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presented by

Steven R. Warrington

has been accepted towards fulfillment
of the requirements for

Ph.D. degree in Teacher Education

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THE EFFECTS OF COOPERATIVE AND COMPETITIVE TASK STRUCTURES ON SIXTH-GRADE STUDENTS OF DIFFERENT LEARNING PREDISPOSITIONS AND ABILITY LEVELS

By

Steven R. Warrington

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ABSTRACT

THE EFFECTS OF COOPERATIVE AND COMPETITIVE TASK STRUCTURES ON SIXTH-GRADE STUDENTS OF DIFFERENT LEARNING PREDISPOSITIONS AND ABILITY LEVELS

By

Steven R. Warrington

This study examined the effects of task structure on the achievement and attitudes of middle school social studies students. The purposes of this investigation were (a) to compare the effects of competitive and cooperative task structures on the achievement of sixth-grade students who were predisposed toward competitively or cooperatively structured classrooms, (b) to measure the effects of these task structures on the achievement of high-ability and low-ability students, and (c) to determine the effects of these task structures on the attitudes of students predisposed toward one task structure or the other.

The review of literature described the crisis in achievement and socialization facing the schools and indicated how application of research findings in the areas of language and learning, student learning styles, the transescent stage of development, and task structures employed in the classroom could address these problems.

The sample included 193 sixth-grade students and their social studies teachers from a middle school located in a suburban mid-Michigan community. The subjects were exposed to both cooperative and competitive task structures concerned with content included in that district's social studies curriculum.

The results of the study indicated that students who were matched (cooperative students in a cooperative task structure, or competitive students in a competitive task structure) achieved similar test scores to students who were not matched to task structure. High-ability students scored slightly higher on the achievement posttests when working in a competitive task structure. Low-ability students scored slightly higher on the achievement posttests when working in a cooperative task structure. There was little change in student attitudes, regardless of the task structure.

The following conclusions were drawn: (a) Teachers should employ competitive, individualistic, and cooperative task structures; possess a variety of teaching strategies; and create opportunities for students to use language in the classroom. (b) Methods of assessment are needed that measure what teachers are trying to teach, that enhance student engagement, and that evaluate what students have learned. (c) Researchers investigating instructional methods have a responsibility to provide teachers with information and techniques that are useful and applicable to their teaching.

This dissertation is dedicated to the memory of my mother, Irene Warrington, and my brother, Doug Warrington, who were important members of my first cooperative group, our family.

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CHAPTER I

IDENTIFICATION OF THE PROBLEM

This chapter contains the statement of the problem, purposes of the study, importance of the study, delimitations and limitations, and definitions of terms. Also included are the research and statistical hypotheses and an overview of the remainder of the dissertation.

Statement of the Problem

Children begin their lives in the family, relating primarily to adult caregivers. "The child's intellectual growth is contingent on his mastering the social means of thought, that is, language" (Vygotsky, 1962, p. 51). Youngsters' social world expands when they come in contact with other adults and children in the school setting. As children become older, they have more frequent, intense, and varied interactions with other children and fewer interactions with adults. Morine-Dershimer (1985) reported that when children were asked with whom they spoke the most often at home, 57% mentioned their brother or sister, 31% named their mother, and 12% mentioned their father.

Until recently, adults in the United States have viewed interaction between adults and children as the most important vehicle for ensuring effective socialization and development of young people. Relationships among children were viewed as unimportant or unhealthy

(Johnson & Johnson, 1982), and communication among students in the classroom was discouraged. "The demise of many families and communities as socializing agents means that other organized activities in children's and adolescents' lives [such as education] assume more importance" (Johnson & Johnson, 1983, p. 130).

Schools have considerable influence as socializing agents. The teacher forms the context for and frames all learning that occurs in the classroom. The way learning situations are structured has a major influence on student behavior (Good & Brophy, 1978) and determines whether interpersonal attraction or rejection results among students. Constructive peer relationships promote healthy development and effective socialization (Johnson & Johnson, 1982).

Three types of interaction occur in the classroom: the interaction between teacher and student, the interaction between student and curriculum materials, and the interaction between and among students (Johnson & Johnson, 1975). Much attention has been directed toward the role of the teacher and the curriculum, whereas interaction among students has been studied less frequently (Van Sickle, 1982). By determining students' learning goals and interaction patterns, teachers can improve achievement and affective outcomes. Likewise, students' feelings concerning self-esteem, peer relationships, particular subjects, teachers, and school in general can be improved when learning goals are structured appropriately (Johnson & Johnson, 1984).

The conventional approaches used to educate students are usually competitive or individualistic, occurring 80% to 90% of the school day (Johnson & Johnson, 1984). Students work independently to surpass classmates or work alone to meet a certain criterion. The teacher, as a classroom manager, determines which instructional method will be most effective, rarely considering the various learning styles of the individuals being taught. "Paper and pencil tasks are used to teach basic skills which could be taught through more appropriate, concrete activities and real experiences" (Charlesworth, 1985, p. 34). Thus, Lalls (1983) advised that "one of the early steps that a teacher must take is to discover the ways in which each child learns best" (p. 4).

Learning style describes an individual's "personality characteristics that have implications for behavior patterns in learning situations" (Renzulli & Smith, 1978, p. 2). Numerous researchers have attempted to ascertain the relationship between the individual student's learning style and the teacher's instructional approach. Research that matches the teaching method with learner characteristics is referred to as aptitude-treatment-interaction (ATI). Aptitude relates to general intelligence or scholastic ability and also applies to previous achievement, special abilities, personality characteristics, and stylistic characteristics (Snow, 1980). ATI research has been found to be an effective approach to enhancing achievement and improving attitudes, although the findings of such research have been inconsistent (Bracht, 1970).

In their book Teaching Students Through Their Individual Learning Styles, Dunn and Dunn (1978) reported that the student who is not motivated in a conventional setting may show much more interest if the task structure is changed. Such a student may learn better in an individualized program or when allowed to work with peers. After gathering information on the student's learning style, the teacher can determine the appropriate task structure, whether the student is able to make choices, and whether the youngster can evaluate his/her own progress.

Ideally, the teacher should identify which learners function best when procedures are outlined clearly and directions are well-defined, and which students are creative and learn best in classroom environments in which they can organize their own learning situations.

> There is no single way in which to group students for maximum learning. Students learn in a variety of sociological patterns that include working alone, with one or two friends, with a small group or as part of a team, with adults, or, for some, in any variation thereof. It is important to identify how each student learns and to then assign to that individual the correct groupings, methods, and resources. (Dunn & Dunn, 1978, p. 12)

Three critical components for learning are the content, the nature of the learner, and the teaching method. When considering the "what," "who," and "how" of the educational process, teachers usually emphasize certain task structures (competitive and individualistic) and use learning-style information for only a few of their students (learning disabled, mainstreamed, and gifted). "Without insight into the psychological structure and activities of the individual, the educative process will, therefore, be haphazard and arbitrary" (Dewey,

1959, p. 20). Researchers have indicated that teachers can meet the needs of more students if they gather and apply learning-style information in their teaching. How educators structure students' learning goals determines the patterns of interaction in the classroom. How students interact is a major determinant of both the cognitive and the affective outcomes of the teaching/learning process (Johnson & Johnson, 1984).

The study of cooperative, competitive, and individualistic learning situations "is one of the most developed areas of inquiry within psychology and education in terms of richness of theory, quality and quantity of research, and application to educational settings" (Johnson & Johnson, 1983, p. 157). Slavin (1983) evaluated 41 recent studies concerned with cooperative learning and found higher achievement in the treatment (cooperative learning) than the control (teacher directed) groups in 63% of the studies and no difference in 34% of them. Johnson and Johnson (1982) reviewed the results of more than 600 studies and discovered that cooperative learning had a wide variety of positive effects at various grade levels and in many different subjects.

Other researchers have found that student participants in cooperative learning were motivated (Lowry & Johnson, 1981) and had a positive attitude toward learning (Garibaldi, 1979; Gunderson & Johnson, 1980) and classmates (Johnson, Johnson, Tiffany, & Zaidman, 1983). Individuals in cooperative learning situations developed improved self-esteem (Slavin & Karweit, 1979) while exhibiting both

cognitive and social growth (Johnson, Marayama, Johnson, Nelson, & Skon, 1981). Cooperative group members were also likely to understand the perspective of others, promoting positive intergroup relations and mainstreaming (Johnson & Johnson, 1984; Slavin & Oickle, 1981). When students are allowed more opportunities to practice cooperative learning, an environment is created that encourages "positive talk" while enhancing social skills and achievement.

If cooperative learning groups offer students so many benefits in affective areas, opportunities for developing interpersonal communication skills, and practice of higher-level thinking (problem solving, evaluation, decision making), why is this teaching method employed so infrequently? It is difficult to think of many adult activities that do not require cooperation. The family, neighborhood, workplace, clubs, teams, religious groups, and political organizations all require cooperative behavior if they are to attain their respective goals.

One would think that the school, a primary place where children are socialized into adult roles, would offer opportunities to engage in cooperative activities. Classroom practice should be consistent with what research has indicated about teaching methodology and what students will encounter in the future. "Constructive peer relationships should be promoted in both the family and school settings. Fostering such relationships may be the most important challenge facing parents, educators, and other adults who wish to promote healthy development and effective socialization" (Johnson &

Johnson, 1982, p. 59). Society cannot afford to have students who are alienated and disconnected from their peer group, are unable to interact effectively, or are not learning as much as they could.

Purposes of the Study

The writer had three major purposes in conducting this investigation. The first purpose was to compare the effects of competitive and cooperative task structures on the achievement of sixth-grade social studies students who were predisposed toward competitively or cooperatively structured classrooms. The second purpose was to measure the effects of competitive and cooperative task structures on the achievement of high-ability and low-ability social studies students. The third purpose was to determine the effects of competitive and cooperative task structures on the attitudes of students predisposed toward one task structure or the other.

Importance of the Study

The findings of this study should be useful to educators and researchers in a number of ways. Shaver and Nelson (1985) suggested that little research is applied to classroom practices because it is difficult to relate research findings to what teachers will use. The perspective at universities is to advance critical scholarship. This outlook is often in conflict with what the teacher needs--something that works in the classroom. The present writer applied research findings to the classroom, using existing curriculum and content. While examining the effect task structure had on certain types of

students, teachers participating in the study were using teaching approaches that could be applied immediately in their classrooms.

The majority of classroom activity is based on competition. This competitive class structure may be biased against the cooperative student, possibly damaging self-concept, limiting prosocial development, and lowering achievement (Kagan, Zahn, Widaman, Schwarzwald, & Tyrell, 1985). The present study was an extension of Wheeler's (1977) study, which concerned the interaction between learning style and task structure. Wheeler attempted to determine whether students who were predisposed toward a cooperative or a competitive treatment actually improved in achievement and attitudes. The small sample size, materials used, length of the treatment, and nature of the subjects limited the generalizability of his findings. He concluded that

> relevant learner entering behaviors need to be assessed before a classroom goal structure is implemented. Once a learner's predisposition toward cooperation or competition is known, instruction strategies can be adjusted to accommodate the two different modes of learning. (p. 8)

Teachers should possess a variety of teaching strategies and understand how to use alternative strategies to accommodate learners' uniquenesses (Phillips, 1983).

> Student interaction normally involving cooperative learning and discussion is often only hesitantly attempted by teachers. The fear of noise and the fallacy that only quietness precipitates learning causes many teachers to balk at this type of instruction. (Klingele, 1979, p. 35)

In this study, teachers were given a framework for teaching social studies content using a variety of instructional approaches. They were also given suggestions for managing and processing activities.

Students learn, not only by passively listening to the teacher or working alone with curricular materials, but also by actively discussing, talking a question through, or defending their viewpoints (Barnes, 1971). In this study, teachers and students were given opportunities to experience both styles of teaching/learning.

Delimitations and Limitations of the Study

Certain delimitations and limitations were evident in this study. They are enumerated below.

1. The study was delimited to sixth-grade social studies classes in a midwestern suburban school district. Therefore, the findings can be generalized only to that school and others demographically similar to it.

2. The study was delimited to the social studies curriculum and objectives of the participating school district and the content found in the 1983 edition of the Follett social studies textbook entitled Latin America and Canada. (See Appendix B.)

3. The abilities and characteristics of the teachers participating in the study were limitations. Variations in experience with the content and with teaching sixth grade, as well as preferences for instructional methods, may have affected how teachers interpreted and used the research materials. The researcher attempted to lessen the effect of teacher differences by explaining the research materials to them and by instructing the teachers in their use.

4. External motivational factors for students involved in the study, such as travel experience, interests, mass-media exposure, and previous assignments, were not controlled.

5. The composition of the individual classes participating in the research was a further limitation. The influence students within the class group had on one another could not be controlled.

6. The time of day students participated (morning or afternoon), the time involved for each session (one 45-minute class out of the seven-period day), and the duration of the study (seven weeks) were all limitations.

Definition of Terms

The following terms are defined in the context in which they are used in this dissertation.

Achievement. The outcomes of learning; the cognitive development of the student (Gardner, Callis, Merwin, & Rudman, 1984).

Competitive learners. Students who work against one another to achieve a goal because of the way a lesson is structured. Competitive learners prefer working alone without teacher supervision or extensive interaction with peers. A negative interdependence is created among students because (in most cases) only some of the students can be successful (Johnson & Johnson, 1984).

Cooperative learners. Students who prefer and usually succeed in "group participation in a project where the result is the product of common effort, the goal is shared, and each member's

success is linked with every other's" (Kohn, 1986, p. 50). A positive interdependence is created between group members.

Learning style. The student's consistent response to and use of stimuli in the context of learning (Claxton & Ralston, 1978); the personally preferred method of interacting with information and experience (Della-Dora & Blanchard, 1979). "The concept of learning style is relatively new, and apparently evolved from attempts to synthesize the research findings in the areas of both individual differences in cognitive styles and the effectiveness of various instructional methods" (Blakemore, 1984, p. 31).

Low-ability learners. Students who scored in the bottom 23% on the Reading Comprehension and Social Science subtests of the Stanford Achievement Test (Stanine 1, 2, or 3) and were consistently evaluated by their social studies teacher at the C level or below.

High-ability learners. Students who scored in the top 23% on the Reading Comprehension and Social Science subtests of the Stanford Achievement Test (Stanine 7, 8, or 9) and were consistently evaluated by their social studies teacher at the A- level or above.

Structural bias. The congruency or incongruency of the task structure and the student's preferred learning style (Kagan et al., 1985).

Task structure. "The many ways in which the teacher (or students themselves) sets up activities designed to result in student learning" (Slavin, 1983, p. 1). There are three major forms of group task structure: cooperative (working with others in a small group),

competitive (working alone to see who can perform the best), and individualistic (working alone without any connection to others). "The way a teacher structures learning tasks will have a major effect upon how students behave" (Good & Brophy, 1978, p. 300).

