S.T.C. mean was only moderate (2.7), it was considerably higher than the score for the O.S.U. population (1.9). The moderate mean and the positive correlation can only be interpreted as showing a relationship between moderate reading habits and moderately high attitude scores. Therefore the null hypothesis is rejected for the S.T.C. population but accepted for the O.S.U. population.

m) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of reading habits (non fiction books).

Statistically significant correlations were achieved for both populations on this variable (Tables 37 and 38). The higher correlations for the S.T.C. population mirrored the higher mean for this group also. That is, there was a positive relationship between students' reading habits (the number of non fiction books read per month) and their attitude scores. Therefore the null hypothesis can be rejected for both populations.

n) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of television viewing habits (non fiction programs).
No statistically significant correlations were achieved for either the O.S.U. or S.T.C. populations and so the null hypothesis has to be accepted.

o) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of television viewing habits (news programs).

Again no statistically significant correlations were achieved for either research populations and so the null hypothesis is accepted.

Sub-Hypotheses (Formal Education Experiences)

p) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of selected high school opportunities to search out answers and test hypotheses.

The populations were required to comment on their high school experiences in all social studies subjects plus English and foreign languages. For convenience these have been grouped into two categories in Tables 39 and 40.

Although it is not shown in Table 40, the S.T.C. population yielded a statistically significant correlation between attitude scores and opportunities to search out answers and test hypotheses in social studies A (a multidisciplinary course required for all students in their first three years of high school). In total, the social studies
### TABLE 39

CORRELATION TABLE OF HIGH SCHOOL EXPERIENCES AND ATTITUDE SCORES FOR THE O.S.U. POPULATION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Opportunities to search out answers and test hypotheses in social studies subjects.</td>
<td>- .21* - .22* - .27* - .22* *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Opportunities to search out answers and test hypotheses in English and foreign languages.</td>
<td>- .05 - .05 - .12 - .12 N.S.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .05.

### TABLE 40

CORRELATION TABLE OF HIGH SCHOOL EXPERIENCES AND ATTITUDE SCORES FOR THE S.T.C. POPULATION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Opportunities to search out answers and test hypotheses in social studies subjects.</td>
<td>.07 .18 .12 .11 N.S.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Opportunities to search out answers and test hypotheses in English and foreign languages.</td>
<td>.28* .16 .23* .29* *</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .05.
range of teacher characteristics. A static group comparison form of research design will be used with the two populations.

### Procedures and Instruments Used

The study will attempt to measure preservice teacher attitudes to selected inquiry teaching techniques in social studies. The current literature will be examined to derive about one hundred items which will then be used in pilot studies to ascertain the twelve most representative items pertaining to teacher behaviors and student behaviors.

The semantic differential has been used in many attitude studies, as described in Chapter III. It will be adopted in this study utilizing the twelve items on inquiry teaching techniques as the basic concepts to be rated. Suitable bipolar adjectives will be obtained from another pilot study.

The study will also attempt to isolate teacher characteristics that are related to attitudes to inquiry teaching techniques. A comprehensive personal inventory will be used for this purpose, including items pertaining to the three areas of personal attributes.

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2 Full details of the hypotheses are given in Chapter IV and the specific results per hypothesis are given in Chapter V.

3 Full details of the research design, limitations and instruments are given in Chapter IV.
subjects yielded a near significant positive correlation of .18 for the S.T.C. population.

By contrast, the O.S.U. population had a statistically significant, negative correlation overall, which included a near significant negative correlation of -.17 for history. On this basis there seemed a certain polarity of attitudes about high school experiences with the O.S.U. population revealing a negative disposition and the S.T.C. population a positive one.

The S.T.C. population displayed positive attitudes to English and foreign languages as shown by the statistically significant correlations in Table 40. The O.S.U. population yielded very low negative correlations on these subjects.

In total, the effects of high school education experiences appear to have been largely negative for the O.S.U. population and mainly positive for the S.T.C. population. However, because the magnitude of the correlations were only moderate, a great deal can not be made of these relationships, even though the null hypothesis can be rejected.

q) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of having undertaken selected general education courses at college.

The general education subjects included English, foreign languages, philosophy, music, fine arts, physical sciences and
biological sciences. Four variables for each subject or subject grouping were included, these being the number of credit hours taken, an evaluation of the teaching techniques, the subject matter presented and the opportunities for active student participation. Of these twenty-eight variables, only those pertaining to English literature, foreign languages and philosophy yielded correlations at a significant level and only then for the O.S.U. population. As indicated in Table 41, these subjects revealed a high association with attitude scores on the semantic differential. The reason for these significant correlations is problematical and it can only be surmised that the teaching techniques, presentations and activities in these subjects were particularly conducive to the development of positive attitudes toward inquiry teaching techniques in social studies.

The lack of statistically significant correlations for the S.T.C. population can be explained by the absence of required general education courses in their baccalaureate degree (Table 42). Few would have taken courses in these subject areas and so the correlations yielded are very low and insignificant.

Therefore the null hypothesis can be rejected for the O.S.U. population but it is accepted for the S.T.C. population.

r) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of having undertaken selected courses in the social sciences at college.
TABLE 41
CORRELATION TABLE OF COLLEGE GENERAL EDUCATION COURSES AND ATTITUDE SCORES FOR THE O.S.U. POPULATION

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Attitude Scores</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Liked the teaching techniques in English, foreign languages, philosophy.</td>
<td>.32*</td>
<td>.35*</td>
<td>.26*</td>
<td>.31*</td>
</tr>
<tr>
<td>2. Liked the subject matter in English, foreign languages, philosophy.</td>
<td>.30*</td>
<td>.33*</td>
<td>.28*</td>
<td>.31*</td>
</tr>
<tr>
<td>3. Number of credit hours taken in English, foreign languages, philosophy.</td>
<td>.28*</td>
<td>.30*</td>
<td>.30*</td>
<td>.28*</td>
</tr>
</tbody>
</table>

*P < .05.

TABLE 42
CORRELATION TABLE OF COLLEGE GENERAL EDUCATION COURSES AND ATTITUDE SCORES FOR THE S.T.C. POPULATION

<table>
<thead>
<tr>
<th>General Education Courses</th>
<th>Attitude Scores</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Liked the teaching techniques in English, foreign languages, philosophy.</td>
<td>.04</td>
<td>-.01</td>
<td>.08</td>
<td>.07</td>
</tr>
<tr>
<td>2. Liked the subject matter in English, foreign languages, philosophy.</td>
<td>.06</td>
<td>.04</td>
<td>.14</td>
<td>.12</td>
</tr>
<tr>
<td>3. Number of credit hours taken in English, foreign languages, philosophy.</td>
<td>-.04</td>
<td>-.09</td>
<td>.04</td>
<td>.01</td>
</tr>
</tbody>
</table>

*P < .05.
Again four variables for each of the seven social sciences were included and unexpectedly, the number of statistically significant correlations was very small indeed. Out of the twenty-eight variables, only twelve yielded significant correlations (Tables 43 and 44). A close examination of the significant but negative correlation for the variable pertaining to liking history teaching techniques at college, revealed in fact, that all these students scored low on inquiry attitude scores. The two geography variables indicated a positive relationship between this subject and high attitude scores. Also students who liked the subject matter of sociology and anthropology at college had high attitude scores.

It would seem from the sparsity of significant correlations that most of the college courses in the social sciences did not contribute greatly to developing positive attitudes towards inquiry teaching in the social studies. In fact, as noted in the history variable, there may have been some negative relationships. In many of the social sciences it seems to be the subject matter that attracts the students rather than, or in spite of the teaching techniques utilized.

An analysis of the statistically significant correlations for the S. T. C. population was complicated by the method of scoring used. An examination of Tables 45 and 46 reveals that in every subject except history, a substantial percentage of the population
TABLE 43

CORRELATION TABLE OF COLLEGE ACADEMIC SPECIALIZATION COURSES AND ATTITUDE SCORES FOR THE O.S.U. POPULATION

<table>
<thead>
<tr>
<th>Social Sciences</th>
<th>Attitude Scores</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Liked the teaching techniques used.</td>
<td></td>
<td>-.21*</td>
<td>-.24*</td>
<td>-.25*</td>
</tr>
<tr>
<td>Geography</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Liked the subject matter.</td>
<td></td>
<td>.16</td>
<td>.16</td>
<td>.25*</td>
</tr>
<tr>
<td>2. Number of credit hours taken.</td>
<td></td>
<td>.21*</td>
<td>.10</td>
<td>.17</td>
</tr>
<tr>
<td>Sociology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Liked the subject matter.</td>
<td></td>
<td>.19</td>
<td>.21*</td>
<td>.16</td>
</tr>
<tr>
<td>Anthropology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Liked the subject matter.</td>
<td></td>
<td>.17</td>
<td>.18</td>
<td>.19</td>
</tr>
<tr>
<td>Economics</td>
<td></td>
<td>No significant correlations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td></td>
<td>No significant correlations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*P < .05.

did not take a single course in the subject. For example, 79 per cent of the S.T.C. population had not taken a single course in sociology.

Consequently the significant negative correlations for the S.T.C. population in geography, sociology and anthropology can be interpreted as a majority of the population having negative associations with high attitude scores (Table 44). It should be noted that unlike
TABLE 44
CORRELATION TABLE OF COLLEGE ACADEMIC SPECIALIZATION COURSES AND ATTITUDE SCORES FOR THE S. T. C. POPULATION

<table>
<thead>
<tr>
<th>Social Sciences</th>
<th>Attitude Scores</th>
</tr>
</thead>
</table>

History

1. Liked the subject matter.  
2. Number of credit hours taken.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>.28*</td>
<td>.25*</td>
<td>.24*</td>
<td>.13*</td>
</tr>
<tr>
<td>Geography</td>
<td>.14</td>
<td>.23*</td>
<td>.10</td>
<td>.13*</td>
</tr>
</tbody>
</table>

Geography

1. Liked the teaching techniques.  
2. Were allowed to actively participate.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>-.23*</td>
<td>- .15</td>
<td>-.22*</td>
<td>-.16*</td>
</tr>
<tr>
<td>Geography</td>
<td>-.24*</td>
<td>- .14</td>
<td>-.23*</td>
<td>-.16*</td>
</tr>
</tbody>
</table>

Sociology

No significant correlations

Anthropology

1. Liked the teaching techniques.  
2. Liked the subject matter.  
3. Were allowed to actively participate.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>-.17</td>
<td>.08</td>
<td>-.21*</td>
<td>-.14*</td>
</tr>
<tr>
<td>Geography</td>
<td>-.18</td>
<td>.06</td>
<td>-.23*</td>
<td>-.20*</td>
</tr>
<tr>
<td>Anthropology</td>
<td>-.27*</td>
<td>.02</td>
<td>-.27*</td>
<td>-.20*</td>
</tr>
</tbody>
</table>

Economics

No significant correlations

Political Science

1. Number of credit hours taken.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>.22*</td>
<td>.09</td>
<td>.12</td>
<td>.16*</td>
</tr>
</tbody>
</table>

*P < .05.

the O.S.U. result, a positive correlation was yielded for liking history subject matter at college.
TABLE 45

DISTRIBUTION OF CREDIT HOURS IN COLLEGE HISTORY
FOR THE O.S.U. AND S.T.C. POPULATIONS

<table>
<thead>
<tr>
<th>Credit Hours</th>
<th>O.S.U. Population %</th>
<th>S.T.C. Population %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>1-10</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>11-20</td>
<td>0</td>
<td>15</td>
</tr>
<tr>
<td>21-30</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>31-40</td>
<td>49</td>
<td>5</td>
</tr>
<tr>
<td>41-50</td>
<td>25</td>
<td>22</td>
</tr>
<tr>
<td>51-60</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>61-70</td>
<td>2</td>
<td>12</td>
</tr>
<tr>
<td>71-80</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>81-90</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>91-100</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Therefore the null hypothesis is rejected for the O.S.U. population and S.T.C. population.

s) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of education theory courses taken at college.
### TABLE 46

**DISTRIBUTION OF CREDIT HOURS IN COLLEGE SOCIAL SCIENCES FOR THE O.S.U. AND S.T.C. POPULATIONS**

<table>
<thead>
<tr>
<th>Credit Hrs.</th>
<th>Geography</th>
<th>Economics</th>
<th>Sociology</th>
<th>Anthropology</th>
<th>Political Science</th>
<th>Psychology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OSU</td>
<td>STC</td>
<td>OSU</td>
<td>STC</td>
<td>OSU</td>
<td>STC</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
<td>73</td>
<td>1</td>
<td>63</td>
<td>7</td>
<td>79</td>
</tr>
<tr>
<td>1-5</td>
<td>9</td>
<td>0</td>
<td>19</td>
<td>0</td>
<td>24</td>
<td>0</td>
</tr>
<tr>
<td>6-10</td>
<td>65</td>
<td>0</td>
<td>75</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>11-15</td>
<td>11</td>
<td>21</td>
<td>0</td>
<td>19</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>16-20</td>
<td>9</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>20</td>
<td>0</td>
</tr>
<tr>
<td>21-25</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>26-30</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>31-35</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>36-40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>41-45</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>5</td>
<td>0</td>
<td>4</td>
</tr>
<tr>
<td>over 45</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>
Unlike the two preceding hypotheses, in this instance no statistically significant correlations were obtained for the O.S.U. population but two out of a total of four variables were recorded for the S.T.C. population (Tables 47 and 48). The significant correlations were for liking the subject matter and having the opportunity to actively participate. The O.S.U. population with a much lower number of required credit hours in education theory than the S.T.C. population, recorded positive but non significant correlations. Therefore the null hypothesis is rejected for the S.T.C. population but accepted for the O.S.U. population.

1) That no difference exists among the scores of O.S.U. and S.T.C. preservice teachers on the basis of social studies methods courses taken at college.

A similar pattern was yielded for the four variables used to test out this hypothesis (Tables 47 and 48). The O.S.U. population had no statistically significant correlations at all, signifying that the subject matter, teaching techniques and student participation opportunities in the social studies methods course had no relationship with high attitude scores to inquiry teaching. By contrast the S.T.C. population recorded levels of significance on two variables
TABLE 47

CORRELATION TABLE OF COLLEGE PROFESSIONAL EDUCATION COURSES AND ATTITUDE SCORES FOR THE O.S.U. POPULATION

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Education Theory</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a. Liked the teaching techniques.</td>
<td>.04</td>
<td>.08</td>
<td>.11</td>
<td>.11</td>
</tr>
<tr>
<td>1b. Liked the subject matter.</td>
<td>.05</td>
<td>.12</td>
<td>.16</td>
<td>.12</td>
</tr>
<tr>
<td>1c. Opportunity for active participation.</td>
<td>-.03</td>
<td>-.02</td>
<td>-.07</td>
<td>-.03</td>
</tr>
<tr>
<td>1d. Number of credit hours taken.</td>
<td>.04</td>
<td>.06</td>
<td>.05</td>
<td>.06</td>
</tr>
<tr>
<td>2. <strong>Education Methods</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a. Liked the teaching techniques.</td>
<td>-.10</td>
<td>-.11</td>
<td>-.05</td>
<td>-.06</td>
</tr>
<tr>
<td>2b. Liked the subject matter.</td>
<td>.02</td>
<td>.01</td>
<td>.05</td>
<td>.07</td>
</tr>
<tr>
<td>2c. Opportunity for active participation.</td>
<td>.13</td>
<td>.10</td>
<td>.02</td>
<td>.07</td>
</tr>
<tr>
<td>2d. Number of credit hours taken.</td>
<td>.15</td>
<td>.19</td>
<td>.14</td>
<td>.13</td>
</tr>
<tr>
<td>3. <strong>Student Teaching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a. Number of weeks of practice teaching.</td>
<td>.17</td>
<td>.17</td>
<td>.25*</td>
<td>.20*</td>
</tr>
<tr>
<td>3b. How often used inquiry in teaching.</td>
<td>.11</td>
<td>.19</td>
<td>.04</td>
<td>.08</td>
</tr>
<tr>
<td>3c. How successful these inquiry lessons had been.</td>
<td>.17</td>
<td>.22*</td>
<td>.22*</td>
<td>.20*</td>
</tr>
</tbody>
</table>

*P < .05.

(Table 48). It is not possible to identify causal factors from just correlational relationships but the greater range and number of methods courses taken by the S.T.C. population may have been responsible for these statistically significant correlations. Therefore the
informal education experiences and formal education experiences. This will necessitate searching the literature for suitable items for a trial inventory, submitting it as a pilot study to fifty preservice teachers and then using the results as criteria for rejecting, adding or modifying the items for the final form of the inventory.