Teaching style. The range of instructional approaches employed by a teacher (Renzzulli & Smith, 1977) and the abilities, interests, and characteristics of that teacher (Slavin, 1984).

Transescence. "The period in human development which begins in late childhood, prior to the onset of puberty, and which extends through the early stages of adolescence" (Eichhorn, 1966, p. vii).

Research and Statistical Hypotheses

Four research hypotheses were developed from the statement of the problem and the purposes of the study. The first three concerned the task structure employed and the resulting student achievement, as measured by content-area posttests. The fourth research hypothesis concerned the task structure and students' resulting attitudes.

Hypothesis 1: The mean posttest scores of competitive and cooperative learners matched with task structure will exceed the mean posttest scores of competitive and cooperative learners not matched with task structure.

Hypothesis 2: The mean posttest scores of low-ability learners exposed to a cooperative task structure will exceed the mean posttest scores of low-ability learners exposed to a competitive task structure.

Hypothesis 3: The mean posttest scores of high-ability learners exposed to a competitive task structure will exceed the mean posttest scores of high-ability learners exposed to a cooperative task structure.

Hypothesis 4: The variances on the subscales of the attitudinal survey for students whose learning-style preferences are matched with task structure will differ significantly from the variances on the subscales of the attitudinal survey for those same students when not matched with task structure.

For testing purposes, these hypotheses were restated in the null form as follows:

Hypothesis 1: There will be no statistically significant difference between the mean posttest scores of competitive and cooperative learners matched to task structure and the mean posttest scores of competitive and cooperative learners not matched to task structure.

Hypothesis 2: There will be no statistically significant difference between the mean posttest scores of low-ability learners exposed to a cooperative task structure and the mean posttest scores of low-ability learners exposed to a competitive task structure.

Hypothesis 3: There will be no statistically significant difference between the mean posttest scores high-ability learners exposed to a competitive task structure and the mean posttest scores of high-ability learners exposed to a cooperative task structure.

Hypothesis 4: There will be no statistically significant difference in the variance of scores on subscales of the attitudinal survey for students whose learning-style preferences are matched to task structure and for those same students whose learning-style preferences are not matched to task structure.

Overview

Chapter I established a need for the study. Included were a statement of the problem and purposes of the study, the importance of the research, delimitations and limitations of the study, and definitions of important terms. The hypotheses formulated for the research were also stated.

Chapter II contains a review of literature in five areas that are relevant to this study: (a) the achievement and socialization

crisis facing American schools, (b) the importance of language in the learning process, (c) individual learning styles, (d) the middle-school-age student, and (e) the task structure employed and its effect on the teaching/learning process.

The population and sample, the research design, instrumentation and instructional materials used in the study, and procedures used in collecting and analyzing the data are described in Chapter III.

Chapter IV contains the results of the data analysis and a review of the study findings.

Chapter V includes a summary of the study, major findings, conclusions based on the findings, and recommendations for further research.

CHAPTER II

REVIEW OF THE LITERATURE

This chapter includes a review of literature and research on the following topics: the crisis in achievement and socialization, language and learning, individual learning styles, the middle school student, and task structures.

The Crisis in Achievement and Socialization

Throughout history, a basic tenet of American philosophy has been competition; it is the essence of the economic system, a focus of much of American recreation, and the structure of most activity that occurs in schools. Picture the first-generation American struggling to establish a business, the frontier farmer contending with the forces of nature, the championship sports team, and award-winning performance, and the classroom, in which students generally work alone, competing against their classmates for recognition and rewards.

> Our institutions, especially those in the public sphere, stress competition. It must be remembered that these institutions were developed at a time when our resources seemed unlimited, our population was small, and industrial expansion was booming. The competitive ethic spurred this expansion. Americans were taught that the most lasting way to help others was to pursue their own self-interests. (Webb, 1981, p. 109)

In modern society, competition has a place and remains important in some roles; however, more and more activities require

cooperation. The individual's role in the family, neighborhood, workplace, society, and human race necessitates cooperative understanding and behavior to attain a variety of goals.

Most adult activities require cooperation. Society comprises overlapping groups, which require cooperation if they are to be successful. Children begin their lives in the family, expand to the neighborhood, enter school, join clubs and teams, and eventually pursue a career. As schools are the primary place where children are socialized into adult roles, one would expect them to offer opportunities for practicing cooperative activities. However, only 7% to 20% of the time devoted to learning is structured by the teacher for cooperative learning (Johnson & Johnson, 1975). A number of writers have discussed problems in the education and socialization of young people and have offered suggestions for the improvement of schooling in America (Johnson & Johnson, 1975). Employing a cooperative task structure in the classroom may be an important part of that solution. Lack of instruction and practice in cooperative activities is one problem facing education; declining achievement is another.

Johnson and Johnson (1984) believed that an achievement crisis exists in American schools. They cited declining scores on college entrance examinations for the last 20 years, lower productivity because of the poorer quality of the work force, less emphasis on and declining achievement in mathematics and science, and increased functional illiteracy among those who drop out or sometimes even those

who finish high school as indicators of some of the challenges facing education.

> A substantial number of children, teenagers, and young adults feel isolated, disconnected from their parents and peers, unattached to school and career, without purpose and direction, and lacking any distinct impression of who and what kind of persons they are. (Johnson & Johnson, 1984, p. 4)

Juvenile crime against property, other students, and teachers has become commonplace (Bybee & Gee, 1982), the suicide rate for children has increased dramatically in the past 20 years (Bronfenbrenner, 1976), and changes in the family have left children with less time with parents and more time with peers or on their own.

Johnson and Johnson (1984) suggested that healthy cognitive and social development can occur in the schools if teachers structure more learning cooperatively. They stated, "The time has come to structure life in schools in ways that are (a) congruent with the future lives of our students, and (b) congruent with the research on instructional methods" (p. 10). Students engaged in cooperative activities achieve the same as or better than their counterparts in "traditional" classrooms (teacher-directed activities in which individual students work alone on educational tasks) (Johnson & Johnson, 1981).

Cooperative approaches to learning not only improve achievement, but also have been found to have a positive effect on students' attitudes. Research has indicated that students who participate in cooperative learning activities are motivated and like the teacher, subject, and school more than do their counterparts in

competitive classrooms (Johnson & Johnson, 1981; Slavin, 1985). This improved desire for learning would help resolve the major problem facing education, as indicated by both Goodlad, in A Place Called School (1984), and Boyer, in High School (1983). These authors believed that students must develop a love for learning and a commitment to their education.

In a study of American education, Goodlad (1984) concluded that education has changed little in recent years. He noted an overemphasis on the basic skills, a lack of interpersonal warmth, and dullness of content and procedures. Students spent the majority of the school day sitting and listening to the teacher, becoming passive, and seeking only to "get by" in their classes. Cooperative approaches would create interest and therefore more effort on the part of the student and provide more opportunities for higher-level thinking.

Boyer (1983) summarized the purposes of education as training individuals for a career, developing in students a lifelong love for learning, and offering equal learning opportunities to all people. Cooperative learning activities are designed to bring individuals of different ability levels, races, and backgrounds into contact with each other, while teaching interpersonal communication and small-group skills. Students learn from each other in an active learning environment. If, as Goodlad said, the best way to raise achievement is to inspire in students an emotional commitment to learning, then more cooperative learning in the classroom is one way to achieve that goal.

Several of the key goals Adler (1982) proposed in The Paideia Proposal could be achieved if teachers selected the cooperative learning approach. Adler recommended a one-track system for all students, which would prepare them for the future by achieving the following three objectives: (a) personal growth/self-improvement, (b) effective citizenship, and (c) preparation for a career. Cooperative learning activities give students the opportunity to practice and develop skills in speaking, listening, decision making, and working with others. Students would also acquire knowledge through two of the three methods Adler suggested (develop skills through practice and coaching, and enlarge understanding of ideas through questioning and active involvement) if cooperative techniques were employed. "All genuine learning is active, not passive. It involves the use of the mind, not just the memory. It is a process of discovery, in which the student is the main agent, not the teacher" (Adler, 1982, p. 50). Cooperative learning provides opportunities for students to practice skills that are useful throughout life, while achieving at a level equal to or surpassing that resulting from other teaching approaches.

In The Hurried Child (1981) and All Grown Up and No Place to Go (1984), Elkind examined the problems facing children as they grow up in American society. Because of weaknesses in family structure, adult authority, and highly individual living arrangements, many young people lack a secure home setting. The previous security of a society with limited options has been replaced by multiple options in

religion, the arts, music, food, and entertainment, as well as cultural, ethnic, and racial diversity. Schools, patterned after factories, with drab appearances, bells, and short lunch hours, reflect the values, tensions, and stresses of society. Elkind claimed that schools fail to provide for students' educational and personal-identity needs.

According to Elkind, in the last 35 years education has contributed to the many problems facing young people (lower achievement, suicide, drug abuse, teen pregnancy, and so on). During this period, enrollment has increased from approximately 23 million to 40 million students, whereas the number of schools has decreased from 185,000 to 86,000. Elkind suggested that the large school may be better from a financial perspective and easier to operate than a smaller school; however, it creates an impersonal environment, decreasing contact between students and faculty and weakening the bonds of community. "Mentoring" (finding an important person to influence development--often a teacher) is low, and self-definition becomes more difficult (it is facilitated by being with people who know each other well and give useful information about each other).

Elkind (1981) recognized the shortcomings of an educational system that stresses a competitive task structure; he endorsed the use of more activities requiring decision making and cooperation. "Children who experience repeated school failure are likely to acquire the orientation of learned helplessness as well as an abiding sense of inferiority" (p. 109), he stated. If an individual has difficulty

with a competitive situation and efforts to control are ineffectual, he/she no longer even tries to succeed. The active learning that gives children an opportunity to practice communication provides situations in which students can compare their feelings and thoughts with how others feel and think. "Children get to know one another and the teacher better, and that promotes constructive growth by comparison and contrast" (Elkind, 1984, p. 207).

Glenn (1982) believed that the crisis of growing up in America is a result of too many transitions occurring too quickly. Dramatic changes in the family (smaller size, high frequency of divorce, single and working parents, greater mobility), technological progress (labor-saving devices in the home, mass media, rapid transportation), and changes in education (consolidation of schools, increased knowledge and skills, isolation in the classroom, student versus student task structure) require young people to face a world that is different from the one in which their parents and grandparents grew up. Thirty years ago, family interaction, intergenerational associations, and a homogeneous value system were the norm. Children had consonant role models and many nonnegotiable tasks, and logical consequences were experienced as youngsters developed into adults. Glenn contended that children now have few interpersonal associations, less contact with relatives, and a heterogeneous value system. Role models are dissonant, few tasks are nonnegotiable, and logical consequences of decisions are avoided. Television and other mass media have replaced people in the lives of many children.

According to Glenn, dialogue and collaboration are missing elements in children's growing process. He suggested that spending more time in conversation with children at home and providing youngsters more opportunities to interact at school would help resolve the socialization crisis. Education should be more than students working alone in silent classrooms on "rote and recall" activities. Cooperative tasks require students to engage in dialogue and to develop interpersonal and small-group skills. Youngsters participate in a process-oriented activity in written and oral expression that permits them to practice higher-level thinking (problem solving, analysis, evaluation, and divergent thinking).

"Students' daily experiences in the classroom of tomorrow should foster development of those skills and behaviors appropriate for satisfying interdependent roles and relationships" (Bowman, 1985, p. 247). Structuring learning so that students work together to reach group goals, practice interpersonal communication, and are actively involved in their education will better prepare them for the future. As Webb (1981) wrote,

> Both competition and cooperation are found in abundance in American society. Thus what is being called for here is not an eradication of all competitive behavior (competition serves many useful purposes) but rather an extension of our cooperative capacities and an understanding that cooperation plays a vital role in our present society. (p. 296)

Language and Learning

Infants learn to talk by talking. They are encouraged to repeat sounds and words, and associate them with people and things.

When young children enter preschool, they become part of an active environment in which learning expands and becomes more diversified (Britton, 1970). Vygotsky (1962) stated, "Thought development is determined by language, i.e., by the linguistic tools of thought and by the sociocultural experiences of the child" (p. 51). Children explore, question, express feelings, and develop language. Upon entering elementary school, children begin to realize that learning is something one does while sitting at a desk, that schoolwork is often done alone, and that to work effectively there must be quiet. The elementary school student quickly realizes that there is a distinction between "school learning" and what is learned outside of school (Britton, 1970).

> Language permeates school life. Boys and girls in their attempts to master the school curriculum and in the process of growing up have to call upon their language resources. Moreover, they are expected to increase these resources by making the language encountered in their school learning a living part of their thinking and communicating. (Rosen, 1969, p. 160)

The majority of the talk that occurs in the classroom, however, originates with the teacher (Flanders, 1970). The teacher is constantly defining and redefining the classroom communication system. The goal is to maintain control of the social situation while furthering pedagogical aims. Teachers spend much time in "metacommunication" (communicating about communication) as they monitor and control the activity in the classroom, checking to see that it is functioning properly (Barnes, 1971).

A second form of communication initiated by the teacher is questioning. Barnes (1969) found that teachers used more questions demanding facts than reasoning. The covert message to students was that information was more important than original thought. The majority of questions teachers ask can be referred to as "exam questions"--questions whose answer the teacher already knows. The teacher asks such questions to determine if the students are operating in his/her content frame. Accepting this content frame not only indicates "understanding" but also acceptance of the teacher's authority and interaction frame (Barnes, 1977). The criterion for relevance in many classrooms is the teacher's content frame. "The effect of placing control in the hands of one person is to emphasize his content frame, and this will affect profoundly the basis upon which others participate" (Barnes, 1977, p. 127).

Rosen (1969) described communication in the classroom as a "language game" that incorporates the following four rules:

1. The teacher is the most active player in the game. He makes the most statements; speaks most frequently; his speeches are longest. The ratio of his speech to other players is three to one.
2. The major part of the game is played with substantive meanings (i.e. the specific concepts of the lesson) specified by the teacher's structuring.
3. Fact-stating and explaining are used much more frequently than defining and interpreting. Opinions and the justification of them are relatively rare.
4. The teacher is primarily a solicitor and the pupil a respondent. (p. 122)

In The Universe of Discourse, Moffett (1968) advocated including rich experiences in conversation within the curriculum. Opportunities to interact should begin in kindergarten and continue

throughout one's education. Moffett argued that dialogue is a primary discourse and offers several advantages for the educational process. Governed by the setting and the speaker's will, dialogue is nonverbal and verbal and includes fast feedback. Moffett contended that verbal collaboration is a form of joint thinking and is a major means of developing thought and language. Providing opportunities for dialogue in the classroom promotes the social art of discussing, the intellectual art of qualifying, and the linguistic arts of elaborating, exposing, and arguing. Moffett encouraged the use of small learning groups in the classroom to facilitate peer interaction and dialogue. An important aspect of the teacher's role is to create and nurture an environment in which meaningful dialogue can occur.

The use of small groups that give students opportunities to talk serves many purposes in the education and development of the individual (Britton, 1970). The egocentric child must learn the language of cooperation in order to get along with others. Having students discuss topics in small groups provides the most efficient schooling in listening (Lee & Rubin, 1979). The smaller the working group, the greater the amount of relevant talk. Often the group effort at understanding enables the formulation of conclusions that could not have been reached by individuals working alone. Joint exploration through expressive talk gives students opportunities to develop communication skills, leaving teachers free to observe, evaluate, and monitor the learning that is occurring in the classroom. "Any contribution to the talk has, as it were, a value on two scales:

its forwarding of the task in hand, and its effect upon interpersonal relations in the group" (Britton, 1970, p. 223).

Morine-Dershimer (1985) conducted a process-product study in which she examined the relationship between classroom interaction and student achievement. She found that, in the traditional teacher-directed classroom, students had few opportunities to direct or influence the behavior of others or to practice posing questions. Both of these skills are "required for effective adult functioning that might well contribute to a variety of classroom interaction if more lessons were designed to develop such ability" (p. 159). Morine-Dershimer found that peer teaching/learning settings provided opportunities to use and develop these and other skills. Not only were students able to practice and develop communication prowess, but use of small-group learning was associated with better learning outcomes.

Morine-Dershimer identified three types of status available in the upper elementary classroom: academic status (related to achievement and status with the teacher), social status (status with peers), and communication status (a high level of participation, or being attended by peers). Her study findings suggested that what counts the most is acquiring a recognized place in the peer-group social system. Morine-Dershimer proposed that if teachers wish to "win" in the classroom communication process and to increase the status of students in all three areas, they should incorporate the following "winning combinations" in their classrooms:

1. Pupils learn from involvement in class discussions and listening to the comments of their classmates.

2. Pupil patterns of attending to the different aspects of a lesson vary according to their acquisition of different types of classroom status (academic status, social status, or communication status).

3. Teachers need to provide signals, guide pupil attention, and share information concerning the communication structure of the lesson.

4. Teachers need to construct lessons that require the simultaneous practice of academic skills, communication skills, and social skills so that different students can succeed by learning different things within the same lesson.

5. Teachers need to construct lessons that enable students to acquire information and practice processing information within the same lesson.

6. Teachers need to construct lessons so that pupils' ideas and experiences are viewed as important contributions to the development of knowledge.

7. Teachers will be winners in the classroom communication game along with their students because they will have provided varied opportunities for many of their students to actively participate and win as well (p. 208).

Barnes and Todd (1977) conducted a study of the cognitive and communicative functions of speech in small learning groups. They

believed that children possess skills and competencies that are rarely called on in the conventional teacher-directed classroom. The researchers presented tasks to small groups of 13 year olds and observed the learning processes and communication that occurred. They found that small-group work is not ideal for all students on all occasions, but that students usually benefit from exercising control over what and how they learn. Barnes and Todd concluded,

> Our study has made it clear that younger adolescents of average I.Q. can under helpful circumstances carry out collaborative learning in small groups, and that at times they display impressive cognitive and social abilities. (p. 127)

Learning that happens in a discussion group composed of peers will be different in kind as well as content from learning that occurs as a result of contact with the teacher. When the responsibility for learning rests in the learners' hands, they are able to negotiate their own criteria for relevance and truth (Barnes & Todd, 1977). As groups explore alternative meanings, they are engaged in complex, productive discussion (Barnes & Todd, 1977; Stubbs, 1983), rather than rehearsing the established content frame of the teacher.

Talking and doing should be the major focus in educating young people.

> It is clear that a child will be unable to display his total verbal competence if he is restricted to a passive response role, sandwiched between the teacher's initiation and feedback. The child must have an opportunity to initiate discussion. (Stubbs, 1983, p. 116)

Children need to practice language, just as a doctor practices medicine or a lawyer practices law (Britton, 1970). Barnes (1969)

believed that children need to use language to wrestle with new ideas and concepts, or to order old experiences in a new way. Given such opportunities, children will develop new, different uses of language, and new patterns of thinking and feeling.

> We are saying that it is as talkers, questioners, arguers, gossips, chatterboxes, that our pupils do much of their most important learning. Their everyday talking voices are the most important versatile means they possess for making sense of others, including their teachers. (Rosen, 1969, p. 127)

Individual Learning Styles

Information the teacher acquires about individual students may come from test scores, personal anecdotes, family histories, other teachers' recollections, and observation (Kusler, 1982). To meet students' needs, teachers often adjust their instructional methods, probably as a result of these interactions, impressions, and perceptions. Yet teachers need to employ a "more explicit systematic method of assessing learning style preferences that can supplement teachers' intuitive understanding of students" (Renzulli & Smith, 1978, p. 4).

A learning-styles inventory is a questionnaire designed to measure students' preferences for various modes of instruction. This instrument connects the student, teacher, and curriculum so that successful learning can take place. According to Torrance (1965), "alert teachers have always been aware of the fact that when they change their method of teaching, certain children who had appeared to be slow learners or even non-learners become outstanding students" (p. 263). Educators can improve the quality of their teaching by employing several approaches in the classroom. Using various task structures

and teaching methods would enable teachers to reach more students successfully (Joyce & Weil, 1972). "By identifying individual students' learning style preferences, it is possible that more teachers will realize that a variety of paths can and need be provided to reach common goals" (Renzulli, 1978, p. 5). The use of learning-styles instruments offers teachers a quick, efficient means to gather information so that form and direction can be given to the selection of instructional materials and teaching methods (Kusler, 1982). "When teachers expand their instruction to respond to students' individual learning styles, it takes as little as six weeks to see increased achievement and a decrease in discipline problems" (Dunn & Dunn, 1987, p. 55).

Cafferty (1980) and Dunn (1981) suggested that every effort should be made to match students and teachers whose learning/teaching styles are similar. Such matching would necessitate having several teachers at each grade level for the various types of learners. An alternative would be to help teachers expand their repertoire of teaching techniques to complement the diverse learning styles of their students (Blakemore, 1984).

Several educators have attempted to differentiate and label the ways students learn. Course content and background experiences contribute to the manner in which students approach learning situations, as well. McCarthy (1980) developed a system that described four learning styles. The "innovative learner" functions through social interaction, seeks meaning, perceives information

concretely and processes it reflectively, needs to be involved personally, and learns by listening and sharing ideas. "Analytic learners" enjoy traditional classrooms, function by adapting to experts, seek facts, perceive information abstractly and process it reflectively, and learn by thinking through ideas. The "common sense learner" needs to know how things work and will apply to "real life," perceives information abstractly and processes it actively, needs hands-on experiences, and enjoys problem solving. "Dynamic learners" function by acting and testing experiences, take risks, like variety, perceive information concretely and process it actively, learn by trial and error--self-discovery, and seek hidden possibilities.

Each learning style has advantages and disadvantages, depending on the situation. Unfortunately, much of the activity in school is biased in favor of "analytic learners," who constitute only 30% of the student population (McCarthy, 1980). McCarthy contended that educators must incorporate teaching methods for each type of learner, while continually improving the techniques employed in gathering learning-styles information. "We should not deny students the benefits of learning from each other, experiencing the learning styles of other students, as well as providing them with the opportunity to experience shifts in brain functioning" (McCarthy, 1980, p. 85).

Edwards (1979) viewed education as a hit-and-miss operation; what teachers teach and what students learn may often differ from what was intended. The student who comes home and announces he/she has

learned a new word may know what the word looks like, being a visual learner, but may have no idea what the word means. Because what occurs in school develops the verbal, rational, on-time left hemisphere of the brain, such a student will try to compensate by changing from his/her natural learning mode. Edwards believed that advances in brain research may provide insight into how to teach all students equally well. Until then, human capabilities will probably not be fully developed because the educational system trains only half of the brain (Springer, 1985).

According to Edwards, teachers have three tasks: (a) to offer training for both hemispheres, (b) to teach students to use the cognitive style best suited to the task at hand, and (c) to teach students to bring both styles or hemispheres to bear on a problem in an integrated manner. Change occurs so rapidly that foreseeing necessary skills for future generations is becoming more and more difficult.

> Without abandoning training in traditional verbal and computational skills, concerned teachers are looking for teaching techniques that will enhance children's intuitive and creative powers, thus preparing students to meet the new challenges with flexibility, inventiveness, and imagination and with the ability to grasp complex arrays of interconnected ideas and facts, to perceive underlying patterns of events, and to see old problems in new ways. (Edwards, 1979, p. 196)

Research has indicated that most students can identify their own preferred learning style and will achieve better when exposed to a consonant teaching style, and that it is advantageous to teach and

test students in their preferred modes of learning (Dunn & Dunn, 1978; Haring, 1985). Dunn and Dunn commented,

> It is important to remember that a student who is not motivated to learn in a fairly conventional setting may become extremely interested in achieving in an individualized program. Such youngsters may become able to function responsibly when given opportunities to (a) make choices, (b) learn in accordance with their learning style preference, (c) participate in paired or teamed peer group studies, and (d) self or peer-test and evaluate themselves. (p. 9)

Teachers need to become aware of research findings and accept the fact that students differ in ways other than mental ability. As educators' perceptions of learning styles advance, so must their perceptions of the environment that is needed for learning to take place. Gathering and applying learning-styles information will help teachers recognize that a wide variety of teaching approaches is necessary if they are to educate the individual and better prepare students for the future.

The Middle School Student

During the middle school years, youngsters go through many changes--physical, social, emotional, and psychological (Eichhorn, 1968; Klingele, 1979; Wiles & Bondi, 1981). This transition period between childhood and adolescence includes a physical growth spurt in which the child is transformed into a young adult, maturation of the reproductive organs, a shift from dependence on parents to greater influence by peers, and a personality structure that often appears disorganized (Wattenburg, 1968). The individual's intellectual awareness, which was formerly concrete and immediate, now is capable

of logical and deductive reasoning, of comparing the actual to the ideal, of relating the past and the present, and of understanding one's place in society, in history, and in the universe (Romano, Hedberg, & Lulich, 1973). "Society has created a myth about boys and girls in transescence. That myth is that those youngsters will somehow grow up by themselves and that adults should let them alone until they are mature adolescents" (Wiles & Bondi, 1981, p. 33).

Most tasks that occur in the middle school social studies classroom require listening to the teacher, reading the textbook, completing worksheets, viewing audiovisual materials, writing reports, and taking tests (usually objective). Students become passive absorbers of information, accepting others' conclusions. The endless stream of information is often removed from the student's life or developmental level, divorcing learning from thinking or feeling. In planning instruction for the middle-school-age student, a monolithic approach will not be effective (Eichhorn, 1966). "The problem is that generally schools have not offered the kinds of programs which recognize the needs and characteristics of children in the process of becoming adolescents" (Jaquity, 1984, p. 8).

During the transescent and adolescent stages of development, a child becomes an individual, develops a self-image, and searches for an ego-identity. It is hoped the person who emerges into adulthood will be a consistent, integrated individual--aware of the person he/she is and the person he/she would like to be (Britton, 1970). This developmental process is a major preoccupation involving the

discovery of differences between oneself and one's family and the discovery of likenesses and differences between oneself and fellow members of the peer groups to which one belongs (Wiles & Bondi, 1981). As an active participant in the school setting, the student will discuss, argue, confess, explore, and theorize; as a passive spectator he/she is more likely to daydream, read, write poetry or fiction, or engage in inappropriate or disruptive behavior (Grooms, 1967). Interaction is a critical component in the individual's development, and "anyone who succeeded in outlawing talk in the classroom would have outlawed life for the adolescent: the web of human relations must be spun in school as well as out" (Britton, 1970, p. 223).

Wiles and Bondi (1981) contended that social development and refinement is the primary function of the middle school. They suggested that this objective has four components: (a) to facilitate the acceptance of new roles and responsibilities, (b) to teach the interdependence of individuals in society, (c) to explore social values, and (d) to teach basic communication and human relations skills. In describing the goals of the middle school, Romano, Georgiady, and Heald (1973) supported this contention. They believed that the transescent should be taught active participation processes, the necessity and value of dialogue, effective methods of elaborating new ways of thinking, and how to engage in community actions.

Loomis (1964) found that middle-school-age students are concerned with peer standing and desire group approval. "These

children frequently ask for help in learning effective means of group participation--for example, parliamentary procedure, committee organization, and discussion techniques" (Loomis, 1964, p. 46). She also stated that, during this period, students begin to take more responsibility for planning and evaluating their work. Through the implementation of more cooperative group learning, teachers can present content, teach principles of democratic living, and offer students opportunities to improve communication skills while taking advantage of this quest for group activity.

The different developmental levels and learning styles of transescents require a variety of instructional approaches (Alexander & Kealy, 1973; Phillips, 1983; Romano, Hedberg, & Lulich, 1973). "Some middle school and elementary students do their best thinking alone. Many work better in pairs or in teams. Some like to learn with adults, whereas others need peers" (Dunn & Dunn, 1987). Responsibility for learning should shift to the student during the middle school years. The transescent is ready to use skills and information to adapt to the surrounding environment(s) and to understand the how, what, where, and why of the world. The middle-school-age student wants to share in the decision-making process and take responsibility for his/her actions. The middle school educator's task, then, becomes that of supporting the student with a variety of innovative learning strategies (Eichhorn, 1966). "Teacher-oriented and teacher-dominated instructional strategies are no longer viable as

the dominant methods for teaching youngsters in today's middle schools" (Klingele, 1979, p. 31).

Task Structure

"The ability of all students to learn to work cooperatively with others is the keystone to building and maintaining stable marriages, families, careers, and friendships" (Johnson & Johnson, 1983, p. 156). Classrooms in which an emphasis is placed on competitive and individualistic learning structures offer students little practice in cooperative situations. Societal needs and research on instructional methods have indicated that cooperative, competitive, and individualistic task structures need to be implemented in the classroom more appropriately (Johnson & Johnson, 1983).

In 1949, Deutsch first proposed three types of task structures. He described a cooperative structure as one containing a promotive interaction pattern in which the goals of individuals are linked, and there is a positive correlation among group members' goal attainments. An oppositional interaction pattern exists in a competitive goal structure. In such a situation, an individual attains a goal only if others do not. The outcome sought is personally beneficial, but it is detrimental to those others who are competitively linked. When an individualistic goal structure exists, there is no interaction pattern. The individual's achievement of the goal has no influence on others (Deutsch, 1949). This theory of goal structure "has maintained prominence in social psychology, integrated most of

the research findings, inspired new research, been confirmed, and modifications have been proposed to integrate new research findings" (Johnson & Johnson, 1983, p. 123).