The statistical measures used with attitude scores obtained from the semantic differential will include t tests of significance and an analysis of variance. A four point Likert scale will be used with the items in the Personal Inventory. Subject scores will be computed and t tests of significance and factor analysis will be utilized to isolate major variables.

Definitions of Terms

Because of variations in nomenclature between countries, it is essential to define certain terms in this comparative study.

Inquiry Teaching.--A global concept which refers to a wide range of procedural and content emphases, having as an overall goal, the furthering of student inquiry.

Social Studies.--The subjects taught at elementary school and secondary school which derive their content, procedures and orientations from the social sciences.

Social Sciences.--The subjects taught at college as separate disciplines. They include History, Geography, Economics, Sociology, Anthropology, Political Science and Psychology.
TABLE 48

CORRELATION TABLE OF COLLEGE PROFESSIONAL EDUCATION COURSES AND ATTITUDE SCORES FOR THE S. T. C. POPULATION

<table>
<thead>
<tr>
<th>Professional Education Courses</th>
<th>Attitude Scores</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>Education Theory</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a. Liked the teaching techniques.</td>
<td>.10</td>
<td>.17</td>
<td>.07</td>
<td>.16</td>
</tr>
<tr>
<td>1b. Liked the subject matter.</td>
<td>.10</td>
<td>.23*</td>
<td>-.02</td>
<td>.13</td>
</tr>
<tr>
<td>1c. Opportunity for active participation.</td>
<td>.24*</td>
<td>.26*</td>
<td>.15</td>
<td>.23*</td>
</tr>
<tr>
<td>1d. Number of credit hours taken.</td>
<td>.13</td>
<td>.09</td>
<td>.05</td>
<td>.13</td>
</tr>
<tr>
<td>2. <strong>Education Methods</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a. Liked the teaching techniques.</td>
<td>-.05</td>
<td>-.11</td>
<td>-.01</td>
<td>.06</td>
</tr>
<tr>
<td>2b. Liked the subject matter.</td>
<td>.21*</td>
<td>.26*</td>
<td>.21*</td>
<td>.29*</td>
</tr>
<tr>
<td>2c. Opportunity for active participation.</td>
<td>.11</td>
<td>.21*</td>
<td>.12</td>
<td>.12</td>
</tr>
<tr>
<td>2d. Number of credit hours taken.</td>
<td>.09</td>
<td>.02</td>
<td>.06</td>
<td>.10</td>
</tr>
<tr>
<td>3. <strong>Student Teaching</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a. Number of weeks practice teaching.</td>
<td>-.07</td>
<td>-.01</td>
<td>.05</td>
<td>-.06</td>
</tr>
<tr>
<td>3b. How often used inquiry in teaching.</td>
<td>.06</td>
<td>.23*</td>
<td>.06</td>
<td>-.01</td>
</tr>
<tr>
<td>3c. How successful these inquiry lessons had been.</td>
<td>.15</td>
<td>.09</td>
<td>.23*</td>
<td>.16</td>
</tr>
</tbody>
</table>

*P < .05.

null hypothesis is rejected for the S. T. C. population but accepted for the O. S. U. population.

u) That no difference exists among the scores of O. S. U. and S. T. C. preservice teachers on the basis of student teaching experience.
Three variables were used to test out this hypothesis and as can be seen from Tables 47 and 48 all three achieved the required levels of significance. The variable representing the number of weeks of practice teaching was only statistically significant for the O.S.U. population but this may simply have been a result of the O.S.U. population having had a similar number of weeks of student teaching. The experience of having taught successful inquiry lessons was a significant variable for both populations. The number of times that inquiry lessons had been attempted was only statistically significant for the S.T.C. population possibly because they had more weeks of student teaching and consequently more opportunities to experience and practice the inquiry techniques. Therefore the null hypothesis can be rejected for both populations.

Factor analysis interpretation

The major advantage of the factor analysis technique is that it pulls together all the statistically significant correlations and sorts out the major patterns. Up to this point in the chapter, the writer has presented a wide range of correlational relationships to prove or disprove the stated hypotheses and sub-hypotheses. It is now appropriate to take a wider perspective of the patterns displayed by the O.S.U. and S.T.C. populations.
The major impression gained from perusing the factor analysis results is that each research population contained a diverse array of inquiry and non-inquiry subcultures. There was no simple dichotomy of one group having high inquiry attitudes characterized by X variables and another group having low inquiry attitudes characterized by Y variables. In Tables 49 and 50 it can be seen that there were ten major groups, including some sub groups, for each research population.

Apart from the heterogeneity within the populations, it is quite clear from the tables that persons having high inquiry attitude scores were very few in number. For the O.S.U. population, factor one included the four variables representing total attitude scores on the semantic differential, yet only eleven students were related to this pattern. A similar clustering of the semantic differential scores occurred in factor three for the S.T.C. population, with only three students being closely identified with this pattern. It should be noted that this does not necessarily mean that the remainder of the students did not have high inquiry attitudes, as a careful checking of Table 23 would substantiate. Rather it shows that there were other "optimum" variables and patterns with which these remaining students were related.  

---

4 In Table 23, it can be seen that thirty-nine O.S.U. students and thirty-eight S.T.C. students had very high inquiry attitude scores of over 525.
### TABLE 49

**SUMMARY OF FACTOR ANALYSIS RESULTS FOR THE O.S.U. POPULATION**

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. of variables per factor</th>
<th>No. of students represented per factor</th>
<th>Characteristic Variables</th>
<th>Relationship with Attitude Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>11</td>
<td>Attitude scores, sex, openmindedness, reading habits</td>
<td>H positive (.95)</td>
</tr>
<tr>
<td>2</td>
<td>23</td>
<td>7</td>
<td>Liked subject matter and methods used in sociology, psychology, education theory. Included an anti-pattern for dogmatism, married, part-time jobs.</td>
<td>M positive (.21)</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>7</td>
<td>Liked subject matter and methods used in music.</td>
<td>L negative (-.17)</td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>7</td>
<td>Liked subject matter and methods used in political science, geography, history. Included anti-pattern for anthropology.</td>
<td>M negative (-.23)</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>9</td>
<td>Liked subject matter and methods used in fine arts subjects and economics.</td>
<td>L positive (.14)</td>
</tr>
<tr>
<td>Factors</td>
<td>No. of variables per factor</td>
<td>No. of students represented per factor</td>
<td>Characteristic Variables</td>
<td>Relationship with Attitude Scores</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------</td>
<td>----------------------------------------</td>
<td>-----------------------------------------------------------------------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>6</td>
<td>14</td>
<td>11</td>
<td>Liked subject matter and methods used in physical sciences, biological sciences and English literature.</td>
<td>L positive (.18)</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>8</td>
<td>Liked subject matter and methods used in foreign languages.</td>
<td>M positive (.26)</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>7</td>
<td>Liked subject matter and methods used in philosophy.</td>
<td>M positive (.25)</td>
</tr>
<tr>
<td>9</td>
<td>12</td>
<td>2</td>
<td>Miscellaneous informal and formal education experiences.</td>
<td>L negative (-.17)</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>6</td>
<td>Miscellaneous personal attributes and formal education experiences.</td>
<td>L negative (-.18)</td>
</tr>
</tbody>
</table>

H, M, L = Average correlations per factor (High, Medium, Low) to total attitude scores.

Positive/Negative = Direction of correlations of variables with total attitude scores.

(.95) = Highest correlation per factor with total attitude scores.
### TABLE 50
SUMMARY OF FACTOR ANALYSIS RESULTS FOR THE S.T.C. POPULATION

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. of variables per factor</th>
<th>No. of students represented per factor</th>
<th>Characteristic Variables</th>
<th>Relationship with Attitude Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8</td>
<td>7</td>
<td>Liked subject matter and methods used in psychology.</td>
<td>L positive (.13)</td>
</tr>
<tr>
<td>2</td>
<td>11</td>
<td>10</td>
<td>Liked subject matter and methods used in economics and English.</td>
<td>L mainly negative (-.05)</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>3</td>
<td>Attitude scores, high school experiences in social studies. Included anti-pattern for dogmatism.</td>
<td>H positive (.92)</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>8</td>
<td>Liked subject matter and methods used in philosophy.</td>
<td>L negative (-.10)</td>
</tr>
<tr>
<td>5</td>
<td>9</td>
<td>7</td>
<td>Liked subject matter and methods used in anthropology, marital status.</td>
<td>M negative (-.20)</td>
</tr>
</tbody>
</table>
TABLE 50--Continued

<table>
<thead>
<tr>
<th>Factors</th>
<th>No. of variables per factor</th>
<th>No. of students represented per factor</th>
<th>Characteristic Variables</th>
<th>Relationship with Attitude Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>8</td>
<td>6</td>
<td>Liked subject matter and methods used in political science and sociology.</td>
<td>( L) mainly negative ((- .08))</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
<td>3</td>
<td>Nationality, television viewing habits.</td>
<td>( M) mainly negative ((- .19))</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>10</td>
<td>Miscellaneous personal attributes including openmindedness, social class.</td>
<td>( L) positive ((.15))</td>
</tr>
<tr>
<td>9</td>
<td>11</td>
<td>5</td>
<td>Liked subject matter and methods used in geography. Included anti-pattern for reading habits.</td>
<td>( L) negative ((- .18))</td>
</tr>
<tr>
<td>10</td>
<td>11</td>
<td>4</td>
<td>Liked subject matter and methods in education theory, social studies methods, foreign languages.</td>
<td>( M) positive ((.29))</td>
</tr>
</tbody>
</table>

\( H, M, L = \) Average correlations per factor (High, Medium, Low) to total attitude scores.

Positive/Negative = Direction of correlations of variables with total attitude scores.

\((.13) = \) Highest correlation per factor with total attitude scores.
These other optimum patterns are revealed in the subsequent factors for the O.S.U. and S.T.C. populations. Some of the social sciences were the nuclei for factor patterns, although they were associated in a variety of ways. For example, factor two for the O.S.U. population shows that seven students were closely identified with the subject matter and methods of sociology, psychology and education theory. All these variables had moderate correlations with inquiry attitude scores. On the other hand, factor four indicates another group of seven students who identified with the subject matter and methods of political science, geography and history. The majority of variables in this pattern, especially history, revealed a negative correlation with inquiry attitude scores.

Similar patterns can be noted for the S.T.C. population. Factor one reveals that seven students were closely identified with the subject matter and methods of psychology and other groupings included factor two (economics and English--ten students), factor five (anthropology--seven students) and factor six (political science and sociology--six students). As with the O.S.U. population, not all of the variables in these factor patterns had moderate or high correlations with inquiry attitude scores. However the occurrence of several low negative scores could probably be attributed to the scoring system used, as indicated previously.
Social studies experiences at the high school level did not
loom large in the O.S.U. factor patterns although they were strongly
related to the factor three pattern for the S.T.C. population. In
particular, a loading of 0.44 was achieved for the Social Studies A
variable, which was the next highest loading after the four attitude
score totals.

College experiences in education courses were evident in
several of the factor patterns, especially with regard the S.T.C.
population results. Factor ten for the S.T.C. population revealed
that four students were closely related to the subject matter and
teaching methods of education theory and social studies methods. All
of these variables had moderate to high correlations with inquiry
attitude scores. The O.S.U. factor patterns indicated that factor
two contained seven students who were closely related to the subject
matter and teaching methods of education theory courses.

Despite the large number of variables which were utilized to
represent high school and college experiences in social science and
education courses, few seemed to be closely related to inquiry
attitude scores.

For the O.S.U. population at least, other college courses
appeared to be equally, if not more important. For example, in
factor seven for the O.S.U. population, eight students were closely
identified with the subject matter and teaching methods of foreign
languages while factor eight contained seven students closely related to variables representing philosophy subject matter and teaching methods. In both these factors, all variables had moderate to high positive correlations with inquiry attitude scores.

The writer maintains that this is indicative of the low ratings for the modes of presentation and teaching techniques utilized in college courses in the social sciences and education. It is evident that other subject areas such as philosophy and foreign languages created a more conducive atmosphere for active student participation and for the development of inquiry attitudes. This comment is even more telling when it is considered that preservice teachers take few credit hours in these general education courses compared with the courses they undertake in their academic specialization and in the professional education sequence. That these subjects in the humanities did not appear in the S.T.C. factor patterns was probably due to the lack of required courses in general education at the University of Western Australia, as indicated previously. However the experiences of the O.S.U. students with these general education courses suggest that they may make a valuable contribution to the baccalaureate program.

Throughout the factor patterns, personal attribute and informal education variables were clearly present. In the O.S.U. population major variables included sex and openmindedness (factor one), career commitment (factor six), religious affiliation (factor eight), reading
Attitudes.—"The amount of affect for or against a psychological object." This unidimensional interpretation of attitudes excludes beliefs and actual behaviors.

Preservice Teachers.—Students in a college teacher education program.

Personal Attributes.—The characteristics unique to an individual which may be immutable (age, race) or subject to change (religious affiliation, nationality).

Informal Education Experiences.—Any experiences which further the intellectual, emotional and social capacities of an individual but which do not occur in any formal education setting.

Formal Education Experiences.—Any experiences which an individual receives while a member of an educational institution. In this study particular attention will be paid to formal education experiences gained from elementary schools, high schools and colleges.

Overview of Presentation

In Chapter II developments in inquiry teaching in social studies will be related for both the United States of America and

and television habits (factor nine) and dogmatism (factor ten). For
the S.T.C. population the same variables tended to cluster into three
miscellaneous patterns in factors seven, eight and nine.

Unfortunately the factor analysis patterns provided little
information on the degree to which college instructors utilized inquiry
teaching techniques with their classes. To highlight this point, the
respective means and rankings for each college subject on this
variable are presented in Table 51. The O.S.U. population indicated
that inquiry techniques (as implied in the questionnaire item), were
used frequently in social studies method, education theory, political
science and sociology, as revealed by mean scores of over 3.0 per
subject. The S.T.C. population considered that inquiry teaching
techniques were used frequently in geography, history, sociology,
English literature, foreign languages, philosophy, social studies
method and political science.

The enigma for the writer is that these experiences were
apparently obtained in a wide range of subjects yet in only a few
instances were they significantly correlated with inquiry attitude
scores. Were they actually exposed to inquiry teaching techniques
or was it just open discussion? Does mere exposure to inquiry
teaching techniques create positive attitudes for the receiver? These
are areas that need to be followed through in subsequent research
studies. Either the phrase "active student participation in discussing
TABLE 51

STUDENT RATINGS OF TEACHING METHODS USED BY COLLEGE INSTRUCTORS WITH THE O.S.U. AND S.T.C. POPULATIONS

"Indicate whether the instructors at college encouraged active student participation in discussing and analyzing problem areas."

<table>
<thead>
<tr>
<th>Subject</th>
<th>O.S.U. Population</th>
<th>S.T.C. Population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean(4) Ranking(12)</td>
<td>Mean(4) Ranking (12)</td>
</tr>
<tr>
<td>History</td>
<td>2.6 6</td>
<td>3.4 2</td>
</tr>
<tr>
<td>Geography</td>
<td>2.4 10</td>
<td>3.5 1</td>
</tr>
<tr>
<td>Economics</td>
<td>1.9 12</td>
<td>2.7 10</td>
</tr>
<tr>
<td>Sociology</td>
<td>3.1 3</td>
<td>3.5 3</td>
</tr>
<tr>
<td>Anthropology</td>
<td>2.6 6</td>
<td>2.7 10</td>
</tr>
<tr>
<td>Political Science</td>
<td>3.1 3</td>
<td>3.0 8</td>
</tr>
<tr>
<td>Psychology</td>
<td>2.6 6</td>
<td>2.4 12</td>
</tr>
<tr>
<td>English Literature</td>
<td>2.8 5</td>
<td>3.3 4</td>
</tr>
<tr>
<td>Foreign Languages</td>
<td>2.3 11</td>
<td>3.2 5</td>
</tr>
<tr>
<td>Philosophy</td>
<td>2.5 9</td>
<td>3.2 5</td>
</tr>
<tr>
<td>Education (Theory)</td>
<td>3.3 2</td>
<td>2.9 9</td>
</tr>
<tr>
<td>Education (Methods)</td>
<td>3.7 1</td>
<td>3.2 5</td>
</tr>
</tbody>
</table>

and analyzing problem areas" was too general and didn't really convey the query about inquiry techniques or the inquiry experiences received by the students didn't alter their attitudes. The writer is inclined to
believe that it was the former and that both populations had few, if any opportunities, to experience genuine inquiry teaching techniques.

Summary

The data was presented and analyzed in terms of the three major hypotheses and related sub-hypotheses.

The first hypothesis dealt with the presence or absence of positive attitudes to selected inquiry teaching techniques in social studies. A comparison of sample means with theoretical means for the two research populations revealed that the actual mean levels were much higher than could be attributed to chance distributions. It was established that positive attitudes to inquiry teaching were present in both research populations.