A competitive situation, if properly structured, can be healthy, effective, and motivating to many but not all students (Kagan, Zahn, Widaman, Schwarzwald, & Tyrrell, 1985). This is the dominant interaction pattern in school (Johnson & Johnson, 1982); it is fairly widespread when students enter kindergarten and becomes more prevalent as they progress through the grades. With a competitive task structure, there is a negative correlation with goal attainment. Students work alone to see who can learn the most or the fastest. Generally, high achievers succeed and "win," whereas low achievers fail and "lose." For the low-achieving student, a competitive situation is often a poor motivator and psychological torture (Slavin, 1986). Repeated failure may lead to "giving up," negative classroom behavior, or even juvenile delinquency.

According to Johnson and Johnson (1982), competition is an appropriate task structure when (a) it is relatively unimportant whether one wins or loses; (b) all students who participate perceive themselves as having a reasonable chance of winning some recognition; (c) clear and specific rules, procedures, and answers are evident; and (d) all children are able to monitor the competitors' progress and recognize their relative position in the group.

When students participate in an individualistic learning situation, they are independent of one another and success depends on

the relationship of their performance to an established criterion (Johnson & Johnson, 1982). In this goal structure the individual's success or failure does not depend on one's peers but on the teacher, who is the primary source of information and materials. The task should be relevant and worthwhile to the student. Work is self-paced, and students require a separate working area and separate materials.

Even in individualistic activities in which students work on different goals, the presence of other students introduces an element of competition (Peppitone, 1985). Individuals engage in social comparison and attempt to determine their relative standing within the group. Although the degree of competition may be lower than in competitive learning activities, "it is a mistake to assume that just because pupils are working on different tasks and are graded on their own performance rather than a sliding scale, competitive motivations and besting are absent" (Peppitone, 1985, pp. 23-24).

One reason children come to school is for social interaction. Teachers can capitalize on this social need by creating an environment in which students practice working together while teaching and learning from each other. The teacher acts not only as an instructor, but also as an observer, advisor, and evaluator. A cooperative task structure requires groups of two to six students. Within these learning groups, students share ideas, pool resources and talents, and help each other learn academic skills and content. The learning teams are heterogeneous, social skills are taught and practiced, leadership and responsibilities are shared with the group, and students are

evaluated both as individuals and as members of the team (Parker, 1984).

Children are socialized through relationships and interactions with others. Good-quality relationships are important to all aspects of development (Johnson & Johnson, 1982). Bandura's (1977) social learning theory characterizes the socialization process as interactions of the individual with the social environment. These interactions are self-regulatory, requiring individuals to be the principal agents of their own change. Individuals learn to use symbols enabling them to represent events; analyze conscious experience; communicate over distance, time, and space; and plan, create, and imagine. Observation and experience influence thought, feelings, and behavior. People act as reciprocal determinants through interactions with each other.

> Cooperation is directly related to communication, cohesiveness, trust, and the development of positive social-interaction skills. Through cooperative ventures, children learn to share, to empathize with others, to be concerned with others' feelings, and to work to get along better. (Orlick, 1978, pp. 6-7)

Social learning theory helps in understanding how children develop social perspective through language use and reciprocal interactions. Social knowledge is a combination of the child's construction of social phenomena and of observational learning modeled from others. The classroom environment and the interactions in which an individual engages with peers and the teacher influence the socialization process.

Parker (1984) described most activity in school as the development of narrowly defined skills and the mastery of isolated parts, with little transfer to problem-solving or real-life situations. Students adapt their thinking to the authority figure, the teacher. The methods teachers employ in spending their contact time with students send implicit messages of what is important and valued. Often the message is "don't talk," "work alone," "right answers," or "busy work." If the teacher can structure learning activities cooperatively, the message changes to "sharing," "working together," "helping," and "communicating." The tone of the classroom and the relationship among students and between students and the teacher becomes more supportive.

The development of a supportive classroom environment in which students are able to share discoveries, explore ideas, talk through problems, justify viewpoints, and practice higher-order thinking, while developing interpersonal communication skills, can benefit both students and the teacher (Parker, 1984). Members of the group help one another by working together as a unit. Each participant is a necessary part of that unit and has a contribution to make; no group member is left out of the activity.

The fact that children work together toward a common end, rather than against one another, encourages helpful responses. Group members believe they are an accepted part of the activity and thus feel totally involved. Feelings of acceptance are directly related to heightened self-esteem and overall happiness--just as rejection is

directly related to a decline in self-esteem (Orlick, 1982). Teachers gain an environment that encourages communication among students, and students are actively involved in their education, a technique that achieves both humanistic educational goals and basic skills learning (Slavin, 1986) and is another method for structuring the learning task that complements competitive and individualistic approaches to learning. Cooperative learning becomes an attitude that fills the classroom environment, rather than a specific strategy. Regular work in groups offers a support system within the class, allowing more interaction and the development of greater respect for individual differences. If problems occur, teachers have an established groundwork for resolving the situation. Cooperative learning has proven to be a powerful way to learn and has a positive effect on classroom climate (Johnson & Johnson, 1982).

Ryan and Wheeler (1973) examined elementary-school-age students participating in social studies inquiry. Students were classified and placed in a cooperative or a competitive class environment. After children had been exposed to the same content, Ryan and Wheeler found that

> inquiry activities, which are launched in an atmosphere relatively free from the threat of individual failure and which allow students to make specific contributions toward a common goal, will result in more positive student attitudes than inquiry activities carried out in a competitive environment. (pp. 406-407)

Participants in the cooperative treatment liked social studies class better, preferred group grades over individual grades, and enjoyed the

interaction that cooperative groups required (sharing information, working together, and talking with one another).

Implementation of a cooperative task structure in the classroom involves more than having students work in groups. Four components are necessary before group work can be considered cooperative (Johnson & Johnson, 1984). First, there must be positive interdependence among group members. They may be connected through joint rewards (reward interdependence), assignment of various jobs (role interdependence), division of materials (resource interdependence), division of labor (task interdependence), or shared goals (goal interdependence). Face-to-face interaction and verbal exchange are also necessary for the success of cooperative groups. The third and fourth components are creating individual accountability for mastery of the assigned material (making sure that each group member is responsible for his/her share of the work) and teaching social skills so that group members can maintain effective working relationships with each other. The purpose of structuring learning cooperatively is to create opportunities for the practice and development of interpersonal and small-group skills, while maximizing each student's achievement.

Research has indicated that cooperative task structures promote achievement, often more successfully than alternative task structures.

> Meta-analysis is especially applicable to the research on goal structures and achievement, as there is considerable research that used identical or at least similar variables, which allows

> reliable application of statistical procedures. (Johnson, Maruyama, Johnson, Nelson, & Skon, 1981, p. 49)

Conclusions from these studies have indicated that a cooperative task structure was superior to a competitive one in promoting achievement and productivity, regardless of grade or subject area (Johnson et al., 1981). Cooperative approaches also have been found to be better for higher-level tasks (concept attainment, problem solving, categorizing, motor performance, guessing-judging-predicting, and retention and memory) and at least equal to a competitive approach in correcting and rote decoding tasks.

Slavin (1986) found cooperative learning methods that incorporated group rewards to be consistently effective in increasing achievement. He examined 35 studies in which classes exposed to cooperative approaches were compared to those in which traditional methods were used. Slavin found significantly higher achievement for 86% of the cooperative-treatment classes. Cooperative learning methods seemed to work equally well in rural, suburban, and urban schools and in high schools, middle/junior high schools, and elementary schools.

> Research on cooperative learning and peer tutoring has shown that programs in which students help other students to learn can enhance their achievement. Furthermore, the social benefits and the increased self-esteem of students working together are considerable, and many schools use cooperative learning and peer tutoring for these reasons. (Slavin, 1986, p. 13)

Self-concept is an awareness and understanding of one's own characteristics; it establishes individuality based on separation of self from society and determines an individual's value in the social

world. "Children nurtured on cooperation, acceptance, and success have a much greater chance of developing strong self-concepts, just as children nurtured on balanced diets have a greater chance of developing strong and healthy bodies" (Orlick, 1978, p. 5). Purkey (1970) found that self-concept is related to school performance. Perception of self, control of the situation, and academic achievement reinforce each other (Kanoy & Johnson, 1980). Children who share in the classroom decision-making process have been found to possess more positive self-concepts than youngsters in classes dominated by the teacher (Combs, Avila, & Purkey, 1971).

Damon and Hart (1982) reported that the social self develops through the following four stages: (a) infancy, early childhood--children learn that they belong to groups and begin entering into social relationships (physical self); (b) middle, later childhood--the individual considers activities with reference to the reactions of others (active self); (c) early adolescence--social personality characteristics become of primary importance (social self); and (d) late adolescence--moral or personal choices, social relationships, and personality characteristics all are meaningful. An emphasis on active learning that encourages communication between students is beneficial and necessary at all of these stages if healthy development is to occur.

Cooperative learning activities not only promote increased self-esteem, higher achievement, and the development of interpersonal skills, but they also address student motivation. In a study of

middle-school-age social studies classes. Brophy (1986) described four deterrents to motivating students to learn:

1. Most activities in the classroom are imposed by the teacher. Students have little autonomy or intrinsic motivation toward the task.

2. The two primary roles of the teacher are "helpful instructor" and "authority figure." Many students, especially adolescents, resent the latter role.

3. Teacher emphasis on and student concern with the importance of grades interfere with real learning. The import of a grade intrudes on the acquisition of skills and knowledge, which is the true purpose of schooling.

4. The familiarity and predictability of what occurs during the "daily grind" of the school day causes the student and the teacher to focus on what needs to be done, instead of why it should be done or what benefits can occur from participating in the activity or completing the task.

Brophy implied that students prefer activities that permit interaction with one another, manipulation of materials, autonomy and creativity in organizing time and effort, and an active response in some way other than reading and listening. He concluded that peer interactive activities can be useful to instruction and motivation if they (a) are structured around objectives and are therefore more than just social experiences and (b) are arranged so that all group members are involved in completing the task. Including more group activities

in the classroom might enable students to be more active and creative in their response to content, while gaining practice in higher-level thinking (application, analysis, synthesis, and evaluation). What is learned would then be more meaningful, understandable, and enjoyable.

Several researchers (Kagan et al., 1985; Slavin & Oickle, 1981; Wheeler, 1977) have investigated the ways in which a particular task structure might be biased against certain groups or types of individuals. Kagan et al. (1985) learned that task structures containing competitive elements can lower achievement and negatively affect classroom climate, self-concept, race relations, and prosocial development for minority groups and cooperative individuals. They believed a variety of teaching approaches, including competitive, individualistic, and cooperative structures, is needed if educators are to succeed in reaching all individuals and groups. Students should be taught with methods enabling them to recognize and analyze situations so that they are able to react with appropriate behavior. Kagan et al. wrote,

> The choice of task and reward structures has the potential for either positive or negative academic and social outcomes for various individuals and cultural groups, and reliance on a single type of classroom structure can bias educational outcomes in favor of or against certain individuals and groups. (p. 278)

Slavin and Oickle (1981) conducted an investigation to determine whether cooperative learning favors one race over another. Middle school English classes were taught using a "team" (cooperative groups) approach or a "nonteam" approach. The results of the study suggested that cooperative approaches were effective with black

students and somewhat more effective with whites. Differences between whites and blacks in the cooperative learning classes were virtually nonexistent. The authors commented.

> What this study supports is the idea that without holding back the achievement of whites, cooperative learning strategies apparently have the capability to significantly reduce the achievement disparities between blacks and whites. (p. 179)

Wheeler (1977) identified "competitive" and "cooperative" learners and attempted to determine the relationship between task structure and students' achievement and attitudes. The results of the study favored matching students with task structure, but those results were never published.

Conclusions concerning the merits of cooperative learning approaches to the education of youths have been well documented by research. "Yet the procedures for structuring learning situations cooperatively are not well known by teachers" (Johnson & Johnson, 1982). There is a need to educate teachers in the benefits of cooperative learning and to develop effective training methods so that they will employ this instructional approach (Slavin, 1983). The most effective impetus for implementing cooperative learning occurs when individual teachers, with the support of their administrators, learn of the success of this approach, apply it to their curriculum, and experience the effect on the students (Pritchard, 1986).

A primary function of the teacher is to determine the interaction patterns for students in the classroom. The teacher must decide how students will interact with materials, the teacher, and

each other. More cooperative learning is needed in the classroom because it is

> inexpensive, relatively easy to implement, and fun for teachers as well as students. In a time of increasing expectations and diminishing resources for education, we cannot afford to ignore a powerful, free instructional resource available in any school: the students themselves! (Slavin, 1986, p. 13)

Teachers should employ all three task structures, competitive, individualistic, and cooperative, thus providing students with the skills to function successfully in all three types of situations. Throughout life, students will face circumstances in which all three interaction patterns occur, and school experience can make selection of appropriate interaction patterns more likely.

CHAPTER III

METHODOLOGY AND DESIGN

This chapter includes the research questions, a description of the study population and sample, and a discussion of the research design, instructional materials and procedures, instrumentation, and statistical-analysis methods.

Research Questions

The following four research questions were derived from the statement of the problem and the review of related literature. The first three questions concern achievement, and the fourth is related to attitude.

1. Is there a difference in the achievement levels of competitive and cooperative learners matched to task structure and competitive and cooperative learners not matched to task structure?

2. Is there a difference in the achievement levels of low-ability learners exposed to a cooperative task structure and low-ability learners exposed to a competitive task structure?

3. Is there a difference in the achievement levels of high-ability learners exposed to a competitive task structure and high-ability learners exposed to a cooperative task structure?

4. Is there a difference between student attitudes when task structure is matched to learning style preferences and when task structure is not matched to learning style preferences?

Population and Sample

Participants in this study included 193 sixth-grade students and their social studies teachers from a middle school located in a suburban mid-Michigan community (see Appendix A). This school was selected for study because of accessibility offered the researcher. The total enrollment of this middle school was 748 sixth, seventh, and eighth graders. The racial and ethnic breakdown of the student enrollment was 91% White, 5% Asian or Pacific Islander, 2.5% Black, and less than 1% (2) Native American.

The majority of the students came from families in the middle and upper-middle income levels. The community's adult population was largely professional and college educated. Most residents were employed in state government, at a neighboring major university, at a nearby automobile manufacturing company, or in the legal or medical professions.

Student and teacher participants in this study represented eight of the ten sections of social studies offered at the sixth-grade level in this middle school. Four teachers volunteered to have their two social studies sections participate in the study. The remaining

two social studies teachers, representing two sections, were excluded from the study because they expressed no interest in participating.