The second hypothesis related to significant differences in attitudes between the O.S.U. and S.T.C. populations as determined by total scores and individual item scores on the semantic differential. Analysis of variance statistics revealed no significant differences between the two populations on the evaluation, potency and activity total scores. On the six individual items pertaining to specific teacher behaviors, it was discovered that one item received significantly higher scores from the O.S.U. population. Two out of the five individual items relating to specific student behaviors received significantly higher scores from the S.T.C. population. However considering the small number of significant differences between the
two populations, it was concluded that a high degree of concurrence of attitudes to inquiry teaching was prevalent in the two populations.

The third hypothesis examined relationships between attitudes to inquiry and selected preservice teacher characteristics, in terms of personal attributes, and informal and formal education experiences. Personal attributes which received significant correlations included sex, dogmatism, openmindedness and career orientation. Overseas travel, part-time jobs and reading habits were informal education variables that were significantly correlated with inquiry attitude scores.

A large number of variables on formal education experiences were included, but few statistically significant correlations were obtained. The variables that achieved correlations at the level of significance included high school opportunities in social studies (S.T.C.), college experiences in history and the social sciences (O.S.U.), college experiences in foreign languages and philosophy (O.S.U.), college courses in education (O.S.U. and S.T.C.) and classroom experiences with inquiry teaching techniques (O.S.U. and S.T.C.).

Factor analysis data revealed a diversity of ten sub-patterns for each of the research populations. These patterns revealed the relative associations between the variables and pointed up an apparent
modest influence of formal education experiences in the social sciences and education compared with general education subjects and informal education experiences.
CHAPTER VI

SUMMARY AND CONCLUSIONS

The overall goal of the study was to obtain some facts about preservice teachers' attitudes toward inquiry teaching in social studies. As described in detail in Chapter II, there has recently been a tremendous amount written about inquiry teaching in books and journals and the inquiry orientation has been central to practically all the national social studies projects. Yet, little information is available on its rate of diffusion into the schools, its degree of acceptance as a teaching method by social studies teachers and more especially, the degree to which preservice teachers have developed attitudes of intent concerning its use with social studies classes. Consequently, this study focussed on the procuring of data about the current level of acceptance of inquiry teaching techniques, as seen through the attitudes of preservice social studies teachers.

A concomitant goal of the study was to ascertain preservice teacher attitudes on a comparative level, namely to see whether preservice teachers in two different countries had similar attitudes
about selected inquiry teaching techniques. Empirical studies on comparative topics are infrequently undertaken, as described in Chapter III, but they fulfill a real need in dispelling misconceptions about foreign countries and their inhabitants. It was the writer's intention that Chapters IV and V moved in the direction of dispelling the John Dewey oriented-progressive-child centered image of American education. At the same time it was anticipated that sufficient information had been provided to cast out the elitist--highly specialized--academic oriented image of Australian education.

**Main Objectives of the Study**

1. To ascertain whether preservice social studies teachers have positive attitudes about selected inquiry teaching techniques as measured by the semantic differential.

2. To ascertain whether preservice social studies teachers' attitudes toward selected inquiry teaching techniques are related to specific characteristics in terms of personal attributes, informal education experiences and formal education experiences.

3. To ascertain whether there are any significant differences in attitudes and related teacher characteristics among preservice social studies teachers from an American population (The Ohio State University) and an Australian population (Secondary Teachers' College).
A total of 138 preservice social studies teachers participated in the study, consisting of seventy-five from The Ohio State University and sixty-three from the Secondary Teachers' College. The two instruments, a semantic differential and a personal inventory, were administered to seniors who had taken a large proportion of their academic and education courses and who were in the middle of their student teaching quarter. The survey was carried out in February-March, 1973 by the writer at The Ohio State University and by a professorial colleague at the Secondary Teachers' College. The statistical measures utilized included t tests, analysis of variance and factor analysis.

**Major Findings**

1. Preservice teachers in the O.S.U. and S.T.C. populations had positive attitudes about inquiry teaching techniques in social studies as measured by the semantic differential.

2. The O.S.U. and S.T.C. populations had no substantial differences in attitude scores as measured by the semantic differential although item analysis revealed a tendency for the former to be more teacher-centered and the latter to be more child-centered.

3. The O.S.U. and S.T.C. populations yielded significant correlations between attitude scores and three personal attribute variables (sex, dogmatism (negative) and openmindedness).
4. The O.S.U. and S.T.C. populations yielded significant correlations between attitude scores and two informal education variables (part-time jobs (negative) and reading habits).

5. The O.S.U. population had significant correlations between attitude scores and the following formal education experiences:
   a) high school experiences in social studies (negative).
   b) general education courses at college (English literature, foreign languages, philosophy).
   c) history and social science courses at college (geography, sociology, anthropology, history (negative)).
   d) education theory courses at college.
   e) student teaching experience with inquiry techniques.

6. The S.T.C. population had significant correlations between attitude scores and the following formal education experiences:
   a) high school experiences in social studies, English and foreign languages.
   b) history and social science courses at college (history, political science, geography (negative), anthropology (negative)).
   c) education theory and methods courses at college.
   d) student teaching experience with inquiry techniques.
Conclusions

It was evident that both preservice teacher populations had positive attitudes about inquiry teaching techniques in social studies. This was especially significant because their attitudes had been surveyed indirectly by the semantic differential. As the subjects were not confronted with direct questions, it is likely that their attitude scores reflected genuine attitudes about inquiry teaching techniques. This result is encouraging in itself as it is vital that graduating preservice teachers have definite ideas about the teaching techniques they intend to use.

However there are related questions which were not answered. For example it is not known how strong these attitudes have to be to withstand the disappointments, frustrations and conflicts of the classroom teaching situation. All subjects had experienced at least five weeks of student teaching but this may not have been a sufficient or realistic basis upon which to comment about inquiry teaching techniques.

The second hypothesis attempted to answer another related question, namely from what sources do preservice teachers obtain their attitudes about inquiry teaching? The study was not designed to identify causal relationships but a definite attempt was made to isolate variables that correlated highly with attitude scores.
Although details of events prior to the 1950s will be provided, the main emphasis will be on the developments and issues over the last two decades. In the latter section of the chapter inquiry teaching techniques per se will be outlined and a conceptual model of inquiry teaching will be formulated and discussed.

Chapter III will review the literature on preservice social studies teachers. The field of attitude theory will be examined and in particular, attention will be focussed on instruments used to measure educational attitudes. Current empirical evidence on related teacher characteristics will be presented with special reference to studies which have provided data on personal attributes, informal and formal education experiences of preservice teachers.

Because of the comparative nature of the study, details of the backgrounds of the research populations will be provided in the first section of Chapter IV. The latter section will be devoted to the research design including information about the design limitations, hypotheses and measuring instruments.

Chapter V will consist of a full analysis and discussion of the respective hypotheses. In the latter section of the chapter a statistical comparison of the two populations will be provided, based upon the factor analysis results.
The list of statistically significant variables revealed that all three areas of personal attributes, informal and formal education experiences contained some positive correlations with attitude scores. However it was discovered that certain personal attributes and informal education experiences were just as important if not more important than formal education experiences in developing inquiry teaching attitudes. Such variables as openmindedness, sex and reading habits yielded higher correlations than any of the formal education variables, despite the inclusion of over eighty variables pertaining to the latter category.

Undoubtedly much more research is needed to either confirm or refute this finding. If the finding is not rejected, then the lesson for teacher educators is fairly clear. It would seem that such factors as openmindedness, sex and reading habits are variables that could be included as screening criteria for prospective teacher education candidates.

The personal attributes and informal education experiences may be important in another context also. The formal education experiences surveyed in this study produced very few significant correlations. This result could have been due to two completely different situations or some combination of the two.
It could be postulated that the formal education experiences had little effect on inquiry attitude scores for some students due to rejection patterns created by their unique personal attributes or informal education experiences. For example, highly dogmatic students may have been unable to tolerate the ambiguities and lack of closure implicit within an inquiry oriented college course, if indeed such a course was offered. Furthermore, a student with a wide background of part-time jobs and who was currently holding down one or more positions might have had little commitment or motivation to put in maximum effort into his college courses. Such a person might see little point in courses that didn't directly provide him with the basic factual material needed to pass.

On the other hand it could be postulated that the desired caliber of inquiry oriented courses was not even being offered to students. The study did not probe into the types of inquiry teaching techniques used by instructors at the high school and college level. No attempt was made to see whether instructors used small group sessions, unstructured problem solving topics or even a socratic style examination of controversial issues. In the social sciences especially, it was not known whether students were given experience with national project materials or at least utilized the techniques common to the projects. However from the results obtained in this
study, the writer contends that the formal education experiences were not up to the standard needed to cause students to become enthused with inquiry teaching.

As noted in the Dickson study, a remarkable similarity was discovered between the two teacher education populations in terms of overall attitudes to inquiry teaching techniques and related personal attributes and informal education experiences. In fact, there seemed to be greater differences within the populations, as revealed in the respective factor analysis results. However, background information discussed in Chapter IV and questionnaire data analyzed in Chapter V indicated that the O.S.U. and S.T.C. populations had quite different formal education experiences. The S.T.C. population appeared to have more favorable attitudes about its high school experiences and certain college experiences, especially education theory and methods courses. Yet, their overall attitude scores on the semantic differential were only marginally higher than those for the O.S.U. population. This would seem to reinforce the previous conclusion that formal education experiences were currently a

\[1\]George E. Dickson, The Characteristics of Teacher Education Students in the British Isles and the United States (Toledo: University of Toledo, 1965), pp. 215-216.
minor influence on the development of positive attitudes toward inquiry teaching techniques.

The overall goal of the study was achieved, namely to obtain some basic facts about preservice teachers' attitudes to inquiry teaching techniques in the social studies. Nevertheless, it would seem that the undertaking has, in turn, unearthed a new set of unanswered problems. The study casts some doubts on the potential of teacher education college courses to affect the growth of attitudes toward inquiry teaching, unless major changes are made in college teaching techniques and in the entrance criteria for teacher education students. Even this statement presupposes that college courses which utilize inquiry teaching techniques will be more beneficial than other learning alternatives such as longer periods of student teaching or internships in which a student could fully experiment with inquiry teaching techniques.

Finally, the study casts some aspersions on the pay off from the social studies "revolution" of the 1960s. Noted academics in the U.S.A. in the 1960s espoused and helped produce a great number of high quality social studies projects in which inquiry teaching techniques were paramount. The survey results from the O.S.U. population yielded little evidence to show that students had been exposed to these techniques at either high school or college. In fact,
slightly higher attitude scores on average were achieved by the S. T. C. students in spite of their experiences in a country which has been characterized by few national leaders in the social sciences, where federal funding of educational projects has been non-existent and where, as a result, not one national social studies project has been produced. It would appear that although the "goods" may have been produced in the U.S.A., the problem of diffusion into the schools and colleges is still a major one to be settled.

Implications for Further Research

The results of this study indicate that further research is needed in the following areas:

1. The use of the semantic differential should be continued as an instrument to measure preservice teacher attitudes. A longitudinal study is required in which the semantic differential could be administered on a test-retest basis for each college year, extending into the subjects' first two years of teaching. More attention needs to be paid to the teacher items and student items included in the instrument, to ascertain whether a teacher centered-child centered dichotomy does exist between the respective populations from each country.

2. The survey battery needs to be extended to include three additional instruments. A personality test is required to measure
openmindedness-dogmatism, such as Rokeach's Dogmatism Scale (Form E). An inventory for college instructors and high school teachers is needed to obtain data on the teaching techniques, skills and emphases being employed and to which the college populations have been and are being exposed. A suitable observation scale is needed to rate classroom verbal and nonverbal behavior to see in fact whether preservice teachers' attitudes about inquiry techniques are relatively congruent with their activities in the classroom.

3. More comprehensive, comparative studies are needed so that teacher education institutions of varying sizes and levels of organization can be included. Cross-national research should be developed, involving large population samples taken from several countries.
APPENDIX A

Pilot Studies administered to obtain suitable scales and concepts for use in the semantic differential
Pilot Study to Obtain Suitable Scales

Rank the following word-pairs in descending order. The criterion is their suitability as adjectives to describe various techniques and experiences in teaching Social Studies to high school students.

Rank the first six

good - bad
optimistic - pessimistic
complete - incomplete
altruistic - egotistic
sociable - unsociable
harmonious - dissonant
pleasurable - painful
successful - unsuccessful
meaningful - meaningless
important - unimportant
progressive - regressive
true - false
positive - negative
reputable - disreputable
wise - foolish
healthy - sick
believing - skeptical
stable - unstable
new - old
ordered - chaotic
fresh - stale
dangerous - safe
interesting - boring

(23)

Rank the first six

hard - soft
strong - weak
severe - lenient
constrained - free
heavy - light
serious - humorous
large - small
deep - shallow

(8)

--

Rank the first six

active - passive
excitable - calm
hot - cold
intentional - unintentional
fast - slow
complex - simple
dynamic - static

(7)
Pilot Study to Obtain Suitable Concepts.

Inquiry Teaching in Social Studies

This questionnaire is a pilot study for a large scale study in 1973. We value your answers to this questionnaire very much as we want to know whether we have included the most useful items.

In this questionnaire you will be asked to rate fifty-five statements which may be suitable or unsuitable in describing activities associated with Inquiry Teaching. The first section of the questionnaire includes statements about teaching behaviors which may or may not be applicable to Inquiry Teaching. The second section includes statements about student behaviors which may or may not be applicable to Inquiry Teaching.

Are you quite sure of what is meant by the phrase "Inquiry Teaching Method"?

Here is an explanation:

Inquiry requires the sensing and identifying of significant problems and the serious and consecutive search for satisfactory answers. Inquiry is not leading students to conclusions you wish to teach them. The whole of inquiry is not a purposeless bull session in which everyone says whatever is gnawing at him without being required to provide evidence or support. Nor is inquiry something one does on a given day, after he has "covered" the prescribed
curriculum. Inquiry as a method means that a teacher and his students will identify a problem that is of considerable concern to them--and to our society--and that relevant facts and values will be examined in the light of criteria.


Please direct any further questions to your instructor before you commence the questionnaire.

We would like you to rate each item on a six point scale as indicated in the example below:

"to provide for individualized instruction"

strongly moderately slightly slightly moderately strongly disagree disagree disagree agree agree agree

Where applicable you should use the whole range of the rating scale. You should mark your rating choices for each item with a cross (X).

Commence Work!
Chapter VI will contain a summary of the study, a listing of the main objectives and findings, and a presentation of the general conclusions and implications for further research.
<table>
<thead>
<tr>
<th>Section I</th>
<th>TEACHER ACTIVITIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>strongly disagree</td>
</tr>
<tr>
<td>4. to avoid side issues</td>
<td></td>
</tr>
<tr>
<td>5. to develop students into social scientists</td>
<td></td>
</tr>
<tr>
<td>6. to use subject-centered units</td>
<td></td>
</tr>
<tr>
<td>7. to develop critical thinking</td>
<td></td>
</tr>
<tr>
<td>8. to develop open mindedness</td>
<td></td>
</tr>
<tr>
<td>9. to adopt the role of coordinator</td>
<td></td>
</tr>
<tr>
<td>10. to evaluate assimilated knowledge</td>
<td></td>
</tr>
<tr>
<td>11. to have teacher dominated lessons</td>
<td></td>
</tr>
<tr>
<td>12. to treat controversial issues</td>
<td></td>
</tr>
<tr>
<td>13. to use traditional subject matter divisions</td>
<td></td>
</tr>
<tr>
<td></td>
<td>strongly disagree</td>
</tr>
<tr>
<td>---</td>
<td>------------------</td>
</tr>
<tr>
<td>14. to use drills</td>
<td></td>
</tr>
<tr>
<td>15. to use simulation games</td>
<td></td>
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<td>37.</td>
<td>to encourage freedom of expression and movement</td>
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**Section II**

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55. to participate in decision making
56. to engage in individual experimentation
57. to accept the authority of the teacher
58. to listen and take notes
APPENDIX B

Final form of the semantic differential administered to the O.S.U. and S.T.C. populations
Instructions

I am Colin Marsh, a West Australian studying at The Ohio State University. I am conducting a study both in the U.S.A. and Australia to ascertain the similarity of meaning placed on certain phrases by student teachers.

Rate these phrases according to your own feelings as a teacher of Social Studies. Do not rate them as you think someone else would expect you to rate them. The forms will be anonymous, nobody except me will see them.

Purpose and Description

The purpose of filling out the forms is to have you tell me what a few phrases mean to you. There is no right or wrong answer. Each check mark should be made without considering how others were placed. Please note that I am only interested in what the words mean to you.

On each page you will find three phrases and below each phrase a place to indicate your opinions. The phrase is listed first followed by ten lines where you indicate your opinions. At either end of each of these ten lines is a word such as optimistic--pessimistic, passive--active etc. How close you place your mark to one of these words depends upon the degree to which the word seems to you to describe the phrase.

The first two pages contain six phrases referring to teacher behavior in a social studies lesson. The last two pages contain five phrases referring to student behavior in a social studies lesson.
Example

to treat controversial issues

Rate the following word pairs in the spaces provided.

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In the example above, on line one the check mark is in a space fairly close to the word optimistic. This person then thinks it is being fairly optimistic to treat controversial issues in social studies lessons.

On line two the check mark is next to the word active which indicates that the person thinks that treating controversial issues is a very active task in social studies lessons.

Similarly the other lines show a range of check marks. In the last line the mark is in the center which shows that the person thinks that treating controversial issues in social studies lessons can be both successful and unsuccessful.

PLACE only 1 (one) check mark on each line, but be sure to check all lines.

PLEASE check each page in the order they are presented. PLEASE do not try to remember how you checked previous items.

Thank you for your help.
THESE PHRASES REFER TO TEACHER BEHAVIOR IN A SOCIAL STUDIES LESSON.

1. **to maintain a quiet classroom**

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2. **to use a range of resource materials**

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CHAPTER II

THE DEVELOPMENT OF INQUIRY TEACHING

IN SOCIAL STUDIES

Slogans and catchwords provide the focus and rallying point for any movement or organization. The slogans about social studies teaching at present found in the academic literature and public press would indicate that a movement is afoot. Publishers of social studies teaching material are using such advertising phrases as "exciting explorations of the social sciences" -- "systematic inquiry" -- "using the methods of intelligence." Local and national newspapers are featuring articles about latest developments in social studies teaching. The New York Times published a leading article in April by W. K. Stevens1 headed "The Social Studies: A Revolution is on!"

What is this revolution? Is the present heightened interest in social studies teaching of sufficient intensity to produce a change from the traditional approach? Some writers point out that the current

THESE PHRASES REFER TO TEACHER BEHAVIOR IN A SOCIAL STUDIES LESSON.

3. to develop an intellectually permissive atmosphere

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4. to use one comprehensive textbook

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THESE PHRASES REFER TO TEACHER BEHAVIOR IN A SOCIAL STUDIES LESSON.

5. to specify 'right' attitudes

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6. to encourage freedom of expression and movement

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7. to do problem solving in groups

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8. to be a passive listener

Rate the following word pairs in the spaces provided.

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THESE PHRASES REFER TO STUDENT BEHAVIOR IN A
SOCIAL STUDIES LESSON.

9. to cast and test hypotheses

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active  
boring  
weak  
dynamic  
meaningful  
negative  
free  
progressive  
unsuccessful

10. to conform

Rate the following word pairs in the spaces provided.

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THIS PHRASE REFERS TO STUDENT BEHAVIOR IN A SOCIAL STUDIES LESSON.

11. to formulate theories

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APPENDIX C

Factor Analysis Results from the Pilot Study
TABLE 52
FACTOR ANALYSIS RESULTS FROM THE PILOT STUDY
(FACTORS 1 AND 2)

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<td>Inquiry techniques used in philosophy at college</td>
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<tr>
<td>75</td>
<td>Likely occupation in ten years time</td>
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<td>14</td>
<td>Part-time jobs prior to entering college</td>
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<td>12</td>
<td>Nationality</td>
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<td>45</td>
<td>Selected teaching for a career</td>
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<td>70</td>
<td>How frequently will use inquiry lessons</td>
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<tr>
<td>52</td>
<td>Active interests in aesthetic/cultural clubs</td>
<td>-.51</td>
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<tr>
<td>15</td>
<td>Interest in reading serious books and journals</td>
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<td>Religious denomination</td>
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<td>Importance of social studies methods courses</td>
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<tr>
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<td>Inquiry techniques used in English literature at high school</td>
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**Factor 1 (Disinterest/Interest in Teaching)**

**Factor 2 (Mature Teaching Outlook)**

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<td>Inquiry techniques used in biology at high school</td>
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<td>15</td>
<td>Interest in reading serious books and journals</td>
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<td>56</td>
<td>Ability to keep students interested in a lesson</td>
<td>.28</td>
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<tr>
<td>8</td>
<td>Marital status</td>
<td>.28</td>
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<tr>
<td>57</td>
<td>Ease of adjustment to different students</td>
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TABLE 53
FACTOR ANALYSIS RESULTS FROM THE PILOT STUDY
(FACTORS 3 AND 4)

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<td><strong>Factor 3 (Self Confidence/Awareness of Inquiry Techniques)</strong></td>
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<td>Regularly watch TV documentaries</td>
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<td>Ability to keep students interested in a lesson</td>
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<tr>
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<td>Classroom personality suited to using inquiry techniques</td>
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APPENDIX D

Final Forms of the personal inventory administered to
the O.S.U. and S.T.C. populations
Personal Inventory administered to the O.S.U. population.

This is a study of your educational background and your attitudes towards certain issues. You can be assured that your answers will not be divulged to any person or organizations. There are no right or wrong answers. Please answer all questions, putting your selection number in the space at the right.

1.2.3. (Computer Identification Number)

4. Male / Female
   (1) (2)

5. Date of Birth: Day____ Month____ Year____

6. Nationality (If you are a naturalized American citizen state your former nationality)

7. Single Married Divorced Remarried
   (1) (2) (3) (4)

8. Religious Denomination: Roman Catholic
   (1)
   Protestant Jewish Other None
   (2) (3) (4) (5)

9. Indicate if you have travelled to or lived in
   Europe Canada Asia Australia
   (1) (2) (3) (4)
   S. America Africa None
   (5) (6) (7)

10. Indicate the occupation of your father or head of the household. (If deceased or retired, state what was his occupation.)

11. Indicate the education level reached by your father or head of the household.
   7-9 years 10-11 years 12 years College
   (1) (2) (3) 1 2 3 4
   (4) (5) (6) (7)
   Grad Post Grad
   (8) (9)
A COMPARATIVE STUDY OF PRESERVICE TEACHER ATTITUDES
TO SELECTED INQUIRY TEACHING TECHNIQUES IN SOCIAL
STUDIES AT THE OHIO STATE UNIVERSITY (UNITED
STATES OF AMERICA) AND THE SECONDARY
TEACHERS' COLLEGE (WESTERN
AUSTRALIA)

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

By


* * * * * * *

The Ohio State University
1973

Reading Committee:

M. Eugene Gilliom
Robert E. Jewett
Paul R. Klohr

Approved by

M. Eugene Gilliom
Adviser
College of Education
excitement is no more than a cyclical ebb and flow, at best a gentle evolution from past developments.\textsuperscript{2} Ellis makes a similar point with the following quotation from a 1935 social studies textbook.

Changes in content and methods in the social studies are among the most significant elements in the reorganization of secondary education during the last decade. Curriculum revision in history, geography, and civics, and experimentation in the teaching of these subjects, all with the intent of vitalizing them and making them contribute more directly to the socialization of students, have been undertaken in a variety of independent enterprises in many of the progressive educational centers of the country.

\dots \textit{in New Methods in the Social Studies} \\
\textit{(Stormzand and Lewis)} \\
\dots \textit{April, 1935}\textsuperscript{3}

To understand the present developments and debates in social studies teaching, it would seem advisable to commence with a working definition of "inquiry teaching" and thereby trace its development and its leading advocates both in the United States of America and Australia. As a working definition:

\begin{quote}
Inquiry teaching, put most simply, is a strategy of classroom instruction that requires the learner to use
\end{quote}


\textsuperscript{3}J. V. Ellis, "A Philosophical Analysis of the 'New' Social Studies," \textit{Social Studies}, LXII (October, 1971), 195.
Use the following scale to answer questions 12-18

Use the following scale to answer questions 12-18

<table>
<thead>
<tr>
<th>0</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
<th>7-8</th>
<th>9 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
</tbody>
</table>

12. Indicate how many years of your high school education did you do in Ohio? 12. ___

13. Indicate how many part-time jobs you have had since you started high school. 13. ___

14-15. Indicate how many non fiction books and journals you read per month. (On the average) 14-15. ___

16. Indicate how many fiction books you read per month. (On the average) 16. ___

17. Indicate how many times per week you watch news programs on television. (On the average) 17. ___

18. Indicate how many times per week you watch non fiction programs on television. (On the average) 18. ___

Mark each statement at the right according to how you typically see yourself in the classroom. Use the following code for questions 19-30.

rarely seldom occasionally very often
(1) (2) (3) (4)

19. In the classroom I finish the things that I start out to do. 19. ___

20. In the classroom I find myself critical of ideas different to my own. 20. ___

21. In a class discussion I take a dominant role. 21. ___

22. In the classroom I allow pupils to search out answers for themselves. 22. ___
23. In the classroom I establish a friendly relaxed relationship with my pupils.  
24. In the classroom if I find I don't know something I will admit it.  
25. In the classroom I will take time to discuss a point raised by a pupil even if it is off the set topic for that class.  
26. In the classroom it doesn't bother me when pupils disagree over the interpretation of a topic.  
27. In any given class I try to teach a certain number of points.  
28. In a classroom on practice teaching I closely follow the techniques used by the class teacher.  
29. In a classroom I find it easy to maintain pupil interest.  
30. In the classroom I can maintain a good disciplinary tone.  

When you were a student at high school indicate whether teachers allowed you the opportunity to search out answers, and develop and test your own ideas (hypotheses) in the following subjects. Take the predominant or typical type of teacher for each subject.

Use this scale for each subject.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Rarely</th>
<th>Seldom</th>
<th>Occasionally</th>
<th>Very Often</th>
<th>Didn't Take</th>
<th>Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>31. History</td>
<td></td>
<td>31.____</td>
<td>36. P.O.D.</td>
<td></td>
<td></td>
<td>36.____</td>
</tr>
<tr>
<td>32. Geography</td>
<td></td>
<td>32.____</td>
<td>37. Anthropology</td>
<td></td>
<td></td>
<td>37.____</td>
</tr>
<tr>
<td>33. Economics</td>
<td></td>
<td>33.____</td>
<td>38. Psychology</td>
<td></td>
<td></td>
<td>38.____</td>
</tr>
<tr>
<td>34. Sociology</td>
<td></td>
<td>34.____</td>
<td>39. English Literature</td>
<td></td>
<td></td>
<td>39.____</td>
</tr>
<tr>
<td>35. Political Science</td>
<td></td>
<td>35.____</td>
<td>40. Foreign Language</td>
<td></td>
<td></td>
<td>40.____</td>
</tr>
<tr>
<td>36. P.O.D.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. Anthropology</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. Psychology</td>
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</tr>
<tr>
<td>39. English Literature</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>40. Foreign Language</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Indicate whether you liked the teaching techniques the instructors at college used in the following subjects. Take the predominant or typical type of instructor for each subject.

Use the scale for each subject.

<table>
<thead>
<tr>
<th>disliked</th>
<th>slightly disliked</th>
<th>slightly liked</th>
<th>liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
</tbody>
</table>

didn't do the subject
(0)

41. History
42. Geography
43. Economics
44. Sociology
45. Anthropology
46. Political Science
47. Psychology
48. English Literature
49. Foreign Language
50. Philosophy
51. Education (Theory and Practice; Foundations of Ed.)
52. Social Studies Method (Education 526)
53. Music
54. Fine Arts (Art, Dance)
55. Biological Sciences
56. Physical Sciences

Indicate whether you liked the subject matter of the following subjects at college. (Take an overall view for all courses taken within a subject field.)

Use this scale for each subject.

<table>
<thead>
<tr>
<th>disliked</th>
<th>slightly disliked</th>
<th>slightly liked</th>
<th>liked</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
</tbody>
</table>

didn't do the subject
(0)

57. History
58. Geography
59. Economics
60. Sociology
61. Anthropology
Indicate whether the instructors at college encouraged active student participation in discussing and analyzing problem areas. Take the predominant or typical type of instructor for each subject.

Use this scale for each subject.

<table>
<thead>
<tr>
<th>Subject</th>
<th>73.</th>
<th>74.</th>
<th>75.</th>
<th>76.</th>
<th>77.</th>
<th>78.</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>Geography</td>
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<td>Economics</td>
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<tr>
<td>Sociology</td>
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<tr>
<td>Anthropology</td>
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<tr>
<td>Political Science</td>
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<tr>
<td>Psychology</td>
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<td></td>
</tr>
<tr>
<td>English Literature</td>
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<td></td>
<td></td>
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<tr>
<td>Foreign Language</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education (Theory and Practice; Foundations of Ed.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Studies Method (Education 526)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fine Arts (Art, Dance)</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biological Sciences</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Physical Sciences</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

rarely  seldom  occasionally  very often  didn't do the subject
(1)       (2)       (3)       (4)       (0)
List the specific courses that you have passed and the total number of credit hours in the following subject areas at college. (Include those you sat for this quarter.)

<table>
<thead>
<tr>
<th>Courses</th>
<th>Total Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-12. History:</td>
<td>11-12.</td>
</tr>
<tr>
<td>33-34. Social Studies Method (Education 526):</td>
<td>33-34.</td>
</tr>
<tr>
<td>41-42. Physical Sciences:</td>
<td>41-42.</td>
</tr>
<tr>
<td>43-44. Indicate the number of weeks practice teaching</td>
<td>43-44.</td>
</tr>
<tr>
<td>you have had up to now.</td>
<td></td>
</tr>
<tr>
<td>45. What is your attitude towards using inquiry teaching techniques in social studies classes? highly disagree disagree agree highly agree (1) (2) (3) (4)</td>
<td>45.</td>
</tr>
<tr>
<td>46. How many times have you used inquiry teaching techniques so far in social studies classes? 0 1-2 3-4 5-6 7 or more (1) (2) (3) (4) (5)</td>
<td>46.</td>
</tr>
<tr>
<td>47. How successful have these lessons been compared with other social studies classes where you have used other techniques? very fairly fairly very unsuccessful unsuccessful successful successful</td>
<td>47.</td>
</tr>
</tbody>
</table>
48. How often do you consider you will use inquiry teaching techniques in social studies classes next year? 
never little sometimes very often 
(1) (2) (3) (4) 

49. When you were a student did any teacher at the high school or college level use any commercially produced social studies project courses in your classes? 
never once twice three times more than three times 
(1) (2) (3) (4) (5) 

50. As a student teacher have you used any commercially produced social studies project courses (or part there of) for any classes? 
never once twice three times more than three times 
(1) (2) (3) (4) (5) 

51. What is the likelihood of you making a lifetime career out of teaching? 
most unlikely not likely possible most likely 
(1) (2) (3) (4) 

Please check that you have answered each question. 

Thank you for your cooperation. (Please check to see that you have answered both sides of the paper.)
Personal Inventory administered to the S.T.C. population.

This is a study of your educational background and your attitudes towards certain issues. You can be assured that your answers will not be divulged to any person or organizations. There are no right or wrong answers. Please answer all questions, putting your selection number in the space at the right.

1.2.3. (Computer Identification Number)

4. Male / Female
   (1) (2) 4.____

5. Date of Birth: Day_____Month_____Year_____ 5.____

6. Nationality (If you are a naturalized Australian citizen state your former nationality.) 6.____

7. Single Married Divorced Remarried 7.____
   (1) (2) (3) (4)

8. Religious Denomination: Roman Catholic Protestant Jewish Other None 8.____
   (1) (2) (3) (4) (5)

9. Indicate if you have travelled to or lived in U.S.A. Europe Canada Asia S. America Africa None 9.____
   (1) (2) (3) (4) (5) (6) (7)

10. Indicate the occupation of your father or head of the household. (If deceased or retired, state what was his occupation.) 10.____

11. Indicate the education level reached by your father or head of the household.

   High School Tertiary Grad Post Grad
   1st yr. 2 3 4 5 1 2 3 (8) (9)
   (0) (1) (2) (3) (4) (5) (6) (7)
Use the following scale to answer questions 12-16

<table>
<thead>
<tr>
<th></th>
<th>0</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
<th>7-8</th>
<th>9 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
</tbody>
</table>

12. Indicate how many part-time jobs you have had since you started high school. 12.____

13. Indicate how many non fiction books and journals you read per month. (On the average) 13.____

14. Indicate how many fiction books you read per month. (On the average) 14.____

15. Indicate how many times per week you watch news programs on television. (On the average) 15.____

16. Indicate how many times per week you watch non fiction programs on television. (On the average) 16.____

Mark each statement at the right according to how you typically see yourself in the classroom. Use the following code for questions 17-28.