At the beginning of the school year, counselors formed class groups for the sixth-grade academic sections (language arts, math, science, and social studies). An effort was made to create classes that had similar numbers of students and were heterogeneous in terms of students' ability levels. Using information gathered from fifth-grade teachers, parents, and students, counselors attempted to develop the "right mix" in each sixth-grade section.

Research Design

The basic design of the study included five components: content, training, instructional methods, instruments, and the two treatments. These components are discussed in the following sections.

Content

The social studies content that was included in this study was taken from the textbook used at the sixth-grade level in this middle school (see Appendix A). This textbook, Latin America and Canada (Coffman & Joyce, 1983), was adopted for use in 1985. The purpose of this textbook is "to help students understand their physical and human world so they may become better citizens" (Buggey, 1983, p. T23). A committee of sixth-grade social studies teachers selected this textbook because it reflected the objectives and goals of the school system (see Appendix A).

The goals of the social studies program at the middle school level were threefold: (a) to help students learn factual information

about history and different cultures, (b) to develop students' geographic skills, and (c) to teach students how to relate facts and manipulate ideas. Developing and practicing skills in reading, comprehension, organizing information, interpreting graphics, citizenship, decision making, social participation, and thinking helped students reach these goals (School District Curriculum Guide, 1985).

The four units concerned with South America were selected as the social studies content for the study. These units (Unit 9--"The Andean Highlands," Unit 10--"The Tropical Lowlands," Unit 11--"The Eastern Highlands," and Unit 12--"The Subtropical Plains") of the textbook were chosen because sixth-grade students had had no previous exposure to this content in social studies. Figure 3.1 shows the social studies content areas for kindergarten through fifth grade in this school district. The first instruction students encountered on South America occurred during this study.

Grade	Social Studies Topic
K	Myself and Others at Home and School
1	People: The Individual, School, and Family
2	Communities: The Individual, Neighborhoods
3	Cities: The Individual, Urban, Suburban, Rural
4	The Individual in His Region (Michigan and Midwest)
5	American History: The Individual, United States, and Canada

Figure 3.1.--Program content for the elementary grades.

Training

During the three-month period preceding the research, teachers were provided with background information concerning student learning styles, structuring learning tasks in the classroom, and the role they would play in the study. The researcher met with the four teachers individually (three times) and as a group (once) and explained the teaching-materials packet and the instruments to be used in the study. As a consequence of these meetings, the researcher determined that teaching/learning in these four classes was usually structured competitively and that most assignments were completed individually. (A description of each teacher's "teaching style" is included in Chapter IV.) The teachers and students had had no experience with cooperative learning groups.

Because of this overemphasis on competitive tasks, the researcher developed training materials that gave teachers an opportunity to teach using cooperative groups and gave students an opportunity to experience working in this task structure. These training materials included instructions on how to form groups, an explanation of the situation (each group was stranded on an island), assignments, and means for processing group functioning. The training packet was included in the teaching-materials packet (see Appendix B). The textbook was not used as a resource during this exercise. Students brainstormed for ideas and tried to devise methods for solving problems and listing information.

Because of the nature of the content and format of this training exercise (it was designed to be different from the content and

format of the research study, which focused on the textbook and answering questions) and the timing of this activity (it occurred more than a month before the research study), it had little effect on the research. It did, however, give teachers and students an experience in a learning environment centered on small groups.

Instructional Methods

Teachers were provided with a teaching-materials packet that included rationales, descriptions, and procedures for the instructional methods they would be using during the study. Teachers began each social studies class period with a presentation intended to engage the learner, followed by an explanation of related assignments. Students were given opportunities to read, listen to, and view content related to South America; to complete assignments varying from worksheets to projects; and to practice writing, note taking, and study skills. The last few minutes of each hour were devoted to feedback and review. Each of the four units encompassed nine class periods, and the instructional procedures for each unit were identical. Figure 3.2 shows the sequence of activities for each unit. A more detailed description is included in the teaching-materials packet (see Appendix B).

Day	Activities
1	The teacher introduced unit content to the class by guiding students through the material in the textbook, highlighting key vocabulary, concepts, illustrations, maps, charts, main headings, and subheadings.
2,3,4	The teacher explained the assignments, reviewed effective work habits, answered questions, and provided students with time to work.
5	Students were given an assignment that would enable them to use what they had been learning in the development of a project.
6	The teacher gave a lecture on supplemental information contained in the teacher's edition of the textbook. Note-taking sheets were provided, and the teacher reviewed important facts from the filmstrip.
7	The students viewed a filmstrip to supplement the information contained in the textbook. Note-taking sheets were provided, and the teacher reviewed important facts from the filmstrip.
8	The teacher conducted a review of important vocabulary, concepts, facts, and other information pertaining to the unit. Students used the remaining time to review notes, assignments, and the textbook.
9	The teacher administered the unit test.

Figure 3.2.--Outline of social studies unit of study.

After the researcher had developed the teaching packet, it was examined by three teaching professionals: a public school teacher with 25 years of experience at the middle school level and two professors of education at a major university. The public school teacher was employed in the school system where the research took place and was familiar with the textbook used in the study. One of the professors taught social studies teaching methods and had

co-written the textbook used in the study. The second professor was involved in a program that recognized cooperative learning as a component of the education of young people.

The panel of experts was asked to evaluate the teaching packet, using the following criteria:

1. Are the training materials clear, understandable, and appropriate?

2. Does the teaching packet accurately reflect the content of the four units in the Follett textbook?

3. Do the teaching methods represent effective instructional techniques?

4. Are the unit posttests well-written? Do they require higher-level thinking? Do they accurately reflect the content?

The panel members agreed unanimously that the teaching packet provided clear, understandable instructions for the teacher participants. They recognized the importance of presenting the content through a variety of channels (reading, lecture, media, questioning) in an effort to reach more students. Specific comments that were incorporated into the final version of the teaching-materials packet included: "Identifying roles for group members, and teaching social behaviors may help groups be more effective." "The textbook is only one component of the student's education." "The content is organized clearly, and the respective treatments are appropriate." All three members of the panel of experts believed that the instructional

methods and materials in the teaching-materials packet contained the essential ingredients of effective instruction.

Instruments

A learning styles inventory (LSI) was administered to students before they were exposed to the experimental treatments. The purpose of administering the LSI was to determine which students were predisposed toward working individually (competitive learners) and which students were predisposed toward working with others (cooperative learners).

Students completed an attitudinal survey before exposure to the experimental treatments, after exposure to one of the treatments, and after exposure to both treatments. The attitudinal survey was used to determine students' attitudes before exposure to the treatments and to discover whether attitudes changed during the course of the study.

Achievement posttests were administered at the conclusion of each of the four units on South America. These tests were designed to measure the students' achievement.

The researcher interviewed teachers and selected students at the conclusion of the study. These interviews gave the researcher an opportunity to gather participants' reactions to the research project, the two treatments, the teaching methods, and the instruments.

Treatments

The effects that two treatments had on achievement and attitude were compared in this study. These two treatments involved the way in which "learning tasks" were structured. Treatment A employed a cooperative task structure. Students completed assignments and prepared for unit tests in small groups (four or five members). Treatment B employed a competitive task structure in which students individually completed assignments and prepared for unit tests. Each treatment comprised 18 consecutive class periods (45 minutes per period) and included the content from two units on South America. All students were exposed to both treatments.

All subjects were treated according to the same design procedures, which were as follows:

1. Teachers were given background information and materials. Students and teachers participated in the training exercise.

2. The LSI and the attitudinal survey were administered to the students.

3. All students studied the regions of South America. Students completed assignments working in small groups for 18 class periods (Treatment A) and working individually for 18 class periods (Treatment B). Achievement posttests were administered at the end of each of the four units, and attitudinal surveys were administered at the conclusion of Units 10 and 12. (See Figure 3.3.)

4. At the conclusion of the study, the investigator interviewed participating teachers concerning teaching methods and

materials, the teacher's role in the classroom, individual students' responses to instructional methods, and their reactions to the study. Selected students representing each social studies class, high and low ability, and cooperative and competitive predispositions toward learning were also interviewed in an attempt to gain further insight into their responses to the two task structures.

	Unit 9	Unit 10	Unit 11	Unit 12
Teacher C	A	A	B	B
Teacher M	A	A	B	B
Teacher S	B	B	A	A
Teacher Y	B	B	A	A

Figure 3.3.--Order of treatments.

Instrumentation

The instruments used in collecting the data were the Stanford Achievement Test, a learning styles inventory, an attitudinal survey, four achievement posttests, and personal interviews.

The Stanford Achievement Test (SAT)

All sixth-grade students at the middle school completed the SAT three months before the research project began. The Intermediate 2 level of the 1982 edition of the test included 12 subtests and was appropriate for use with students in grades 5.5 to 7.9. The school district in which the study was conducted administered the SAT to measure learning outcomes, to evaluate students' progress, and to

improve instructional effectiveness. The test employed a multiple-choice format, with four possible responses to each test item.

Scores from the Reading Comprehension and Social Science subtests of the SAT were used in this study. The Reading Comprehension subtest was selected because the textbook was the focal point for the content in these units on South America; the ability to understand what was read was determined to be an important skill. The Social Science subtest was selected because familiarity with social science concepts, vocabulary, content, and inquiry skills also was an important measure of success in this content.

The Reading Comprehension subtest included three types of passages: (a) textual reading, (b) functional reading, and (c) recreational reading. This section of the achievement test involved both inferential and literal comprehension; it contained nine passages and 60 items. The subtest took 30 minutes to administer. The Kuder-Richardson 20 reliability for this subtest of the SAT was .94.

The Social Science subtest focused on the level of understanding students exhibited in the six social science disciplines: anthropology, economics, geography, history, political science, and sociology. In this section students had to use their inquiry skills as they explored different situations involving these disciplines. Students interpreted maps, charts, graphs, posters, and signs. They also responded to questions that required understanding of social science vocabulary. The Social Science subtest included 60 items and

took 30 minutes to administer. The Kuder-Richardson 20 reliability for this subtest was .92.

Scores on the Reading Comprehension and Social Science subtests served two purposes in this research. The scores provided evidence that the classes participating in the study were similar in ability (see Table 3.1). The class mean scores on the Reading Comprehension subtest ranged from 43.9 to 47.5 (there were 60 items on this subtest) for the eight classes participating in the study. The class means on the Social Science subtest ranged from 40.2 to 45.3 (this subtest also contained 60 items).

Table 3.1.--Class mean scores on the Reading Comprehension and Social Science subtests of the Stanford Achievement Test--Intermediate 2/E. Grade 6.1.

	N	Reading Comprehension	Social Science
Teacher C (a.m.)	23	43.9[a]	40.2[a]
Teacher C (p.m.)	24	47.1	45.3
Teacher M (a.m.)	25	47.0	44.8
teacher M (p.m.)	25	45.9	45.2
Teacher S (a.m.)	20	44.6	44.1
Teacher S (p.m.)	24	47.5	45.0
Teacher Y (a.m.)	26	45.3	44.6
Teacher Y (p.m.)	24	46.6	44.8

[a]Numbers in these columns represent the mean score for that class on the two subtests. Each subtest contained 60 questions.

SAT subtest scores were also used in determining ability level of individual students. Students who achieved a score in the top 23% (stanine 7, 8, or 9) on both subtests and were consistently evaluated at the A- level or higher by their social studies teachers were labeled "high-ability learners." Students who achieved a score in the bottom 23% (stanine 1, 2, or 3) on both subtests and were consistently evaluated at the C level or lower were labeled "low-ability learners."

The Learning Styles Inventory (LSI)

The Learning Styles Inventory: A Measure of Student Preference for Instructional Techniques was developed by Joseph Renzulli and Linda Smith. The LSI contains 65 items and was designed to determine students' attitudes toward nine general methods of instruction (Projects, Drill and Recitation, Peer Teaching, Discussion, Teaching Games, Independent Study, Programmed Instruction, Lecture, and Simulation). Students indicate their responses to descriptions of various classroom situations on a 5-point Likert-type scale ranging from "very pleasant" to "very unpleasant." The LSI requires 30 minutes to administer and is appropriate for students in grades 4 through 12. A similar form (the 5-point scale ranges from "very frequent" to "very infrequent") enabling teachers to analyze the methods they employ in their teaching is also included (see Appendix C).

Renzulli and Smith established the content validity of the LSI by using 23 "expert" judges. These judges were professors of education, teachers, administrators, and advanced graduate students. Using their extensive background in the areas of learning and instruction,

the judges reviewed all of the proposed items, indicated the category of instruction to which each item best applied, and recommended discarding or rewording poor items. After extensive field testing, the nine subscales of the final form of the LSI had internal consistency reliabilities ranging from .66 to .77 (using the Spearman-Brown formula). Table 3.2 shows the number of items in each subscale and its respective reliability.

Table 3.2.--Number of items in the nine subscales of the LSI and their reliabilities.

Subscale	Number of Items	Reliability
Projects	9	.77
Drill and Recitation	8	.74
Peer Teaching	6	.73
Discussion	8	.75
Teaching Games	5	.72
Independent Study	9	.66
Programmed Instruction	7	.72
Lecture	7	.72
Simulation	6	.71

The Renzulli-Smith LSI was selected as an instrument for determining students' predisposition toward learning cooperatively with other students or learning competitively by working alone for the following reasons. The inventory was suitable for the sixth-grade level, could be completed by students in 30 minutes, and focused on teaching methods that emphasize interaction (peer teaching, projects, discussion), as well as those that require students to work

individually (independent study, programmed instruction, lecture). The remaining teaching methods included in the LSI (drill and recitation, simulation, teaching games) combine features that require working with others and working individually.

The purpose of administering the LSI was to identify students who were predisposed toward working in groups (cooperative learners) and those who were predisposed toward working independently (competitive learners). The Peer Teaching subscale includes six items that assess the degree to which students enjoy being taught school-related material by a classmate, and the pursuit of school-related activities with a group of fellow students. The Independent Study subscale contains nine items and identifies students who enjoy working alone on activities without teacher supervision or extensive interaction with peers. In this study, students who scored in the "pleasant--very pleasant" range (3.00 and higher) on the Peer Teaching subscale and received a score at least 1.00 lower on the Independent Study subscale were tentatively labeled "cooperative learners." Students who scored in the "pleasant--very pleasant" range (3.00 and higher) on the Independent Study subscale and had a score at least 1.00 lower on the Peer Teaching subscale were tentatively classified as "competitive learners."

Subjective input by social studies teachers was employed in the final formation of these two groups. Teachers were asked to classify their students into the categories described in Figure

3.4. These "student types" were devised by Good and Power (1976) so that teachers could plan instruction to meet their pupils' needs.

1. **Success Students:** These students are task-oriented and academically capable. They are cooperative in class and tend to be well liked by both teachers and peers.