<table>
<thead>
<tr>
<th></th>
<th>rarely</th>
<th>seldom</th>
<th>occasionally</th>
<th>very often</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
</tbody>
</table>

17. In the classroom I finish the things that I start out to do. 17.____

18. In the classroom I find myself critical of ideas different to my own. 18.____

19. In a class discussion I take a dominant role. 19.____

20. In the classroom I allow pupils to search out answers for themselves. 20.____

21. In the classroom I establish a friendly relaxed relationship with my pupils. 21.____
22. In the classroom if I find I don't know something I will admit it. 22. 

23. In the classroom I will take time to discuss a point raised by a pupil even if it is off the set topic for that lesson. 23. 

24. In the classroom it doesn't bother me when pupils disagree over the interpretation of a topic. 24. 

25. In any given lesson I try to teach a certain number of points. 25. 

26. In a classroom on practice teaching I closely follow the techniques used by the class teacher. 26. 

27. In the classroom I find it easy to maintain pupil interest. 27. 

28. In the classroom I can maintain a good disciplinary tone. 28. 

When you were a student at high school indicate whether teachers allowed you the opportunity to search out answers, and develop and test your own ideas (hypotheses) in the following subjects. Take the predominant or typical type of teacher for each subject.

Use this scale for each subject.

rarely seldom occasionally very often didn't take
(1) (2) (3) (4) the subject (0)

29. Social Studies A 29. 
30. Social Studies B 30. 
31. History 31. 
32. Geography 32. 
33. Economics 33. 
34. English 34. 
35. Foreign Language 35.
Indicate whether you liked the teaching techniques the lecturers at University, W.A.I.T. or S.T.C. used in the following subjects. Take the predominant or typical type of lecturer for each subject. Use this scale for each subject.

<table>
<thead>
<tr>
<th>disliked</th>
<th>slightly disliked</th>
<th>slightly liked</th>
<th>liked</th>
<th>didn't do the subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(0)</td>
</tr>
</tbody>
</table>

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>36. History</td>
<td>36.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. Geography</td>
<td>37.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>38. Economics</td>
<td>38.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40. Anthropology</td>
<td>40.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41. Politics</td>
<td>41.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42. Psychology</td>
<td>42.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43. English</td>
<td>43.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44. Foreign Language</td>
<td>44.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45. Philosophy</td>
<td>45.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. Education</td>
<td>46.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47. Methods (Majors and Minors in Social Studies subject at S.T.C.)</td>
<td>47.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Indicate whether you liked the subject matter of the following subjects at University, W.A.I.T. or S.T.C. (Take an overall view for all units taken within a subject field.) Use this scale for each subject.

<table>
<thead>
<tr>
<th>disliked</th>
<th>slightly disliked</th>
<th>slightly liked</th>
<th>liked</th>
<th>didn't do the subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(0)</td>
</tr>
</tbody>
</table>

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>49. Geography</td>
<td>49.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. Economics</td>
<td>50.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. Sociology</td>
<td>51.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. Anthropology</td>
<td>52.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>53. Politics</td>
<td>53.</td>
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</tr>
<tr>
<td>54. Psychology</td>
<td>54.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55. English</td>
<td>55.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. Foreign Language</td>
<td>56.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
the same intellectual operations that he would use if he were engaged in independent scientific investigation or problem solving. 4

Developments in Inquiry Teaching in Social Studies
Prior to the 1950s in the U.S.A.

It was not until the decade of the 1890s that any pattern of social studies education emerged in the U.S.A., due in no small measure to the activities of several national education organizations. In fact it was only in the 1893 Report of the National Education Association that the term "Social Studies" was first used. For the next four decades a series of reports were published by such national organizations as the American Historical Association, The National Education Association and to a lesser degree, the American Economic Association, the American Political Science Association and the Association of American Geographers.

These associations were concerned with examining existing curricula and making recommendations for change. Despite the inclusion of respected academics on all the committees, these reports had varied levels of influence on the teaching profession and general public. There were certainly divergencies in the length and quality

<table>
<thead>
<tr>
<th></th>
<th>Philosophy</th>
<th>57.</th>
</tr>
</thead>
<tbody>
<tr>
<td>58.</td>
<td>Education</td>
<td>58.</td>
</tr>
</tbody>
</table>

Indicate whether the lecturers at University, W.A.I.T. or S.T.C. encouraged active student participation in discussing and analyzing problem areas. Take the predominant or typical type of teacher for each subject.  
Use this scale for each subject.

<table>
<thead>
<tr>
<th>Rarely</th>
<th>seldom</th>
<th>occasionally</th>
<th>very often</th>
<th>didn't do the subject</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>History</th>
<th>60.</th>
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</thead>
<tbody>
<tr>
<td>61.</td>
<td>Geography</td>
<td>61.</td>
</tr>
<tr>
<td>63.</td>
<td>Sociology</td>
<td>63.</td>
</tr>
<tr>
<td>64.</td>
<td>Anthropology</td>
<td>64.</td>
</tr>
<tr>
<td>65.</td>
<td>Politics</td>
<td>65.</td>
</tr>
<tr>
<td>66.</td>
<td>Psychology</td>
<td>66.</td>
</tr>
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<td>71.</td>
<td>Methods (Majors and Minors in Social Studies subjects at S. T. C.)</td>
<td>71.</td>
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List the specific units that you have passed in the following areas at University, W.A.I.T. or S.T.C. (Include those you sat for this year.)

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<th>History:</th>
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81. Philosophy:  
82. Education:  
83. Methods (Majors and Minors in Social Studies subjects at S. T. C.)  

84. Indicate the number of weeks practice teaching you have had up to now.  

85. What is your attitude towards using inquiry teaching techniques in Social Studies lessons?  
   highly disagree  disagree  agree  highly agree  
   (1) (2) (3) (4)  

86. How many times have you used inquiry teaching techniques so far in Social Studies lessons?  
   0 1-2 3-4 5-6 7 or more  
   (1) (2) (3) (4) (5)  

87. How successful have these lessons been compared with other Social Studies lessons where you have used other techniques?  
   very  fairly  fairly  very  
   unsuccessful  unsuccessful  successful  successful  
   (1) (2) (3) (4)  

88. How often do you consider you will use inquiry teaching techniques in Social Studies lessons next year?  
   never  once  twice  three times  more than three times  
   (1) (2) (3) (4) (5)  

89. When you were a student did any teacher at the secondary or tertiary level use any commercially produced Social Studies project courses in your group?  
   never  once  twice  three times  more than three times  
   (1) (2) (3) (4) (5)  

90. As a student teacher have you used any commercially produced Social Studies Project courses (or part thereof) for any lessons?  
   never  once  twice  three times  more than three times  
   (1) (2) (3) (4) (5)
91. What is the likelihood of you making a lifetime career out of teaching?

most unlikely  not likely  possible  most likely
(1)  (2)  (3)  (4)

Please check that you have answered each question.

Thank you for your cooperation. (Please check to see that you have answered both sides of the paper.)
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BIBLIOGRAPHY

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of the committee reports, but it was the degree of conformance contained within the proposals that tended to be the major factor relating to their general acceptance.

In this regard, the Committee of Ten Report published in 1893 by the National Education Association, contained no radical proposals. The ten educators (including James Harvey Robinson who was to later write a very non-traditional book following the Dewey philosophy) produced an eight year program on History, Civil Government and Political Economy, which had as its rationale, the "accumulation of elementary facts and principles in the minds of young children" and the necessity for children to get a "full grasp of history and its chronology." The 1898 Report by the Committee of Seven of the American Historical Association produced similar proposals. The combined effects of these two reports was to firmly entrench history courses as the social studies throughout the country. Referring to the latter report, Tryon wrote in the 1930s:

... for at least two decades after its appearance, high school courses in history in the United States were almost one hundred per cent dictated by it. In fact even today, more than a generation after the publication of

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the report, its influence is dominant in probably one-third of the high schools in the country. 6

In the ensuing period between 1898 and 1918 national associations in Sociology and Political Science were formed. There was a steady growth of graduate enrollments at the major universities, feeding on the new theories and proposals published by historians (J. H. Robinson), psychologists (Thorndike) and philosopher-educationalists (James, Dewey).

These developments seemed related to a marked change of emphasis in the 1918 Report of the Committee on Social Studies of the Commission on the Reorganization of the National Education Association. Their goals seemed to be at least partially inquiry oriented and were a definite contrast to the historian-dominated, product oriented proposals of the previous reports. The 1918 Report proposals were based specifically on the goal of development of social efficiency and good citizenship. The report included such recommendations as the need to utilize material not only from History but also Geography, Economics, Sociology, Government, Civics and the social, economic and political aspects of problems of democracy; the desirability of having integrated and interdisciplinary courses in the social studies; the importance of ascertaining pupil needs and experimenting with

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courses to suit the differing needs of rural or urban communities.

All these proposals tended to emphasize the student centered identification of problems which is inherent in the present day inquiry teaching movement.

Nevertheless, the overall instructional outline emphasized product over process. The four year sequence of courses was heavily content oriented and devoted to the coverage of pre-established material. The inclusion of potential process oriented courses in civics in the ninth grade and problems of democracy in the twelfth grade became in practice, highly stereotyped and consisted of textbook memorization and recitation. Schools were quick to take up the suggested sequence of courses proposed by the 1918 Report, but the suggested innovations of studying pupil needs and applying interdisciplinary material to the study of societal problems was largely dismissed or ignored.

This was the end of the era of the national committees and for the next few decades, the basic patterns proposed by them became established in many schools. In particular the 1918 recommendations

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became the established courses in social studies instruction, continuing in some instances in present day school systems as "outdated, inflexible, shallow programs of study."\(^9\)

The 1920s were confined to experimentation of curriculum proposals at the state and local levels, in most instances along product oriented, traditional lines. This appeared to be the pattern despite the publications by John Dewey of *Democracy and Education* (1916) and *The Quest for Certainty* (1929) and four other volumes against the classical traditions in philosophy and education. The historian J. H. Robinson produced a sequel to Dewey's *How We Think* (1910) with his *The Mind in the Making* in 1921. At the high school level, Harold Rugg produced a series of school textbooks in which he focussed on contemporary controversial issues utilizing information from all the social sciences.\(^10\)

Despite these publications by individuals emphasizing the method of reflective thought and the inquiry process, no national consensus of ideas on social studies occurred during this decade. Local communities, counties and states formulated social studies

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programs of study by the legion. Many experimented with the unit teaching plan proposed by Morrison in 1926 and the project method initiated by Kilpatrick at Columbia Teachers College in 1918.

It is little wonder that a Commission on Social Studies which produced seventeen volumes between 1923 and 1941 fared badly in obtaining popular support for its proposals. This commission was established by the American Historical Association in 1932 under the aegis of a Carnegie grant. During the nine year period the commission members, including academics of the caliber of Charles A. Beard and Boyd Bode, grappled with the task of producing a rationale for social studies education. In the final volume Conclusions and Recommendations of the Commission, it was stated that the main emphasis in social studies education should be the acquisition of accurate knowledge and that it was important to maintain the scholarship of individual disciplines.

By implication, the 1918 proposals of curriculum fusion and correlation were rejected, although the 1934 report included a

statement on the importance of studying the needs and problems of man in society. No specific series of school courses were recommended despite the depth of the 1934 study. The emphasis on scholarship and the study of individual disciplines contained very little of the inquiry orientations evident in the 1918 Report and promulgated by some writers during the 1920s.

By contrast, the Thirty Schools Experiment of the Progressive Education Association had as its central theme the development of child centered curricula. This experiment was established in 1933 to compare traditional and progressive school programs, but the exigencies of war caused its early closure in 1941.

In the progressive schools a range of core curricula, unit teaching and project teaching methods were adopted. The inquiry focus was evident in course outlines even though specific inquiry teaching skills were not developed to any great extent. Students were required to examine certain societal problems often utilizing several academic subjects within a general theme. A listing of curricula developed in a P.E.A. summer workshop at New York in 1937 included: An Eleventh Grade Unit on "War and Peace," a unit on "How may we develop an Intelligent Public Opinion?", a unit on
"Autocracy" and a unit on "International Relations." The central theme of the Progressive Education Association was dynamic citizenship, which in the perspective of the thirties made sense to a public very much aware of the pains and sufferings of economic depression and social inequalities. Within the movement there was a great diversity of interests but to educators such as Dewey, Alberty and Kirkpatrick, they considered the progressive school to be a means of restoring the rules of decision making to the common man. Consequently inquiry processes were required in the curriculum "to free intelligence from the rigidity of custom and the myopic selfishness of the defenders of the status quo."

The war effort distracted and siphoned off much of the exciting activities and proposals commenced by the Progressive Education Association. As a result the late 1940s and early 1950s were devoid of any major thrust in social studies education with the exception of activities by a small but significant body of academics at The Ohio State University. Professors of the caliber of Boyd H. Bode

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(Educational Philosophy) attracted other fine academics such as H. Gordon Hullfish in Educational Philosophy and Harold Albery in Curriculum and within the Social Studies Education realm, Alan Griffin, Robert E. Jewett and Lawrence E. Metcalf.

Alan Griffin in particular was responsible for elaborating Dewey's general theory, the outcome being a theoretical and practical structure for teaching history and for the subject matter preparation of high school history teachers. To him, history was chiefly useful in providing data for students to inquire into and test their own beliefs. Jewett utilized a similar approach to study student beliefs on specific classroom history topics. Metcalf concerned himself especially with the classification of student attitudes, including an empirical study of two contrasting college student populations.

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16 Lawrence E. Metcalf, "Research on Teaching the Social Studies" in Handbook of Research on Teaching, ed. by N. L. Gage (Chicago: Rand McNally and Co., 1963), p. 34. The thesis about which he was referring was: A. F. Griffin, "A Philosophical Approach to the Subject Matter Preparation of Teachers of History" (unpublished Ph. D. dissertation, The Ohio State University, 1942).


ACKNOWLEDGMENTS

In sincere appreciation for all his encouragement, guidance and support, I wish to thank Dr. M. Eugene Gilliom, my chief adviser and friend. I will always remember his patient counsel, but above all, his endeavors to make my experiences in the United States so meaningful and worthwhile.

I am indebted to Dr. Robert E. Jewett for his steadfast encouragement and maintenance of interest in my studies. From him I discovered that there are certain human touches that cannot be subjugated to impersonal rules and regulations.

Dr. Paul Klohr was an inspiration to me both as an instructor and as a member of my reading committee. I am very appreciative of his insightful ideas and the number of occasions in which he gave his time so freely.

I wish to thank Dr. S. Earl Brown for his cooperation and resourcefulness in accommodating my interests in geographic education. In particular he taught me how to mollify wild enthusiasm with sound critical analysis.
Undoubtedly, this academic stronghold at The Ohio State University maintained and fostered the development of reflective thinking and inquiry teaching, when to a large degree, activities in social studies education at other universities were relatively limited.

Then came the incentives of the 1950s and the feverish activities of the 1960s.

**Developments in Inquiry Teaching in Social Studies**

*Prior to the 1960s in Australia*

According to Rowe:

We in Australia have left leadership in great moral and intellectual issues to older centres of culture . . .

Even scientific leaders several of whom have been produced in Australia have found their scope elsewhere, but on the side of philosophy it is hard to find any contributions that Australia has made or is preparing herself to make. 19

In the same vein Partridge concedes that "there is nothing in Australia to compare with the exuberant, not to say wild, experimentation that is characteristic of many American Colleges and Universities."20 These comments may be a little harsh about a relatively young country. Despite the small population and relatively inhospitable environment, the Australian education systems have been


able to produce a comprehensive, free public education for all its citizens since the 1890s.

In the 1890s after an initial period of dual control of education by church and state often bedevilled by arguments and rivalries, each state of Australia established a secular, state controlled form of education. A series of Education Acts in each state established a state controlled education department responsible to a minister of the government. Each education department in turn was charged with the responsibility of providing free, compulsory elementary education to all residents.

At the outset, the created elementary schools leaned very heavily on the British model, both in terms of curricula, school organization and pupil expectations. Literacy in the three R's was the major goals even though history and geography were taught as minor subjects. The die was cast for what Buttes noted some five decades later as the:

... superiority of English, mathematics and science and the inferiority of the social studies and the arts and music ... and that the rigid, uniform treatment of little children must rest upon the assumption that orderliness, discipline and development of skills are the prime goals of primary education.21

Secondary schools were established on a very small scale in the first two decades of the twentieth century. Because they only catered for a very select clientele the courses were professional in character. In Western Australia only one high school was available in the first decade of the twentieth century, its pupils being almost entirely groomed for positions at the newly created Teachers College (1903) and University (1910).