2. **Social Students:** These students are more person- than task-oriented. They have ability but value friendship more than achievement. While popular and possessing many friends, some social students are not well liked by their teachers because of their numerous "buzz-saw" social interactions.

3. **Dependent Students:** These students consistently look for teacher direction, support, and encouragement. They tend to achieve at a low level. Teachers generally express concern for dependent students (and some subtly reinforce their dependency). Peers tend to reject them.

4. **Alienated Students:** These are the reluctant learners. At the extreme, they reject school completely (some with open hostility; others by total withdrawal). Some become aggressive and create serious behavior problems. Other sit at the fringes of the classroom and refuse to participate. Teachers tend to reject those students who express alienation openly and to be indifferent toward those who express alienation passively.

5. **Phantom Students:** In most cases, these students are seldom seen or heard in the classroom. Some are the shy, mousy type fearful of contact with teachers and peers, but others are quiet, independent workers of average ability who desire and need little social interaction. These students seldom volunteer or create problems. Teachers have trouble remembering who they are, and express attitudes of indifference toward them (as do peers).

Figure 3.4.--Student types. (From T. L. Good & C. Power, "Designing Successful Classroom Environments for Different Types of Students," Journal of Curriculum Studies 8 (1976): 1-16.)

Individuals who were labeled "Social Students," "Success and Social Students," or "Dependent and Social Students" by their social

studies teachers and identified as "cooperative learners" by the LSI became the members of the cooperative learners group for purposes of this study. Individuals identified as "Success Students" or "Phantom Students" by their social studies teachers and labeled "competitive learners" by the LSI became the members of the competitive learners group.

Attitudinal Survey

Students' feelings during exposure to the two treatments were determined by means of an attitudinal survey developed by Slavin (1978). This instrument was a self-report questionnaire containing 37 Likert-type items (see Appendix C). The four possible responses to the statements were: SA (Strongly Agree), A (Agree), D (Disagree), and SD (Strongly Disagree). The survey included eight attitude subscales that Slavin adapted from the Learning Environment Inventory (Wallberg & Anderson, 1968). Slavin's instrument was designed to discern "perceived probability of success, motivation, satisfaction with school, and the degree to which students feel that academic success depends on their own performance (rather than luck)" (p. 533). The eight subscales and their respective reliabilities are shown in Table 3.3.

The authors of the Learning Environment Inventory indicated that their instrument was appropriate for describing the classroom climate as perceived by a student within the class (Wallberg & Anderson, 1968). Slavin adapted the instrument for use with younger students because the developers of the survey suggested that "it seems to determine the learning of individuals with different perceptions of

classroom climate rather than the mean perceptions of the entire classes" (Wallberg & Anderson, 1968, p. 415). The present researcher decided to use Slavin's attitudinal survey because it includes subscales relevant to the study and is appropriate for use at the sixth-grade level.

Table 3.3.--Kuder-Richardson 20 reliabilities of the eight subscales of the Slavin attitudinal survey: junior high.

Subscale	Reliability
Satisfaction	.78
Feeling of Being Liked	.60
Liking of Others	.49
Mutual Concern	.53
Probability of Success	.56
Incentive Value of Success	.39
Peer Pressure	.74
Motivation	.52

Social studies teachers administered the attitudinal survey to their students. First, students were given the survey to determine their attitudes before the research study. Students next responded to the survey after they had been exposed to one task structure. The attitudinal survey was administered a final time after students had been exposed to the second task structure. An identical version of this instrument was administered each time, to determine whether attitudinal changes had occurred during the research study.

Achievement Posttests

The researcher developed posttests to determine the achievement level of students after each of the four content units (see Appendix C). Each test was designed to be similar to the unit tests administered in sixth-grade social studies. The unit posttests contained 20 multiple-choice items, each of which had four possible responses. Half of the items were taken directly from the unit tests included in the Follett social studies program, and half were developed by the researcher.

The researcher constructed these content-area posttests with the guidance of Donald Freeman, an expert on evaluation and testing at Michigan State University. The unit tests provided by the book publisher included test items that required primarily recall/knowledge-level thinking. After reviewing the objectives and content of each section of the four units covering South America, the researcher generated additional test items. Proposed forms of the achievement posttests were created from these two "sets" of questions (from the publisher and from the researcher). These proposed forms included an equal number of recall/knowledge and higher-level items (questions that require the development of skills and abilities necessary for using knowledge of content, i.e., comprehension, application, analysis, synthesis, evaluation), using Bloom's taxonomy as the classification criterion.

The researcher attempted to match the tests for vocabulary and reading level. Using the Fry Readability Graph and the

Raygor Readability Estimate, it was determined that the tests had a reading level appropriate for sixth graders. A middle school reading consultant and the middle school librarian examined the tests and confirmed that the vocabulary and format were appropriate for sixth graders.

The four units concerned with South America included information on the land and climate, the people, and the economy and resources. Similarities between the four units are evident upon examining the unit objectives (Figure 3.5). The textbook authors presented the content in various ways. The first two units (Units 9 and 10) concentrated on how the environment and climate affect the people who live in the Andes Mountains or the Amazon Basin. The remaining two units (Units 11 and 12) emphasized what the people have done to develop the resources and solve the problems of the Eastern Highlands and the Subtropical Plains.

The best guarantee of development of parallel test forms is compliance with a detailed set of specifications, including the distribution of items according to objectives and content. "If each test form is then built to conform to the outline, while at the same time care is taken to avoid identical or detailed overlapping of content, the two [achievement posttests] should be truly comparable" (Stanley, 1971, p. 405).

UNIT 9 OBJECTIVES	To understand the climate and landforms of the Andean Highlands region. To understand the region's two major cultural groups of people. To understand agriculture, mining, and tourism in this region.
UNIT 10 OBJECTIVES	To understand the characteristic features and variety within the Tropical Lowlands region. To understand resources and challenges on the Amazon Basin. To understand people and products of the Orinoco Basin and the Coastal Plains.
UNIT 11 OBJECTIVES	To understand the two parts of the Eastern Highlands region. To understand the people and resources of the region. To understand the major industries of the region.
UNIT 12 OBJECTIVES	To understand the five land areas of the Subtropical Plains. To understand the people living in the region. To understand the recent history of Argentina, Uruguay, and Paraguay.

Figure 3.5.--Objectives of four units on South America. (From Coffman and Joyce, Latin America and Canada [Boston, Mass.: Allyn and Bacon, 1983].)

Table 3.4 illustrates the similarities and parallel natures of the Unit 9/10 and the Unit 11/12 achievement posttests. Approximately one-third of the items on each test required the student to recall factual information (35% of the items on the Unit 9/10 and 30% of the items on the Unit 11/12 test evaluated knowledge of vocabulary and facts). The remaining items (65% of the Unit 9/10 test and 70% of the Unit 11/12 test) necessitated the use of higher-level thought processes, such as interpreting, categorizing, or applying what had been

learned. Variation in the number of items in each of the content categories reflects the different emphases the textbook authors placed on the information included in each unit of the textbook.

Table 3.4.--Comparative specifications of the achievement posttests.

Objective	Unit 9/10	Unit 11/12
Recall of factual content	.20	.175
Understanding vocabulary	.15	.125
Interpreting maps, graphs, or charts	.30	.40
Categorizing information	.10	.20
Applying information	.25	.10
Content Categories		
Land and Climate	17[a]	8
People	11	17
Economy and Resources	12	15

[a]Numbers represent number of items from each content area.

The achievement posttests were given to judges acknowledged to be experts in the field of teaching social studies. This expert panel included a co-author of the textbook used in the study, two social studies methods professors, and a public school teacher who had used this textbook series for the preceding five years. They were asked to evaluate the items and response options, using the following criteria:

1. Do the test questions require the student to RECALL information?

2. Do the test questions require the use of HIGHER-LEVEL (beyond recall) thought processes?

3. Are the items and responses CLEAR and UNDERSTANDABLE?

4. Are the incorrect responses reasonable? Do they have a chance of being selected? (PLAUSIBILITY)

5. Are the correct responses the best answer? (AMBIGUITY)

6. Do the questions cover all the topics to be taught during each of the four units on South America?

7. Do the four tests seem similar in format and parallel in construction?

The consensus of the expert panel was that the four tests would be appropriate for use with sixth-grade students. The judges were unanimous in their opinion that the test had content validity with the textbook objectives. Specific references were made to questions and responses that were unclear, ambiguous, or implausible. All comments regarding the formulation of specific questions in the unit posttests were incorporated into the final unit posttests.

The achievement posttests for this study were pilot tested with 20 seventh graders. These students were members of an advanced mathematics class at the school where the study took place. They had been instructed in the social studies content the previous school year. Ten students completed posttests concerned with Units 9 and 10, and 10 completed posttests concerned with Units 11 and 12. The pilot test of the achievement posttests served two purposes: (a) it subjected the posttests to a trial run to identify any special

problems, and (b) it provided data indicating that the tests were similar in form and level of difficulty. The distribution of scores obtained by students in the pilot test of the achievement posttests is shown in Table 3.5.

The data generated from the pilot testing added support to the parallel structure of the achievement posttests. The mean scores for the pilot test ranged from 12.3 (Unit 12) to 13.4 (Unit 9) on the 20-item posttests. Each test included 10 items taken from the Follett unit tests (provided by the textbook publisher) and 10 items developed by the researcher. The mean scores for items taken from the Follett unit tests were 14.6 (Units 11 and 12) and 15.7 (Units 9 and 10). The mean scores for items developed by the researcher were 10.1 (Units 11 and 12) and 10.5 (Units 9 and 10). These results confirmed that the "textbook questions," which required recall of information, were less difficult than the "researcher questions," which required comprehension, application, or analysis of information. After examining the results of the pilot test, the researcher revised several items for purposes of clarification and precision.

Interviews

The researcher formulated questions to clarify and verify information obtained during the research study. These questions were developed into an interview format intended for the four teachers and 12 student participants. A panel that included the reading consultant, the school librarian, and a sixth-grade teacher from the school

Table 3.5.--Results of pilot test of achievement posttests.

	Unit 9	Unit 10	Total	Textbook[a]	Researcher[a]
	18	15	33	19	14
	15	16	31	18	13
	15	14	29	18	11
	16	12	28	18	10
	13	14	27	15	12
	13	13	26	14	12
	13	11	24	15	9
	11	12	23	13	10
	10	12	22	14	8
	10	9	19	13	6
Mean:	13.4	12.8	26.2	15.7	10.5
Range:	10-18	9-16			

	Unit 11	Unit 12	Total	Textbook[a]	Researcher[a]
	14	16	30	17	13
	13	14	27	17	10
	15	12	27	17	10
	12	15	27	15	12
	14	12	26	15	11
	11	13	24	12	12
	10	12	22	14	8
	11	11	22	13	9
	12	10	22	12	10
	12	8	20	14	6
Mean:	12.4	12.3	24.7	14.6	10.1
Range:	10-15	8-16			

[a]Scores in these columns represent correct responses to items taken directly from the unit tests developed by the textbook publisher and correct responses to items developed by the researcher.

where the study took place examined the two sets of interview questions. They evaluated whether questions were understandable, appropriate, and impersonal. They also categorized the questions under the headings: Achievement, Attitude, Student Learning Style, Teaching Style, and Teaching Experience. Questions that were inconsistently categorized by the review panel were discarded or reworded.

The researcher interviewed the four teachers who participated in the study. The purpose of these interviews was to gather information concerning teaching experience, teaching style, and reactions to the task structures (competitive and cooperative) that they had recently employed in their classrooms. Teachers were given a copy of the interview questions before the interview. Each interview lasted approximately 25 minutes.

Twelve students were also interviewed at the conclusion of the study. They were selected randomly as representatives of the following groups: high ability, low ability, cooperative learner, competitive learner, male, female, Teacher C's class, Teacher M's class, Teacher S's class, and Teacher Y's class. The purpose of the student interviews was to gather information about their attitudes toward social studies and the two task structures (competitive and cooperative). Each student interview lasted approximately 20 minutes.

Data-Analysis Procedures

The data analyses were aimed at analyzing the effects of task structure on the achievement levels and attitudes of various types of students. Three data-analysis procedures were used in this study: (a) t-test comparing the means of competitive and cooperative learners who were either matched or not matched to task structure, (b) analysis of variance investigating the joint effects of ability level and task structure, and (c) F-ratio comparing the variance of scores on the attitudinal survey for competitive and cooperative students who were either matched or not matched to task structure.

"The primary statistic used to determine whether or not means from two different samples are different beyond what would be expected due to sample-to-sample variation is called a t-test" (Slavin, 1984, p. 176). Because the students were involved in both conditions, it is possible to compare the differences between means when students were matched and not matched to task structure for each of the achievement posttests. When using the t-test, the distribution of scores should be normal (although modest deviations from normal distributions are allowable), the variance of the two groups must be similar or homogeneous, and the variables must be interval or ratio scales.

Analysis of variance (ANOVA) was used to determine the strength of the effect of one or more independent variables on a dependent variable. When the analysis includes two or more independent variables, it divides the overall effect on the dependent variable into

several sources: the main effect of each independent variable by itself and the joint (interaction) effects of the various combinations of independent variables. In this study, ANOVA was used to determine the effect of ability level and task structure (the independent variables) on student performance on the achievement posttests (the dependent variable).

An F-test can be used to determine the relationship between the variances of two groups. A significant difference in variances is indicative of a dual effect of the experimental conditions. A large variance indicates extreme scores at both ends of the distribution. In this study, the F-test was employed to compare the variances in scores on the subscales of the attitudinal survey for students identified as cooperative or competitive learners. It was hypothesized that scores on the survey would differ when students were not matched with task structure than when students were matched with task structure.

For all statistical analyses performed in this study, the .05 alpha level was established as the criterion for statistical significance.

Summary

A sample of 193 sixth-grade students and their social studies teachers participated in this study, which was concerned with individual learner characteristics and task structure. Teachers were trained in cooperative and competitive task structures. The

researcher developed a teaching-materials packet describing instructional methods employed in the study. This packet was designed to represent effective teaching methods and to provide consistency in the instruction of each of the four units included in the study. Students and teachers participated in a training exercise that exposed them to cooperative learning. This exercise occurred more than a month before data gathering began.

A learning styles inventory was administered, and students were classified into two groups, based on their predisposition toward working with others (cooperative) or working individually (competitive). Students were also categorized by ability (high or low), based on Stanford Achievement Test scores and social studies teacher evaluations. All students were exposed to a cooperative task structure (students completed all assignments working with others in small groups) and a competitive task structure (students individually completed all assignments working against others).