In all subjects but especially history and geography, the subject centered curriculum prevailed. This was due in no small measure to the influence of external examinations (Junior and Leaving Certificates) established by boards of studies or committees. Subject areas and syllabuses were laid out by these committees and faithfully adhered to by the schools as the Leaving Certificate was used as a matriculation criterion for entrance to university. The syllabuses for History (chronological account of British political history) and Geography (factual coverage of Physical and Human Geography topics) necessitated teacher dominated lessons with the emphasis on factual recall. 22 The confining pressures of completing a lengthy syllabus prior to the examination date gave little opportunity for the secondary teacher to use any other methods.

Nor was there any creative developments in the universities during the first few decades of this century. In fact it was not until the Commonwealth Government produced substantial financial grants to the Australian universities in 1945, that student numbers greatly increased and some major research activities were commenced. Prior to this, limited finance kept the universities small, overworked and insignificant. "None of the universities and few individual scholars in pre 1945 Australia could be said to have had a national status."23 The universities were overwhelmingly teaching institutions, concerned almost entirely with undergraduates. Because of Australia's isolation, any promising graduates went to the established learning centers of Oxford and Cambridge in the United Kingdom rather than commencing post graduate studies in Australia. Few social science faculties provided masters programs whilst doctoral courses were only established after World War II.24

As a result little active research was carried out by Australian universities during the first half of the twentieth century. Students were instructed in narrow academic courses largely patterned on British and European intellectual and scholarly interests, to the

23Partridge, Schools and Progress, p. 120.

neglect of investigations directed towards Australian society itself.
The university faculties of education were chiefly concerned with
courses for teacher trainees. Very rarely did an education scholar
concern himself with any aspect of Australian educational thought and
practice.

Compared with the U.S.A. there have been few non official
personages or highly influential voluntary associations to loom large
in the history of Australian education. One exception was Francis
Anderson, the Sydney University professor of Philosophy, who at the
beginning of this century vigorously protested about the state of
education in New South Wales. He was particularly concerned with
the provision of more individual freedom for the teacher as indicated
by his slogan "pay the teacher and trust the teacher."25 It is difficult
to find other notable University educators. Instead it is far easier to
select notable administrators in education. The highly centralized
form of education has rewarded administrators who have shown their
abilities in management and efficient organization of routines. For
example, West Australian histories highlight the achievements of
Sir Cyril Jackson the first Inspector General of schools, and W. J.
Rooney the first principal of the Claremont Teachers College.

25 Partridge, Schools and Progress, p. 194.
Elementary and secondary teachers in Australia have been characterized as largely conservative technicians, preferring detailed syllabuses and instructional strategies and being largely indifferent to educational innovations.\(^{26}\) Although public service restrictions on commentaries on educational matters has been the lot of all government employees and has undoubtedly fostered this indifference, it is certainly true that little active experimentation in the social studies has been initiated by classroom teachers.

At all levels within the educational system it would seem true that Australia has lacked leaders capable of producing an educational philosophy. "Australia plays the disciple to educational philosophers in other lands and her contributions are only in the realm of school practice."\(^{27}\) According to Hill, "our state education systems have been built around a religious vacuum."\(^{28}\)

Consequently any reforms that have been produced in social studies curricula have been done on a local piecemeal basis. At the


elementary and secondary levels, curriculum changes have been initiated and undertaken by state government departments of education. The criterion of suitable training for entrance to post secondary studies is often the only one utilized in making changes at the secondary level. Unlike the American situation, academic scholars in the social science disciplines are rarely consulted, possibly due to a suspicion of their motives in the light of their strong influence on curricula at the senior secondary level. This attitude has adversely affected curriculum making in Australia, as "the experiences of practising teachers cannot provide any satisfactory substitute for the professor's insight into his subject." 29

In many instances it would seem that curriculum changes still occur along the lines described by Rankin in 1926:

When it is considered necessary to revise the curriculum all the Inspectors take a hand. Small sub-committees are formed to consider each subject and then a full conference of all the Inspectors is held in conjunction with the Director. Suggestions are asked from the head teachers and these receive full consideration. 30


Curriculum changes carried out by committees of state government
departments of education have in few instances, been widely publicized.
There has not been a ready exchange of information between state
government departments or to the general public. The only institution
which has established a broad base of educational research and widely
disseminated its results has been the Australian Council of Educational
Research, a semi autonomous body established in Melbourne in 1930.

Curriculum reforms within the West Australian education
department have followed the Australian trend of mere syllabus
revisions and ad hoc changes. At the elementary school level the
curriculum for history and geography with a small measure of citizenship
training was virtually unchanged up to 1955. During that year a
committee resolved that a "Social Studies" course should be imple-
mented in its place which consisted of a factually oriented combination
of history and geography units woven within the rubric of such themes
as the local home environment and the outside world. At the second-
ary level the markedly factual oriented courses in history and
geography (and economics in the two senior years) were maintained
until the early 1960s when a correlated history--geography version
of social studies was introduced for the first three years. An
interim committee in 1955 had produced a Social Studies course for
the academic tail of the second and third year secondary classes,
but this was indeed a very simplified interpretation of Edgar Wesley's version of social studies. At all levels the nature of the curriculum changes precluded any changes in the teaching methods. The syllabuses still emphasized factual content, teacher dominated lessons and so inquiry teaching approaches were never considered.

Nevertheless in all states of Australia during the late 1950s and early 1960s there was evidence of increasing attention to the teaching of social studies. University academics began publishing a series of articles about educational theory, societal goals and social studies curricula in such newly created journals as the Australian Journal of Education and the Australian Journal of Higher Education. Geography and History associations were formed at state and national levels. Educators began to speak out on issues of curriculum reform and the need to pursue specific philosophies in social studies education. At the national level P. H. Partridge and G. W. Bassett became leaders in the field, while at the state level in Western Australia, W. D. Neal and D. Mossenson were particularly active. Australia, too, had become infected by the winds of change.

Since the 1950s in U.S.A.

Hindsight is always useful in looking at past developments and causal factors of change. In the late 1950s and 1960s there was a great upsurge of activity in the social studies in terms of a searching inquiry into curricular and new methods of instruction and a systematic effort to find new approaches to single disciplines. To many, this ferment of activity warranted the title the "New Social Studies."32

Among the many contributing factors, an initial one was the post World War II concern for the standard of American education. Psychologists had noted some deficiencies of enlisted servicemen in basic subject areas. The "cold war" relationships with communist countries immediately following the war led to an agitation for a greater democratizing of courses to more adequately cater for student needs. One result of this public concern was the establishment of a report into youth and youth education headed up by James Conant in 1951. However the event which accentuated the concern and provided the catalyst for change was the successful launching of the first earth satellite "Sputnik," by the U.S.S.R. in 1957. In an endeavor to retaliate, U.S.A. educators now used academic excellence as the

I am indebted to Mr. John McKenzie for ably undertaking the survey with the Secondary Teachers' College population. I am also most appreciative of Ted Smith's assistance with the necessary computer programs and Libby Zwayne's expert typing of the final draft.

It is most difficult to adequately express in words the feelings of gratitude felt towards my wife, Glenys, and our children, Ross, Jennifer and Alison. I deeply appreciate the patience and understanding that Glenys displayed and especially the long hours of typing she so readily undertook. I wish to thank Ross, Jennifer and Alison for their own unique support that only children can provide. Finally, I am indebted to them all for the considerable sacrifices which they have endured over this challenging period.
chief rallying cry. In many ways this was a reiteration of the "hard" pedagogy propounded by the essentialists in earlier decades.

This outcry for excellence and scholastic achievement in education soon became the focal point for many academics, but the figure who became the educational hero of the period was undoubtedly Jerome S. Bruner. His summary of the 1959 Woods Hole conference in the form of a slim volume entitled The Process of Education became widely read and his ideas were practised in subsequent curriculum developments. He contended that every academic discipline has its own structure, comprising a characteristic mode of inquiry and particularly useful concepts which are readily transferable to new situations—"that any subject can be taught effectively in some intellectually honest form to any child at any state of development."

The concentration on the development of "miniature scholars" and the early introduction of concepts into the school program, were principles that were eagerly entertained by a country concerned with the increased world wide ideological competition and the apparent lack of achievements in American education.

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As a result, widespread funding of curriculum developments occurred in the late 1950s and throughout the 1960s. Not only was government funding forthcoming (U.S. Office of Education, National Science Foundation) but also substantial amounts were provided by private foundations (Carnegie Foundation, Ford Foundation) and by scholarly professional organizations (American Council of Learned Societies, National Council for the Social Studies). At first funding was only provided for what appeared to be the most urgent curriculum revisions, namely in the disciplines of mathematics, physics, chemistry, biology and earth sciences. These soon developed into nationwide curriculum developments under such alphabet soup acronyms as BSCS, CBA, ESS, PSSC and SMSG. 35

Curriculum building in the social studies was soon to follow. Although Fenton36 and Oliver37 had commenced curriculum experimentation in the late 1950s, the real impetus in this field came with the launching of the Social Studies Program by the U. S. Office of Education in 1963. Eight project centers were established within


major universities but by the end of the decade the number of active projects had proliferated into over one hundred.

Previously educational research had not been a respectable field of endeavor for the best scholars in the disciplines. However, the new aura of public concern, coupled with substantial funding, enticed leading social science scholars to try their hand at providing the much needed curriculum changes.

Since the 1960s in Australia

Interest in and a desire to emulate developments in major overseas countries would seem to have been the basis for educational changes in Australia in the 1960s. Mathematics was the first subject to be radically changed whereby set theory became the unifying element and a new repertoire of language, concepts and structures were developed. Like innovations in the past, this change was largely derived from American projects, namely the University of Illinois Curriculum on School Mathematics (U.I.C.S.M.) and the School Mathematics Study Group (S.M.S.G.). 38 Science teachers were not reticent in their endeavors to emulate projects funded by the National Science Foundation in U.S.A. and the Nuffield Foundation in Great

Britain. It was largely due to the initiative and enterprise shown by science teachers at both national and state levels, that a Victorian project in Junior Secondary Science became the nucleus for the first Australian National project, the Australian Science Education Project. 39

Developments in social studies occurred at a much slower pace although a fillip was provided by the holding of an Australian National U.N.E.S.C.O. Seminar on the Teaching of the Social Sciences at the Secondary Level at Melbourne in 1967. 40

For the first time an opportunity had been provided for teachers, administrators and academics to meet, discuss and reflect on the pressing needs of teaching the social studies. Seminar participants were particularly concerned with infusing some of the recent developments in the individual social sciences at the university level into high school courses, as had been proposed by American educators over a decade earlier. 41

39 Ibid., p. 140.


The enthusiasm generated at the conference created sufficient momentum to bring about several major developments in social studies teaching. An important spin off was the creation of an organization to evaluate and disseminate newly created social studies material. The National Information Centre for Social Science Education (N.I.C.S.S.E.) was funded by a private foundation, the Myer foundation, with the specific goals of evaluating overseas projects, creating pilot units in Australia and providing a source of information and news exchange between all Australian states.42

Direct involvement by the Federal Government did not materialize and consequently there was no parallel to the tremendous impetus to project developments provided by the United States Federal Government in 1963. An Australian National committee appointed in 1970 has had very limited influence, and certainly is no nearer its initial plan of providing the framework for a national social studies project.43

Consequently the development of social studies projects since 1967 have been on a state basis only and because of this, limited in

42"Social Science Curriculum Project," NICSSE Bulletin, No. 1 (1970), 1. (The NICSSE had a very temporary existence as lack of funds caused it to cease operations in December, 1971.)

terms of academic expertise and funding. One of the most significant developments has been the creation of a multidisciplinary, inquiry oriented social studies project at Monash University under the direction of F. J. Hunt. To date, this is the only project to be developed on an experimental basis, although adaptations of two U. S. projects, MACOS, and Fenton's "Holt Social Studies Curriculum" have been utilized in New South Wales and Victoria.

Other developments in social studies curriculum have followed the low key education department modifications typical of past decades. Despite the zeal and enthusiasm of individuals and youthful committees, individual states have produced only minimal changes in the social studies, being shackled by a lack of finance, direction and markets for their endeavors. Increased attention has certainly been directed towards the use of discovery/inquiry approaches, to the use of primary source data, audio visual aids and relatively cheap paper.


47David G. Dufty, "Recent Impressions of Five States," NICSSSE Bulletin, No. 1 (1970), 2, comments on the high quality materials produced by the West Australian curriculum research team for the newly created Achievement Certificate Units in Social Studies.
back reading materials, but these have been modifications within the existing framework of courses rigidly prescribed by official syllabi and still largely evaluated via external examinations. 48

**A Closer Examination of Inquiry Teaching**

Over recent decades in the U.S.A. and to a lesser extent in Australia, *inquiry teaching* has developed as a major teaching orientation in social studies. Unlike the spasmodic references and superficial acknowledgement of process approaches and inquiry methods in the period prior to the 1950s, over recent years it has become one of the chief focii of interest for academicians and teachers.

In the field of social studies a growing camarilla of academics have published treatises on the attributes of inquiry teaching. For example, Kaufman identified fifty-two authors who had published books on inquiry teaching between 1960-1970. 49 The frequency of occurrence of articles on inquiry teaching in academic journals is another indication of a marked interest among academics and teachers. Poetker

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examined articles in *Social Education* between 1960 and 1970 and noted that whereas only thirty-five articles pertaining to inquiry had been published between 1960 and 1965, the number between 1966 and 1970 had rocketed to one hundred and thirty-nine. 50

The social studies projects, without exception, have incorporated some form of inquiry teaching into their basic sequence, even though the nature of it has varied from highly teacher centered to highly student centered. 51 For example, Fenton's *Holt Social Studies Curriculum* contains a highly structured, teacher dominated approach, in which student inquiry follows a predetermined sequence. 52 By contrast, Oliver's *Harvard Social Studies Project* provides only background material and minimal procedural requisites for the student to follow, within a jurisprudence logic sequence. 53

**Merits and Demerits of Inquiry Teaching**

The authors of these numerous books, articles and journals write in glowing terms about the virtues of inquiry teaching, including

50 Poetker, "Appropriateness of the Social Studies Test Items," p. 84.


many laudatory phrases pertaining to its advantages over traditional forms of teaching, and exhorting the use of inquiry in all aspects of social studies.

Possibly the major advantage of inquiry teaching is its economical use of knowledge. Only knowledge relevant to a problem is examined rather than a mass of facts being learnt as an end in itself. Students are facing a period where knowledge is being expanded so rapidly that facts are becoming redundant and obsolete at a proportional rate. Bruner propounded in 1957 that every academic discipline has its own structure made up of a characteristic mode of inquiry and particularly useful facts, concepts and generalizations. The student can learn easier by the discovery of the general principles of a discipline. This suggestion was accepted by many as a positive alternative to the endless learning of facts.

Inquiry proponents are also quick to point out the intrinsic motivation for students that is inherent in many of the inquiry approaches. Students are self motivated to reflect on certain issues, search out relevant data, to synthesize from different sources and to come to decisions that are meaningful to them personally. To use

Griffin's phrase, the student "learns that" rather than merely "learning to say." 55

Other virtues are often cited for inquiry teaching but they are usually couched in such general terms as to be almost meaningless. For example, it has been suggested that inquiry teaching when compared with other teaching methods has superior transfer value and greater retention for the student. However, none of these assertions has been empirically tested and therefore at this stage they are mere hypotheses.

Critics of inquiry teaching have been equally as vociferous about its demerits. One of the most commonly used arguments is the extensive amount of time needed to carry out an inquiry teaching program. Cronbach cites the number of practices or trials one needs to successfully master a problem inductively. 56 Metcalf emphasizes that sufficient time must be available to get student involvement. Using his terminology, time is needed to get students into an intellectual jam. 57 In the typical school program with its rigid scheduling


<table>
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<th>Year Range</th>
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<tr>
<td>September 3, 1939</td>
<td>Born - Denmark, Western Australia</td>
</tr>
<tr>
<td>1960</td>
<td>B.A., University of Western Australia, Perth, Western Australia</td>
</tr>
<tr>
<td>1960-1966</td>
<td>Teacher of High School Social Studies, Education Department of Western Australia</td>
</tr>
<tr>
<td>1961</td>
<td>Diploma of Education, University of Western Australia, Perth, Western Australia</td>
</tr>
<tr>
<td>1967-1968</td>
<td>Chairman, Department of Social Studies, Tuart Hill High School, Perth, Western Australia</td>
</tr>
<tr>
<td>1969-1972</td>
<td>Associate Professor, Mt. Lawley Teachers' College, Perth, Western Australia</td>
</tr>
<tr>
<td>1971</td>
<td>M.A., University of Western Australia, Perth, Western Australia</td>
</tr>
<tr>
<td>1972-1973</td>
<td>Teaching Associate, The Ohio State University, Columbus, Ohio</td>
</tr>
<tr>
<td>1973</td>
<td>Head of Department of Social Sciences, Graylands Teachers College, Perth, Western Australia</td>
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</table>
of classes, the large sections of time needed for inquiry teaching might well prove to be pedagogically impractical.

Educational psychologists have also raised certain queries regarding inquiry teaching. Unlike the stimulus--response--reinforcement/non reinforcement of typical didactic teaching, inquiry teaching requires different mental processes such as analytic and whole field cognitive sets. Wittrock considers that inquiry is only useful in limited categories of teaching. Gagne comes out more strongly when he maintains that principle learning can be achieved with or without inquiry procedures and the (inquiry) "is not a panacea for learning effectiveness nor is it an essential condition for all kinds of learning."59

Factual material taught didactically has been evaluated in the past on the basis of one or more achievement tests. Inquiry oriented material that may contain both cognitive and affective aspects, cannot be so readily evaluated with paper and pencil tests. Further, one would like to have some way of evaluating the thought processes, both


overt and covert, used by a student when undergoing an inquiry teaching program. Should a student be given some credit for activities he carried out to reach a certain goal? Is it possible to evaluate his growth in creative and critical thinking skills in addition to his capacity for factual recall information? Van Scotter has recently produced a series of inquiry tests dealing with such skills as social sciencing, creative thinking, critical thinking and intuitive thinking.60

There are undoubtedly many difficulties yet to be overcome in the evaluation of inquiry teaching. Kurfman, in his capacity as evaluation director for the High School Geography Project (H.S.G.P.), initially devised a series of evaluation instruments for measuring the effectiveness of the units. The difficulties involved in creating suitable instruments apparently necessitated an abandoning of this strategy because after a short period the remaining units were evaluated merely on the basis of teacher and student questionnaire reports.61

Empirical Research on Inquiry Teaching

Proponents and critics of inquiry teaching have outlined major issues to support their points of view. The difficulty to date has been


the devising of suitable research procedures to empirically test these claims and counter claims.

Since the Thirty Schools Project of the 1930s, there has been no comprehensive research program in the social studies. Mention could be made of the series of masters studies carried out at the University of Kansas in 1947 under the supervision of Ernest Bayles. In these experiments, masters students compared the effectiveness of inquiry teaching with national norms of achievement for students who had supposedly been taught by traditional methods. Also of merit were the four doctoral studies undertaken at the University of Indiana in 1960-1963. Massialas, Cousins, Elsmere and Cox used a carefully designed reflective teaching procedure with their classes, comparing the results of this method with control groups using a didactic teaching method. A marginal superiority of the reflective teaching method was indicated, although it was not clear as to whether this may have been largely attributable to the types of evaluation instruments used.


With the exception of these two groups of graduate studies, there has been a dearth of empirical research on social studies over the last three decades. The advent of the social studies projects in the 1960s led surprisingly, to very little empirical research on their products. Leading social studies academics from all over the U.S.A. assisted in producing single, multi and interdisciplinary social studies projects, all of which, as was indicated above, contained varying degrees of inquiry orientation. Yet it would appear that the project developers were willing to accept the inquiry teaching procedures as being superior to any other teaching method, despite a lack of unequivocal evidence. This seems to have been the attitude despite Bruner's original statement on the use of discovery—"Practice in discovery for oneself teaches one to acquire information in a way that makes that information more readily viable in problem solving. So goes the hypothesis. It is still in need of testing."^4

However, it is also necessary to examine the situation from the project developers' point of view. Each project relied for funding on a private corporation or academic association. In most cases the emphasis was on producing an attractive curriculum package incorporating the major concepts or generalization from a particular

---

discipline. In all cases, the developers had limited time to produce the materials, let alone evaluate their degree of effectiveness in the classroom. Consequently, very few project developers undertook "hard nosed" experimental research of their products, although some included small scale pilot tests and questionnaires for teachers and students. 65

Two project developers who did carry out limited experimental research on their products were Oliver and Fenton. Oliver and Shaver carried out a longitudinal study over four years to evaluate the effectiveness of the Harvard Project units. 66 In an endeavor to measure thinking skills, they produced their own Social Issues Analysis Test (SIAT) in addition to using selected achievement tests. Fenton undertook a similar longitudinal study, utilizing a specially devised measure, the Carnegie Test of Social Studies Inquiry Skills. 67 In both instances these project developers were able to demonstrate significantly better performances by the experimental groups when

65 Guy A. Larkins and James P. Shaver, "'Hard Nosed' Research and the Evaluation of Curricula," Teachers College Record, LXXIII, No. 3 (1972), 415-416.

66 Oliver and Shaver, Teaching Public Issues, pp. 245-304.

their own evaluation instruments were used, but no significant differences were evident from results on standardized evaluation instruments. It would appear that the format of the specially devised tests may have provided the experimental groups with certain advantages over the control groups.

Thus empirical research from the social studies projects has added very little information about the efficacy of inquiry teaching. In a way, one can sympathize with the project developers for not waiting for research workers to provide substantial evidence on inquiry teaching. Cronbach reiterates this sentiment with his metaphor about the theoretician greatly outpacing the researcher. He is "left standing on his tiny, laboriously tamped patch of solid ground, crying in a pathetic voice, 'Wait for me! Wait for me!'"68

The most recent empirical research on inquiry teaching was examined by the writer as a further endeavor to see if information had been forthcoming over the last five years.69 Using data obtained from Dissertation Abstracts, E.R.I.C. Current Index to Journals in Education and E.R.I.C. Research in Education, all published


empirical studies on inquiry teaching were examined for the period January 1967 through November 1972.

A superficial examination of the results in Table 1 would give the reader the impression that inquiry teaching is infinitely more successful than non-inquiry methods in producing certain learnings. Eleven of the twenty-eight experimental studies produced statistically significant advantages for inquiry teaching compared with five non-significant results. In addition, twelve of the remaining studies had "near" significant results. These experiments often concluded with such qualitative comments as the children were more interested, or more enthusiastic or just more active!

**TABLE 1**

RESULTS OF EXPERIMENTS COMPARING INQUIRY TEACHING METHODS IN SOCIAL STUDIES WITH OTHER METHODS (1967-1972)

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Significant for Inquiry Method</th>
<th>Not Significant for Inquiry Method</th>
<th>Favorable results for Inquiry Method but not statistically significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recall</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Transfer</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retention</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Inquiry</td>
<td>3</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Variable (eg. Questioning Skills)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inquiry Related</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Variable (eg. Pupil Interest)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>5</td>
<td>12</td>
</tr>
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</table>
However, a closer look at the eleven studies having statistically significant results revealed the following deficiencies:

(a) Three of the studies were with samples of less than fifty pupils. One study in fact was with only twenty-four pupils.

(b) Two of the studies only used comparison groups and thereby increased the likelihood of having errors of confounding and inconsistency in group variables.

(c) Three of the studies used very general criteria for selecting their groups. It was also not clear whether random selection procedures had been utilized.

(d) In two of the studies it appeared that prior training and a high level of motivation was achieved for teachers of the experimental groups but no similar experiences or incentives were given to teachers of the control groups.

By taking these deficiencies into consideration, the number of statistically significant studies was reduced to zero. To provide an even more dismal picture, reference should be made to deficiencies noted in experiments which did not produce statistically significant results. Some of these major shortcomings included:

(a) Six studies used testing periods of only one week while four studies used between one-two weeks. In this short time period it is unlikely that inquiry teaching techniques could be developed to any great extent.
(b) Only three of the twenty-eight studies included a longitudinal study to evaluate retention of inquiry skills over longer periods of time.

(c) Only twelve of the studies provided specific training sessions for the teachers of the experimental classes.

(d) Sixteen of the studies used as their main evaluation instrument a paper and pencil test, such as the Watson-Glaser Critical Thinking Appraisal, to measure growth in the cognitive domain. Very few experimenters utilized observation ratings or even considered measuring changes in the affective domain.

(e) In only sixteen studies were details of the teaching procedures given. This may have been due to the lack of specificity in some of the dissertation abstracts or it could have been a lack on the part of the researcher to definitely state the procedures to be used. 70

After a close examination of the twenty-eight most recent experimental studies on inquiry teaching, the writer was dismayed by the fragmentation of the studies and the lack of clear evidence to

substantiate or refute the many qualities often attributed to inquiry teaching.

It is evident therefore that this experimental research has been no more fruitful in its analysis of inquiry teaching than earlier studies. Some writers maintain that because inquiry is such an omnibus term it practically defies measurement. Could it be that researchers have been measuring different aspects about inquiry teaching? Postman and Weingartner maintain that most educators are caught up in the "rearview-mirror" syndrome and consequently are overly concerned with such problems as whether the inquiry method will accomplish the goals that older learning media have tried to achieve.\(^71\) Feely suggests that the fragmented and inadequate research data is due in no small measure to conceptual confusion over the term inquiry teaching.\(^72\)

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PUBLICATIONS

Articles


"Changes in the Location of Retail Functions in Metropolitan Perth." Economic Activity, XV, No. 3 (July, 1972), 33-40.


Books


FIELDS OF STUDY

Major Field: Social Studies Education

Social Studies Education. Professors M. Eugene Gilliom and Robert E. Jewett

Curriculum and Instruction. Professor Paul R. Klohr

Geography. Professor S. Earl Brown
Most simply, is a strategy of classroom instruction that requires
the learner to use the same intellectual operations that he would use
if he were engaged in independent scientific investigation or problem
solving. Although useful as a simple definition of inquiry teaching,
it would appear to be lacking in terms of its generality, its reference
to only the procedural dimension of inquiry and the use of problem
solving as a synonymous term. It may well be more fruitful to
pinpoint the concept of inquiry teaching by referring to commonly used
synonyms and indicating those aspects which are not related to it.

Discovery was a term refurbished by Bruner in his book
The Process of Education. Subsequently this term has been widely
used, by science and mathematics educators to describe an inductive
learning approach in their respective disciplines. It would seem that
most academics use the term to describe the procedural aspects
involved. For example, Gage states that the discovery method
refers to teaching in which the teacher withholds from pupils the
concepts and principles. Suchman takes a more restricting

73Beyer, "Inquiry in the Classroom," 2.

74Mauritz Johnson, "Who Discovered Discovery?" Phi Delta
Kappan, XLVIII, No. 3 (1966), 120-123, provides evidence that
Bruner merely recirculated the concept.

75N. L. Gage, "Teaching Methods," Encyclopaedia of
Educational Research, ed. by Robert L. Ebel (4th ed.; London:
interpretation by referring to discovery as the "aha" aspect, the intuitive breakthrough in the analysis of a problem. Inquiry teaching then would subsume discovery as it consists of more than the procedural elements of analysis. The terms are definitely not synonymous.

**Inductive Thinking** is a term that has been widely used to popularize the new approach to the teaching of social studies. Because the stress is on teaching students to use concrete examples as a means of unravelling concepts and generalizations, it is diametrically opposed to rote acceptance learning. By definition, it is the opposite to deductive thinking. Writers who have praised the "meaningful" learning activities provided by the inductive approach have been severely criticized by Ausubel, who points out the illogic of the dichotomy, namely:

- Inductive (Discovery) vs Rote (Reception)
- Meaningful learning vs Non-meaningful learning

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Inductive thinking is a part of the inquiry teaching process but it is only one of the techniques used. The emphasis on a student's becoming actively involved in the process of learning with a minimum of teacher verbalization is very desirable. Nevertheless, exponents of induction overextend the capacity of the term, if by implication, they reject other forms of meaningful teaching such as deduction and in some instances, even rote.

Critical Thinking is a term commonly used to describe the processes of inquiry, as evidenced by the several standardized tests that are widely used to measure student performance on this variable. For example, the Watson-Glaser Critical Thinking Appraisal and the Cornell Test of Critical Thinking purport to measure a student's ability to use convergent thinking processes. Ennis, the author of the Cornell test and one of the leading exponents on critical thinking, maintains that there are three dimensions involved. Critical thinking involves examining the logical aspects of a statement, applying suitable criteria to see if it can withstand critical analysis and using pragmatic judgment to evaluate if the statement really expresses the purpose for which it was intended. Van Scotter points

to the scope of critical thinking because it is an amalgam. The critically analyzing and sequential searching aspects of critical thinking are two important aspects of inquiry teaching. The difference between the two terms lies in the wider frame of reference of inquiry teaching, which in addition, contains divergent thinking elements such as creative thinking.

Problem solving is a term which comes very close to being synonymous with inquiry teaching. In problem solving, students are asked to explore and critically examine a problem. This involves a student in the task of not only applying critical thinking skills, but confronting the problem and using a range of synthesizing skills to come up with a solution. In other words, problem solving has a greater emphasis on creative and intuitive thinking processes apart from the critical thinking mode. Inquiry teaching includes all of these thought modes and to this extent is similar to problem solving. A minor difference is that inquiry teaching may involve examining relatively open ended issues which have no immediate solution and therefore cannot be satisfactorily brought to closure. That is,

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inquiry teaching is likely to focus on divergent thinking activities in addition to the predominantly convergent thinking areas often associated with problem solving.

Reflective thinking is a term which is commonly associated with the writings of John Dewey. According to Dewey, "reflective thinking is the active, persistent and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it tends." This definition includes the use of both convergent and divergent forms of thinking to analyze a belief or statement. Further, Hunt and Metcalf maintain that it assumes a distinct methodological quality, a sequential process of thinking. These writers look upon the sequential steps as an integral pattern of thought processes undertaken by the student and not a mechanistic listing of intellectual requirements to be performed. It would be very difficult therefore to separate the term reflective thinking from inquiry teaching as they both contain the procedural and content elements.

Inquiry teaching then can be looked upon as a very global concept. For Massialas it is not just a teaching technique, but a

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83Hunt and Metcalf, Teaching High School Social Studies, pp. 68-69.
style of life. To Feeley, "the concept of inquiry teaching is not limited to any single technique or general approach, but, rather, a short-hand way of referring to any and all practices which contribute to student inquiry." He maintains that a great deal of the present confusion over the inquiry teaching concept is due to an unawareness that there are two dimensions involved, namely a procedural dimension and a content dimension.

The procedural dimension refers to the set of procedures which might be applied when using an inquiry orientation and would be related to the above terms of inductive thinking, problem solving and discovery. The content dimension refers to the conceptual structures or understandings that a student might bring to bear to an inquiry situation and the consequent quality of his outputs. This might range from a broad general awareness of a topic to a scholarly background of specialized concepts and generalizations. Implicit within this dimension would be included the intellectual skills of critical and reflective thinking.

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85 Feeley, "Concept of 'Inquiry'," p. 162.

86 Ibid., pp. 89-126.
In effect, the content and procedural dimensions are continua upon which are represented a number of parallel positions. For example, the highly structured social studies courses (content) are closely interrelated and compatible with a scholarly sequence of academic inquiry (procedural). By contrast, a student centered problem (content) might entail drawing upon technical and non-technical data from a wide range of disciplines and because of the low level of abstraction, be confined to a process of general inquiry not in keeping with the scientific method (procedural). Apart from these polar positions on the continua, it would be possible to have any number of middle positions, but in each case, a position on one continuum would necessitate a parallel position on the other continuum.

It would seem that these two dimensions are a useful way of depicting inquiry teaching, especially if viewed in terms of a content continuum and a procedural continuum. However, the writer feels that an overarching dimension of inquiry atmosphere is also needed to complete the picture (Figure 1). The inquiry atmosphere consists of the socio-psychological background of the class, including in particular, the quality of interactions between teachers and students. These three dimensions of inquiry teaching impinge on each other and depending on the continuum positions, result in varying forms of inquiry teaching. In an endeavor to appreciate and understand the
MODEL OF INQUIRY TEACHING

INQUIRY ATMOSPHERE

Mutual Respect

Exploring Ideas and Values

General

PROCEDURAL CONTINUUM

Scholarly

Inquiring

Sequence

Problem

Structure of the

Centered

CONTENT CONTINUUM

Discipline

Cooperation

Interaction

INQUIRY ATMOSPHERE

Figure. -- 1
variations in inquiry teaching it would seem desirable to probe further into these three aspects.