Two achievement posttests were the primary instruments used in this study. Each posttest included 40 multiple-choice items and conformed to the same structural specifications. The tests were validated by a panel of experts and pilot tested by students who had been exposed to the content the previous school year. Identical forms of an attitudinal survey were administered to students at the beginning of the study (before exposure to either task structure), midpoint (after exposure to one task structure), and at the conclusion of the study (after exposure to both task structures).

Three data-analysis procedures were used in this study. A t-test was employed to compare the means of competitive and cooperative learners who were either matched or not matched to task structure. ANOVA was used to examine the relationship between student ability and task structure, and its effect on student performance on the achievement posttests. An F-test was used to compare the variance in scores on the attitudinal survey for cooperative and competitive learners who were either matched or not matched to task structure. The .05 alpha level was the criterion for statistical significance.

CHAPTER IV

ANALYSIS OF THE DATA

This chapter includes a restatement of the purposes of the study and the research and testable hypotheses. Findings of the data analysis are presented, and results of the hypothesis tests are discussed. Responses to the teacher and student interviews are also examined. An interpretation of the findings and conclusions drawn from the findings are presented in Chapter V.

Purposes of the Study

The writer had three purposes in conducting this investigation. The first purpose was to compare the effects of competitive and cooperative task structures on the achievement of sixth-grade social studies students who were predisposed toward competitively or cooperatively structured classroom environments. The second purpose was to measure the effects of competitive and cooperative task structures on the achievement of high-ability and low-ability social studies students. The third purpose was to determine the effects of competitive and cooperative task structures on the attitudes of students predisposed toward one task structure or the other.

Research and Testable Hypotheses

Four research hypotheses were formulated to guide the analysis of data gathered in the study. The first three concerned the task structure employed and the resulting student achievement, as measured by content-area posttests. The fourth hypothesis concerned the task structure and the resulting student attitudes. The hypotheses are as follows:

> Hypothesis 1: The mean posttest scores of competitive and cooperative learners matched with task structure will exceed the mean posttest scores of competitive and cooperative learners not matched with task structure.
>
> Hypothesis 2: The mean posttest scores of low-ability learners exposed to a cooperative task structure will exceed the mean post-test scores of low-ability learners exposed to a competitive task structure.
>
> Hypothesis 3: The mean posttest scores of high-ability learners exposed to a competitive task structure will exceed the mean posttest scores of high-ability learners exposed to a cooperative task structure.
>
> Hypothesis 4: The variances on the subscales of the attitudinal survey for students whose learning-style preferences are matched with task structure will differ significantly from the variances on the subscales of the attitudinal survey for those same students when not matched with task structure.

For testing purposes, the hypotheses were restated in the null and alternate forms as follows:

The first null hypothesis stated that there would be no statistically significant difference in the mean posttest scores of competitive and cooperative learners matched to task structure (X) and the mean posttest scores of competitive and cooperative learners not matched to task structure (Y).

$$H_o1 = \mu_X = \mu_Y$$

The first alternate hypothesis stated that the mean posttest scores of competitive and cooperative learners matched to task structure (X) would exceed the mean posttest scores of competitive and cooperative learners not matched to task structure (Y).

$$H_a1 = \mu_X > \mu_Y$$

The second null hypothesis stated that there would be no statistically significant difference in the mean posttest scores of low-ability learners exposed to a cooperative task structure (L-Coop) and the mean posttest scores of low-ability learners exposed to a competitive task structure (L-Comp).

$$H_o2 = \mu_{L\text{-}Coop} = \mu_{L\text{-}Comp}$$

The second alternate hypothesis stated that the mean posttest scores of low-ability learners exposed to a cooperative task structure (L-Coop) would exceed the mean posttest scores of low-ability learners exposed to a competitive task structure (L-Comp).

$$H_a2 = \mu_{L\text{-}Coop} > \mu_{L\text{-}Comp}$$

The third null hypothesis stated that there would be no statistically significant difference in the mean posttest scores of high-ability learners exposed to a competitive task structure (H-Comp) and the mean posttest scores of high-ability learners exposed to a cooperative task structure (H-Coop).

$$H_o3 = \mu_{H\text{-}Comp} = \mu_{H\text{-}Coop}$$

The third alternate hypothesis stated that the mean posttest scores of high-ability learners exposed to a competitive task

structure (H-Comp) would exceed the mean posttest scores of high-ability learners exposed to a cooperative task structure (H-Coop).

$$H_a = \mu_{H\text{-}Comp} > \mu_{H\text{-}Coop}$$

The fourth null hypothesis stated that there would be no statistically significant difference in the variance of scores on subscales of the attitudinal survey (AS) for students whose learning-style preferences are matched to task structure (X) and for those same students whose learning-style preferences are not matched to task structure (Z).

$$H_o4 = \mu_{X(AS)} = \mu_{Z(AS)}$$

The fourth alternate hypothesis stated that the variance of scores on subscales of the attitudinal survey (AS) for students whose learning-style preferences are matched to task structure (X) will differ from the variance of scores for those same students not matched to task structure (Z).

$$H_a4 = \mu_{X(AS)} \neq \mu_{Z(AS)}$$

Findings of the Study

Identification of Analysis Groups

"Cooperative learners" and "competitive learners" were identified by using students' scores on a standardized instrument (a learning-styles inventory [LSI] developed by Renzulli & Smith, 1978) and the social studies teachers' categorization of their students (using a list of student types developed by Good & Power, 1976).

Seventy-one students labeled "social students," "success and social students," or "dependent and social students" by their teachers

had an average score of 4.21 (out of 5.00) on the Peer Teaching subscale of the LSI. The same 71 students had a mean score of 2.55 on the Independent Study subscale. These students were identified as cooperative learners.

Sixteen students labeled by their teachers as "success students" or "phantom students" had an average score of 4.24 (out of 5.00) on the Independent Study subscale of the LSI. Their mean score on the Peer Teaching subscale was 2.46. These 16 students were identified as competitive learners (see Figure 4.1).

Table 4.1 shows the class profiles for the students comprising the social studies classes included in the study. Scores and rankings were similar for students of all four teachers regarding all nine teaching methods. Drill and Recitation, Independent Study, and Lecture were ranked ninth, eighth, or seventh by all four teachers' learning groups. Teaching Games and Peer Teaching were ranked first, second, or third by all four teachers' learning groups. Overall, students seemed to be attracted to working with others and having some input into directing their own learning (see Figure 4.2).

The researcher used scores from the Stanford Achievement Test (SAT) and information provided by teacher participants in developing the groups labeled high-ability and low-ability learners. Forty students met the specifications for the high-ability group. Their scores on the Reading Comprehension and Social Science subtests of the SAT ranged from 103 to 116 (out of a possible 120). These students were also evaluated at the A- (or higher) level by their social

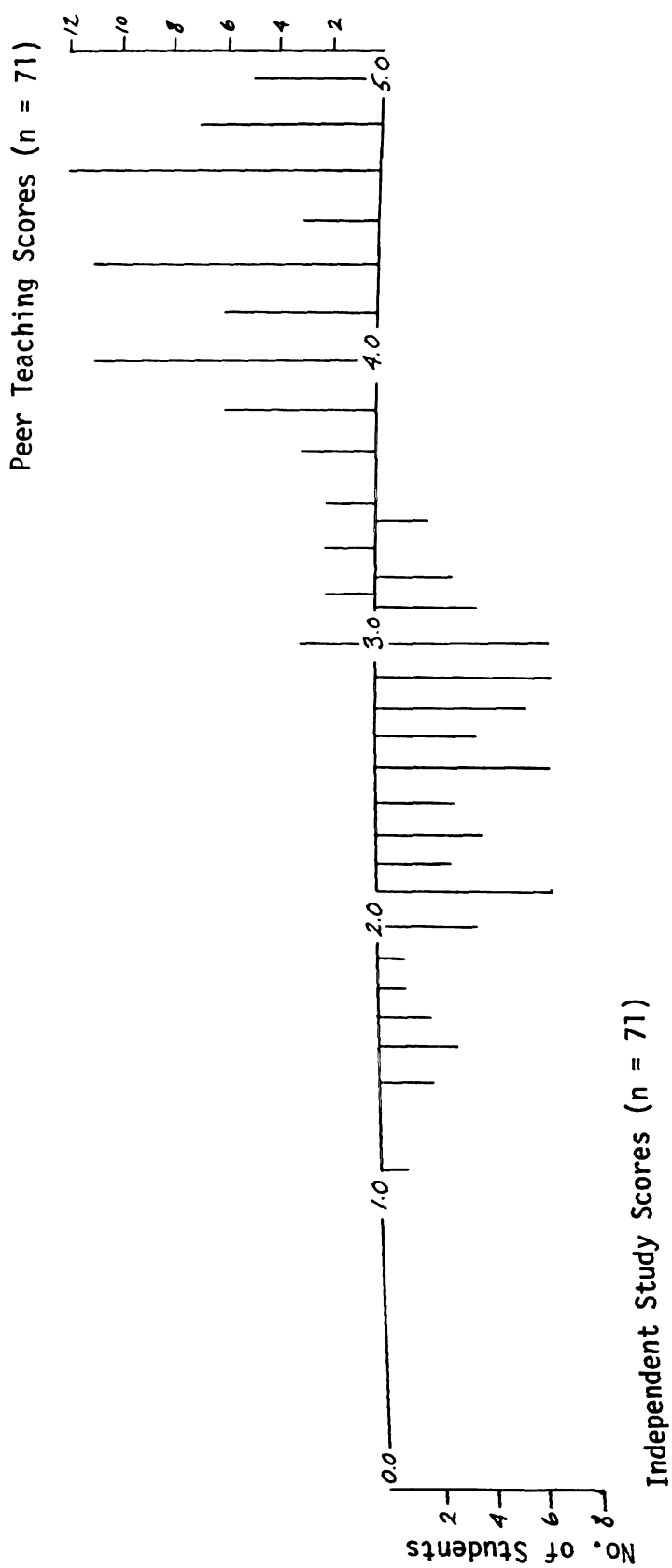


Figure 4.1.--Scores for "cooperative learners" on the Independent Study and Peer Teaching subscales of the Learning Styles Inventory.

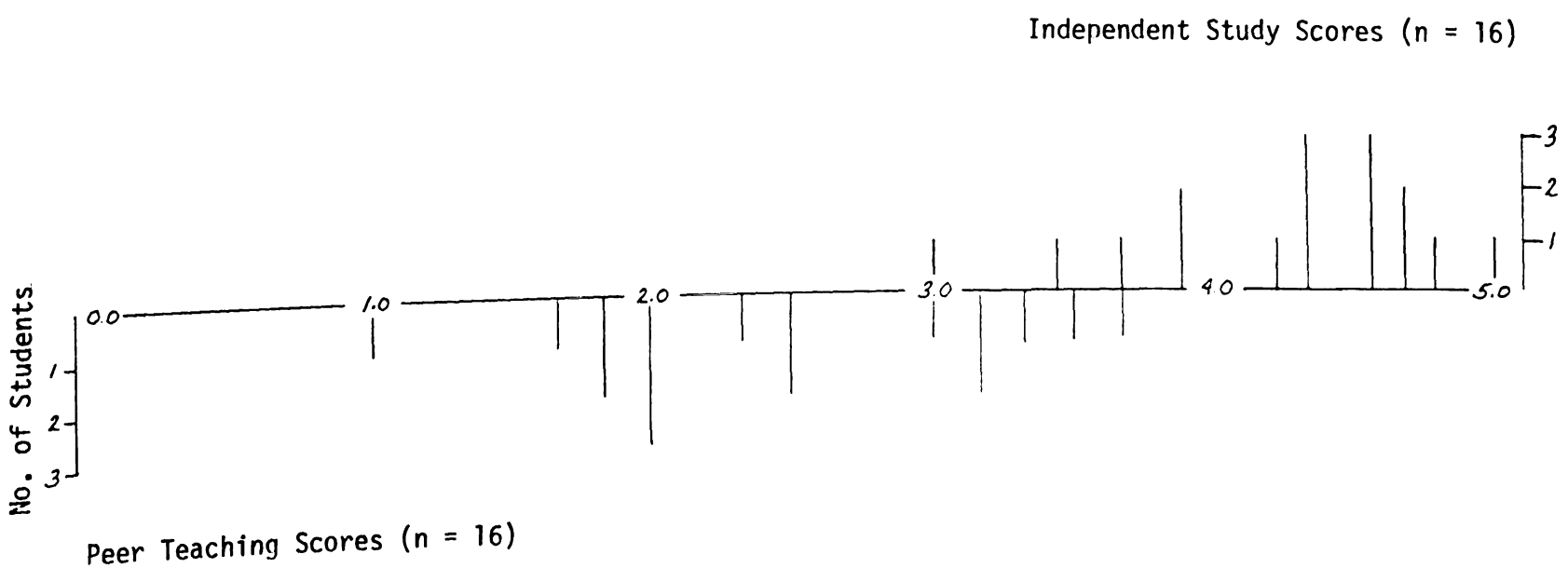


Figure 4.2.--Scores for "competitive learners" on the Independent Study and Peer Teaching subscales of the Learning Styles Inventory.

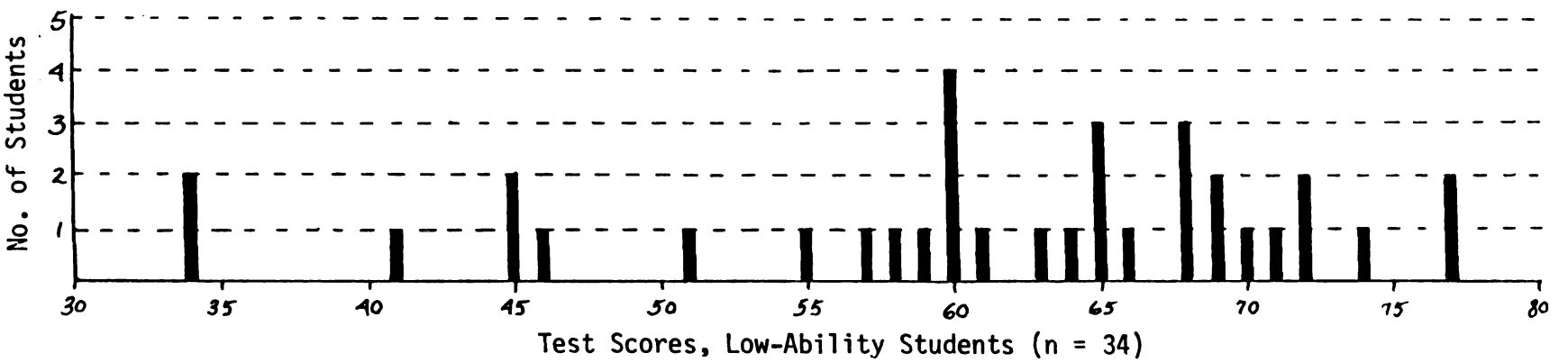
studies teachers. Thirty-four students were identified as low-ability learners. Their scores on the SAT ranged from 34 to 77 on the same subtests, and their social studies grades were consistently at the C level or lower (see Figure 4.3).