A Model of Inquiry Teaching

(I) The Inquiry Atmosphere Dimension

A desired inquiry atmosphere occurs in a classroom where there is a continuous re-examination of assumptions and accepted inquiry procedures and values. The degree to which this goal is reached depends upon the attitudes and responsibilities of both the teacher and the students. Massialas and Zevin list such teacher responsibilities as to challenge and continuously prod the students to explore and test new alternatives, to ask students to defend their views publicly; to legitimize creative expression and to perform diverse managerial tasks. 87 Engle refers to the importance of providing springboards for inquiry which he aptly titles "the inflammables." 88 Goldmark points to the need for the teacher to provide


last resort assistance to students so that inquiry won't bog down, thus averting premature closure. 89

The students for their part are encouraged to become personally involved in problems, and to develop a self-directed quality of inquiry. To do this may entail acquiring procedural skills of inquiry as well as skills in creative, critical, open minded and intuitive thinking. 90 The outcome of having both students and teachers undertaking these responsibilities is to produce an educational environment which is conducive to active inquiry teaching. 91 Although King and Brownell's suggestion of a "community of scholars in which ideas can be freely debated" is too utopian for most of us, this could become the goal for many inquiry teachers and their students. 92


91 Phrases pertaining to a desirable inquiry atmosphere were used in a pilot study, as described on pages 258-267. They included such terms as:

"to develop an intellectually permissive atmosphere"
"to use a range of resource materials"
"to encourage freedom of expression and movement"
"to cast and test hypotheses."

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The Procedural Continuum

Along the procedural continuum a variety of positions can be noted. At one end there would be the extreme case where literally no procedural activities are required or suggested by the teacher. The guiding motivation for the students would be their own levels of curiosity, inquisitiveness and tenacity to seek out answers. John Holt reminds us that this is the natural way of learning—"that it is not subject matter that makes some learning more valuable than others but the spirit in which it is done." Vincent Rogers points to the value of having at least some educational experiences that are not goal oriented, in which students inquire merely because they have an impulse to do so. The Boston MATCH social studies project epitomizes this conception of inquiry with its emphasis on children being given the opportunity to feel and touch, rather than becoming involved in mere verbal games.

Nevertheless, such an interpretation of inquiry teaching can lead to difficulties in terms of curriculum planning and school organization. It would appear that a more common position on the procedural continuum is where some standardization of inquiry processes is set down. Social studies academics have coined their own idiosyncratic phrases to describe the processes of inquiry teaching, but most are derived from the five outlined by John Dewey in 1933. According to Dewey there were five main stages plus pre-reflective and post-reflective phases. His five stages consisted of:

1. suggestions, in which the mind leaps forward to a possible solution;
2. an intellectualization of the difficulty or perplexity that has been felt (directly experienced) into a problem to be solved, a question for which the answer must be sought;
3. the use of one suggestion after another as a leading idea, or hypothesis, to initiate and guide observation and other operations in collection of factual material;
4. the mental elaboration of the idea or supposition (reasoning, in the sense in which reasoning is a part, not the whole, of inference); and
(5) testing the hypothesis by overt or imaginative action.  

Massialas and Cox express a similar pattern with their six phases of orientation, hypothesis definition, exploration, evidencing and generalization. Michaelis uses a more prescriptive range of activities commensurate with his highly structured Inquiry-Conceptual Curriculum. For Michaelis, in theory at least, the student should experience the processes of defining, observing, classifying, interpreting, comparing, contrasting, hypothesizing, generalizing, predicting, analyzing, synthesizing, evaluating, inferring and communicating! A less structured set of inquiry processes is outlined by Hunt and Metcalf which includes the recognition and definition of a problem, the formulation, elaboration and testing of hypotheses, and the drawing of conclusions. This appears commensurate with their student oriented problems approach to the teaching of social studies.

96Dewey, How We Think, p. 107.


99Hunt and Metcalf, Teaching High School Social Studies, pp. 60-61.
The procedural continuum refers to different approaches to the task of learning how to inquire. Social studies literature is replete with references to this aspect of inquiry teaching. Yet apart from slight variations in labels, most social studies academics concur on the basic processes of inquiry.

(III) The Content Continuum

Two major positions can be noted at the extremities of the content dimension, namely the problems approach and the structure of the disciplines approach. The problems approach places the onus on the students to select and become involved in personally meaningful topics. Hunt and Metcalf suggest that the problems selected should include topics from the "closed areas" such as race or minority group relations, social class, sex, religion and morality. The important consideration is that the topics satisfy felt student needs. It would seem highly probable that several, if not all of the social studies disciplines, might be utilized in the analysis of a particular topic. Perhaps this is exactly what inquiry teaching should be about. Kaplan maintains that inquiry teaching is autonomous in so far that the domain of truth has no boundaries and that

techniques, concepts and laws should be taken from any discipline when and if they can be used to facilitate the understanding of a topic. 101

Undoubtedly the problems approach offers a genuine, comprehensive inquiry orientation. However, a relatively structureless Socratic style of discussion provides tremendous difficulties for curriculum development and administration. Needless to say, very few of the social studies projects have adopted this type of inquiry orientation. Possibly the nearest to this category would be the Harvard Social Studies Project and the Analysis of Public Issues Project. 102 Academics subscribing to the problems approach have been vociferous in their support for this inquiry form but have been lacking in their efforts to produce substantive courses. As Northup suggests:

It would be helpful to teachers if proponents of reflective inquiry would develop materials that stimulate the perception and identification of problems. Guidelines


102 The Harvard Social Studies Project began in 1956, directed by Donald W. Oliver. Analysis of Public Issues Project was commenced at the Utah State University in 1969, co-directed by James P. Shaver and A. Guy Larkin.
for the development of materials are needed to aid problem identification, so that teachers may be able to develop their own materials. 103

The structure of the disciplines approach has been the model adopted by most social studies academics. It can be accommodated with a scholarly based, inquiry procedural form and to this end, has been used by academics to further the development of their own particular discipline. The predominant emphasis is on cognitive skills although some minor representation of the affective domain is usually included. The primary goal of proponents of this type of inquiry teaching is to provide disciplined rigorous investigation of specific concepts and generalizations considered central to a particular discipline. The selection of the concepts is considered to be more valid than the personal autonomy of the students.

These academics are quick to point out the benefits of studying major concepts rather than wads of outdated facts, of being able to transfer learnt concepts to new situations, and of being able to use the same conceptual tools and understandings (at a lower level) as the professional social scientist. Examples of social studies projects which have adopted this form of inquiry would include the Holt Social Studies.

Studies Curriculum Project and the High School Geography Project. 104

Despite their popularity by project developers, much has been written about the undesirability of the "rediscovery" courses. Silberman points to the indoctrinating, adult dictated project packages that are just as one sided as traditional courses. 105 Students undertaking these courses are encouraged to become sleuths confined to a carefully preplanned set of circumstances, such as the "salted mine" atmosphere of many of the H.S.G.P. units. 106 Further, Lafose indicates that many of the social studies projects in this category create a "con game" atmosphere in so far as the class learns to read the predilections of the teacher rather than undertaking meaningful inquiry. 107

104The Holt Social Studies Curriculum was directed by Edwin Fenton and published in 1967.

The High School Geography Project was directed by Nicholas Helburn and published in 1970.


Summary

According to Laforse, "inquiry now seems to adorn all new textbook materials, program packages and pronouncements of state education departments."¹⁰⁸ For many social studies educators, the present decade is one of great excitement and change, whereas others are highly skeptical of the "inquiry fad." Inquiry teaching as a set of procedures and as a content orientation is certainly not new. Such an emphasis was implicit in the 1918 Report of the Committee on Social Studies, despite a lack of transfer into the schools of that period. Further evidence of the inquiry approach was revealed in the short lived Thirty Schools Experiment. Above all it was individual educators of the caliber of Dewey and Kilpatrick that carried the banner of inquiry forward, even though they used their own brand labels. In later decades, Griffin and Metcalf developed the inquiry concept still further, prior to the massive upsurge of activity by a host of social studies scholars in the 1960s.

In Australia, inquiry teaching has been a much more recent phenomenon. An analysis of educational developments prior to the 1960s indicated that the Australian education systems closely followed the factual, exam oriented, traditional courses emanating from the

¹⁰⁸Ibid., p. 40.
British public schools. Few innovative practices in social studies were produced by either individual academics or education departments prior to the 1960s. Following on from social studies research in the U.S.A. during this decade and further stimulated by a major U.N.E.S.C.O. conference in 1967, Australian academics were activated at last to the inquiry cause.

However, there exists in both countries at the present time, a considerable degree of confusion over the meaning and value of inquiry teaching. Despite the countless number of books and articles about inquiry teaching and the numerous social studies projects utilizing an inquiry orientation, there is still little empirical evidence to ascertained its efficacy in the classroom. Even an examination of the most recent research carried out over the last five years revealed only fragmentary support and in some instances, a rejection of certain aspects of inquiry teaching.

An analysis was made of the conceptual difficulties surrounding inquiry teaching and the terms which are commonly misused as synonyms for inquiry. A global interpretation of inquiry teaching was proposed consisting of an overarching inquiry atmosphere dimension, a procedural continuum and a content continuum. It was suggested that academics have adopted several major positions along these two continuums. An important consideration is that a position
on one continuum requires a parallel position on the other, as evidenced by the scholarly procedural position and the scholarly structure of the discipline content position of many of the social studies projects.

There appears to be many areas of inquiry teaching still unexplored and many issues still unresolved. Above all, comprehensive empirical programs are urgently required to test out the viability of the largely untested social studies projects. Relatively unexplored questions include such aspects as:

Do some children learn more effectively with non-inquiry approaches?

Are all teachers effective with inquiry teaching?

Are there any specific personality or experiential factors that affect an individual teacher's ability to use inquiry teaching?

To what degree are teachers aware of the techniques of inquiry teaching?

To what degree do teachers hold positive attitudes toward inquiry teaching?

In this study the writer is predominantly concerned with the last question, focussing especially on pre service teachers. In the following chapters the attitudes of pre service teachers towards
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inquiry teaching are taken up more fully, although all of the above questions are pertinent to the study and are re examined throughout.
CHAPTER III

ATTITUDES AND CHARACTERISTICS OF PRESERVICE
SOCIAL STUDIES TEACHERS

Introduction

As different colleges provide different levels of intellectual stimulation, so they can be expected to generate a special ethos or 'climate,' an affective and conative atmosphere as characteristic of the college as its intellectual and academic aspirations and pretensions. This 'climate,' as well as differences in the teaching methods . . . influence students in their attitudes to knowledge, to teaching as a profession and to their own development as persons.¹

The selection of a college program leading to a baccalaureate degree and teacher certification is often the final stage of formal education for prospective teachers. Within the span of only four years, each college program provides a unique formula for what is needed to produce "effective teachers." Not only does the graduating student come away from the program with a marketable range of qualifications in academic disciplines, he has in addition, formulated and molded

his own particular set of attitudes and values. Despite the frequent criticisms of teacher education programs, little comprehensive empirical research has been produced to confirm or refute these accusations. According to Peck and Tucker, it has been only during the latter years of the 1960s that any substantial research has been produced, largely as a result of massive federal funding. They point to the complexity of teacher education research that has to examine factors which interact simultaneously—the pupils' aptitudes, interests, readiness and attitudes toward learning; the individual personal characteristics of the teachers; the parents' and peer subcultures' attitudes toward schooling; the administrative policies and the interpersonal organization of the schools. Therefore a researcher has to provide a design sufficiently comprehensive to include these and other factors, or if it is possible to isolate one or two factors, undertake a series of separate research studies.


4Ibid., p. 942.
In this study the writer has taken the latter course to provide a manageable research design in which he examines the relationships between inquiry teaching and the attitudes of preservice social studies teachers. Admittedly the attitudes of college seniors to inquiry teaching is only one segment of the total sequence between knowing about inquiry teaching and actually practising it in the classroom. A total analysis of inquiry teaching in social studies would require an examination of the formative teacher experiences; the specific teacher properties, especially attitudes; the teacher behaviors; the immediate pupil effects; the long term consequences; the classroom situations and the school contexts. Nevertheless the writer considers that the formative experiences and specific teacher properties (attitudes) are crucial stages in the sequence and warrant special study.

Within the social studies field, there is a dearth of empirical research on the rate of diffusion of inquiry teaching techniques into the schools and colleges. To what extent have present teacher education graduates been exposed to inquiry teaching techniques, and more importantly, what attitudes do they hold about it? Graduating

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seniors would still have been in elementary school when Fenton and Newmann and Oliver produced prototypes of their social studies projects. During the frantic 1960s when over one hundred social studies projects were initiated, these students would have been largely at high school. Were they exposed to any of these inquiry-oriented projects during their high school years? Did any enthusiastic teachers, fresh from inservice workshops and seminars, expose them to inquiry techniques? To what extent did the specific college instructors offer and encourage inquiry-oriented courses?

In an attempt to answer some of these questions the writer has focussed specifically on the colleges and on preservice teachers specializing in social studies education. At this stage it would seem pertinent to examine both theoretical and empirical evidence about attitudes and teacher characteristics prior to detailing the specific research design and results emanating from this study.

**Attitudes**

The concept of attitudes has always been a fundamental component within the field of social psychology. Although the concept is now used in many disciplines, it was in social psychology where

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much of the theoretical and empirical studies were first undertaken. Stern refers to the Thomas and Znaniecki study of 1918 in which the concept of attitudes was first established as a central variable, and cites Watson's "fairmindedness test" (1925) as one of the earliest attempts to measure attitudes. 7

Academics seem to have as much difficulty defining "attitudes" as was noted in the previous chapter with regard to defining "inquiry." In the 1920s and 1930s, Gordon Allport made extensive studies of attitude theory and measurement. From his analysis of over one hundred different definitions of attitudes, he concluded:

It is not difficult to trace the common thread running through these diverse definitions. In one way or another each regards the essential feature of attitude as a preparation or readiness for response. The attitude is incipient and preparatory rather than overt and consummatory. It is not behavior, but the recondition of behavior. 8

Since the 1930s the concept of attitudes has broadened, becoming more complex and multidimensional. Khan and Weiss maintain that the defining characteristics now include a propensity

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of positive or negative affect toward a social or psychological object; that they are selectively acquired and integrated through learning and experience; and that they are enduring dispositions indicating response consistency. Stern adds that they are also socially formed. They are based on cultural experience and training and are revealed in cultural products. Greenwald, a theoretician on attitudes, sums up the multidimensionality of attitudes by stating that they consist of three components, namely an emotional component (affective), a cognition component (cognitive) and an action--tendency or habit component (conative). It would seem that these three components represent different emphases about attitude theory in the current state of the field in social psychology.

For this study the writer considered that a more specific definition of attitudes was required. To this end, Fishbein, another notable theoretician on attitudes, takes a unidimensional

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interpretation. He relegates attitudes to simply the amount of affect for or against a psychological object and thereby differentiates attitudes from beliefs, behavioral intentions and behaviors. These categories are all interrelated but they can be studied independently. There might be occasions when an individual's attitudes appeared inconsistent with a single belief, yet were correlated with a wide number of beliefs. For specific empirical studies, Fishbein maintains that it is more appropriate to study specific groups (via specific attitudes) than general classes of people (via general beliefs and attitudes). That interpretation of attitudes seems most applicable to this study in which specific attitudes towards inquiry teaching are analyzed from two specific sample populations.

Preservice Teacher Attitudes

Many widely read best sellers in education have berated and indicted the American high schools and implicitly, the teachers working in them. Silberman suggests that schools are authoritarian and repressive and that teachers through their thoughts and actions transmit the values of docility, passivity, conformity, and lack of

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13 Ibid., p. 480.
trust.\textsuperscript{14} An equally critical account of Australian high schools is provided by R. Freeman Butts who insinuates negative teacher attitudes by his denunciation of "the tyranny of the notebook, the tyranny of speed and the tyranny of uniform standards."\textsuperscript{15}

Research on attitudes covers a multifarious range of topics but within the area of student attitudes, considerable attention has been devoted to personality development and the transmutations that often occur during the college years. Researchers couch these transformations in such terms as "self actualization," "resolution of identity crisis" and the "stabilization of ego identity."\textsuperscript{16} Webster's study of the development of college student attitudes from freshman to senior years suggests that there is an increase in complexity and differentiation of attitudes with regard to authority, esthetic appreciation, independence of judgment, originality, and sensuality.\textsuperscript{17}


\textsuperscript{15}R. Freeman Butts, \textit{Assumptions Underlying Australian Education} (New York: Columbia University, 1955), p. 53.


\textsuperscript{17}H. Webster, "Changes in Attitude during College," \textit{Journal of Educational Psychology}, XLIX (1958), 116.
McKevitt, an Australian researcher, noted the range of student attitudes within any one college as a result of subcultures with varying value systems. 18

Taking the total college experience, it is important to note the molding of attitudes that occurs, whether it be by instructors, peers or simply self actualization. Feldman maintains that the overall experience of college can be classed as a gatekeeping function during which college students learn the kinds of manners, poise, social skills, cultural sophistication and values that will be of use to them in their adult roles in the middle and upper-middle class social structures. 19

The general public assists in this gatekeeping function too by maintaining teacher stereotypes that seem to have a strong influence upon students' desires to enter this field. 20 Based upon their empirical studies, Jackson and Guba have outlined a teacher syndrome characterized by high ratings on deference, order and endurance and

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