Table 4.1.--Results of the Renzulli-Smith Learning Styles Inventory.

Teaching Method	Teacher C	Teacher M	Teacher S	Teacher Y	Total
Projects	3.85(1)	3.72(2)	3.45(5)	3.69(3)	3.67(3)
Simulation	3.70(4)	3.59(6)	3.67(2)	3.66(4)	3.66(4)
Drill & Recitation	2.81(9)	2.88(9)	2.61(9)	2.89(9)	2.80(9)
Peer Teaching	3.84(2)	3.71(3)	3.61(3)	3.80(2)	3.74(2)
Discussion	3.56(6)	3.60(5)	3.34(6)	3.55(6)	3.51(6)
Teaching Games	3.81(3)	3.77(1)	3.79(1)	3.98(1)	3.83(1)
Independent Study	3.15(7)	3.29(8)	3.00(8)	3.17(8)	3.15(8)
Programmed Instr.	3.64(5)	3.66(4)	3.52(4)	3.61(5)	3.60(5)
Lecture	3.10(8)	3.50(7)	3.09(7)	3.31(7)	3.25(7)

Scale: 4.00-5.00 = Very Pleasant, 3.00-4.00 = Pleasant, 2.00-3.00 = Neither, 1.00-2.00 = Rather Unpleasant, 0.00-1.00 = Very Unpleasant

Note: Numbers in parentheses represent the rank order of learning preferences for the nine teaching methods.



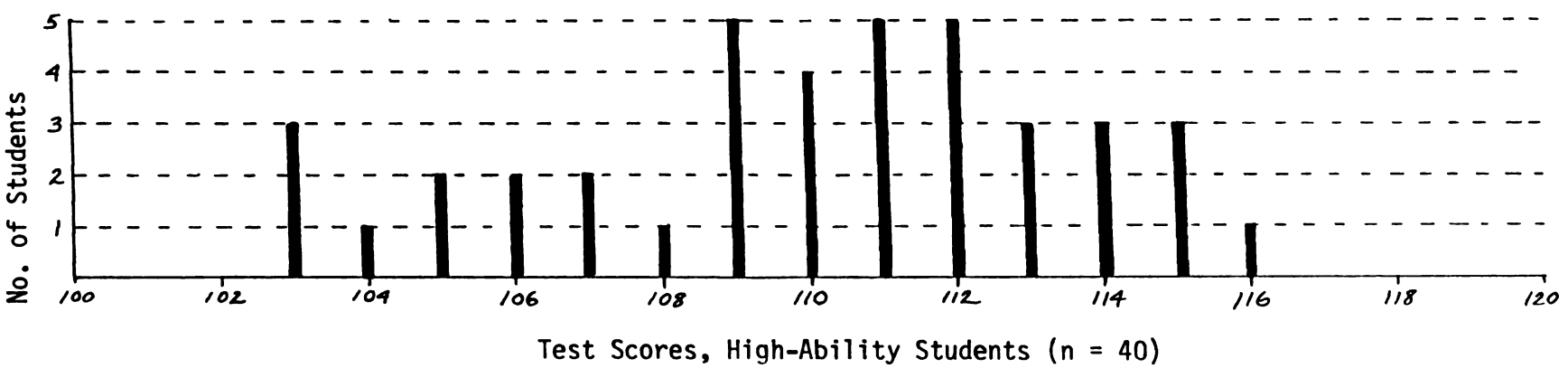


Figure 4.3.--Combined scores on the Reading Comprehension and Social Science subtests of the Stanford Achievement Test.

Table 4.2 shows the mean scores on the Reading Comprehension and Social Science subtests of the SAT for each teacher's two social studies sections. Students' performance on these subtests was consistent from class to class. Teacher C's students achieved a slightly lower mean on each subtest, and Teacher M's students achieved a slightly higher mean on each subtest.

Table 4.2.--Combined scores for the Reading Comprehension and Social Studies subtests of the Stanford Achievement Test.

Classes	Reading Comprehension	Social Science	Total
Teacher C's	45.50	42.75	88.25
Teacher M's	46.45	45.00	91.45
Teacher S's	46.05	44.55	90.60
Teacher Y's	45.95	44.70	90.65

Two-Sample T-Test

Null Hypothesis 1: There will be no statistically significant difference in the mean posttest scores of competitive and cooperative learners matched to task structure and the mean posttest scores of competitive and cooperative learners not matched to task structure.

Hypothesis-testing procedures, using a t-test with the appropriate degrees of freedom, were employed to determine if the mean posttest scores of students matched to task structure differed significantly from those of students not matched to task structure. The dependent variables were the Unit 9/10 and Unit 11/12 achievement posttests. The independent variables were the learning predisposition

of students (either competitive or cooperative) and the task structure employed by the teacher (competitive or cooperative). All students identified as competitive learners or cooperative learners were exposed to a matching task structure and to a task structure that did not match their learning style.

Forty-one students were matched to task structure for the Unit 9/10 posttest. This group included 5 students identified as competitive learners and 36 students identified as cooperative learners. This group had a mean score of 90.3 on the Reading Comprehension and Social Science subtests of the SAT. Forty students were not matched to task structure for the Unit 9/10 posttest. Sixteen competitive learners and 34 cooperative learners constituted this group. The group's mean score on the same SAT subtests was 90.5. Hence the researcher concluded that the two groups were similar in social studies ability.

Table 4.3 reveals the results of the first t-test, concerning the Unit 9/10 posttest. A statistically significant difference was found between the mean score of students matched to task structure (26.5854) and the mean score of students not matched to task structure (28.85). Therefore, Null Hypothesis 1 was rejected for Unit 9/10. However, as the difference was in the direction opposite what was expected by the researcher, the alternate hypothesis (H_a1) could not be accepted.

Table 4.3.--Results of the t-test based on achievement posttest scores for Unit 9/10.

Group	No. of Cases	Mean	S.D.	Std. Error	p-Value
Group 1 (Matched)	41	26.5854	5.450	.851	.05*
Group 2 (Not Matched)	40	28.8500	5.056	.799	

*Significant at the .05 level.

Table 4.4 reveals the results of the second t-test, concerning the Unit 11/12 posttest. The mean score of students matched to task structure (31.15) differed from the mean score of students who were not matched to task structure (30.1463). This difference was in the direction hypothesized by the researcher. However, the difference was not statistically significant at the .05 level or below. Therefore, Null Hypothesis 1 was not rejected for Unit 11/12.

Table 4.4.--Results of the t-test based on achievement posttest scores for Unit 11/12.

Group	No. of Cases	Mean	S.D.	Std. Error	p-Value
Group 1 (Matched)	40	31.1500	4.918	.778	.13
Group 2 (Not Matched)	41	30.1463	5.552	.867	

Figure 4.4 is a graphic representation of the mean scores recorded in Tables 4.3 and 4.4. The scores of students matched to task structure and students not matched to task structure improved on the Unit 11/12 posttest, suggesting a "practice effect." The mean combined score for students matched to task structure was 29.0, and the mean combined score for students not matched to task structure was 29.6. These results are discussed further in Chapter V.

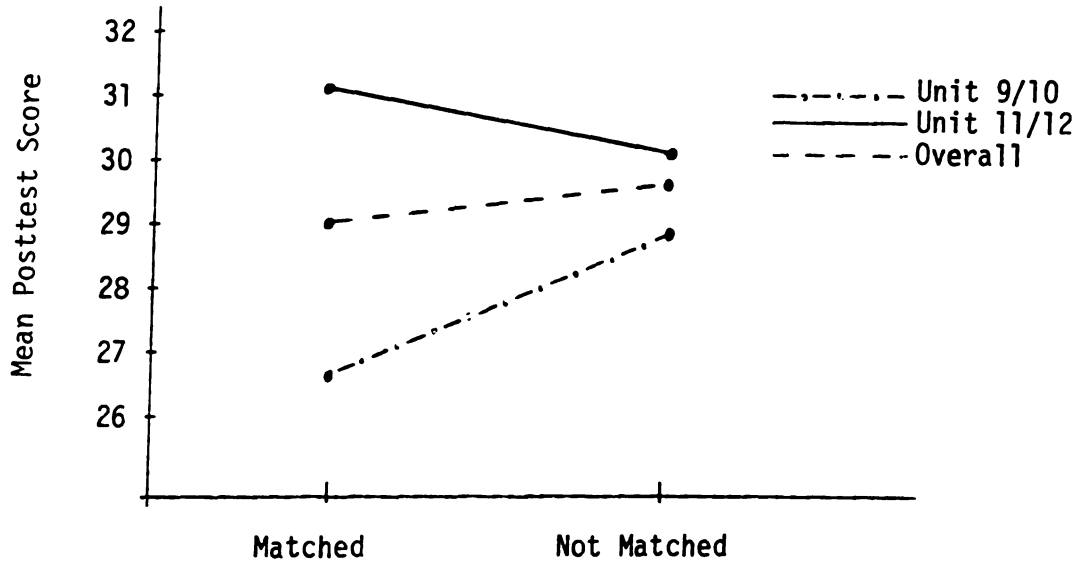


Figure 4.4.--Mean posttest scores of students matched and not matched to task structure.

Two-Way Analysis of Variance

Null Hypothesis 2: There will be no statistically significant difference in the mean posttest scores of low-ability learners exposed to a cooperative task structure and the mean posttest scores of low-ability learners exposed to a competitive task structure.

Null Hypothesis 3: There will be no statistically significant difference in the mean posttest scores of high-ability learners exposed to a competitive task structure and the mean posttest scores of high-ability learners exposed to a cooperative task structure.

A two-way analysis of variance (ANOVA) was performed on the posttest data from students identified as having high or low ability in social studies. The dependent variables were the Unit 9/10 and Unit 11/12 achievement posttests. The independent variables were the ability level of the student and the task structure employed by the teacher (cooperative or competitive). Tables 4.5 and 4.6 show the results of the ANOVA for Unit 9/10 and Unit 11/12 achievement posttest scores, respectively.

Table 4.5 reveals that a statistically significant difference (.001) was found between the scores of high-ability students and the scores of low-ability students on the Unit 9/10 posttest. A statistically significant difference (.01) was also found in the scores from cooperative and competitive task structures. The F-value associated with the ability and task structure interaction was 59.838. Therefore, it appears that there was an interaction between the two variables (significance of F = .001). Null Hypotheses 2 and 3 were rejected using the scores on the Unit 9/10 posttest.

Table 4.6 reveals that a statistically significant difference (.001) was found between the scores of high-ability students and the scores of low-ability students on the Unit 11/12 posttest. The F-value associated with the task structures employed by the teacher was 2.325, which was not statistically significant. Null Hypotheses 2

and 3 concerning the interaction between ability level and task structure were rejected for the scores of high- and low-ability students on the Unit 11/12 posttest (significance of F = .001). The scores of low- and high-ability students were affected by the task structure employed in the classroom.

Table 4.5.--Two-way ANOVA based on ability and task structure (Unit 9/10 achievement posttest).

Source of Variation	df	Sum of Squares	Mean Squares	F	Signif. of F
High/low ability	1	1569.378	1569.378	112.557	.001
Task structure	1	99.248	99.248	7.118	.01
Explained	2	1668.626	834.313	59.838	.001
Residual	63	878.405	13.943		
Total	65	2547.030	39.185		

Table 4.6.--Two-way ANOVA based on ability and task structure (Unit 11/12 achievement posttest).

Source of Variation	df	Sum of Squares	Mean Squares	F	Signif. of F
High/low ability	1	1191.699	1191.699	85.799	.001
Task structure	1	32.295	32.295	2.325	.132
Explained	2	1223.995	611.997	44.062	.001
Residual	63	875.036	13.889		
Total	65	2099.030	32.293		

Figures 4.5 and 4.6 provide graphic representations of the mean scores of low- and high-ability learners, respectively, on the

Unit 9/10 and Unit 11/12 posttests. Both figures illustrate the effect of familiarity and practice on test performance. The test scores of both low- and high-ability students improved on the Unit 11/12 posttest, regardless of task structure. The overall mean for low-ability learners in a cooperative task structure was 25.57. This mean score did exceed the overall mean for low-ability learners exposed to a competitive task structure (25.11), but not enough to accept the alternate hypothesis (H_a2). The overall mean for high-ability learners in the competitive task structure was 35.47. This mean score also exceeded the mean for those same learners exposed to a cooperative task structure (34.84), but not enough to accept the alternate hypothesis (H_a3).

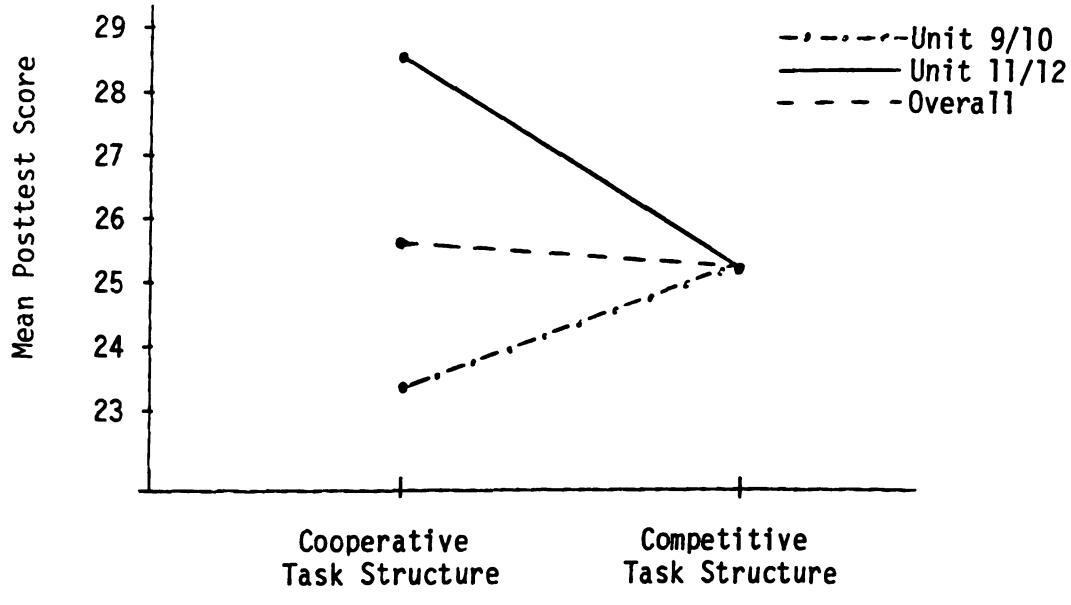


Figure 4.5.--Mean posttest scores for low-ability students in cooperative and competitive task structures.

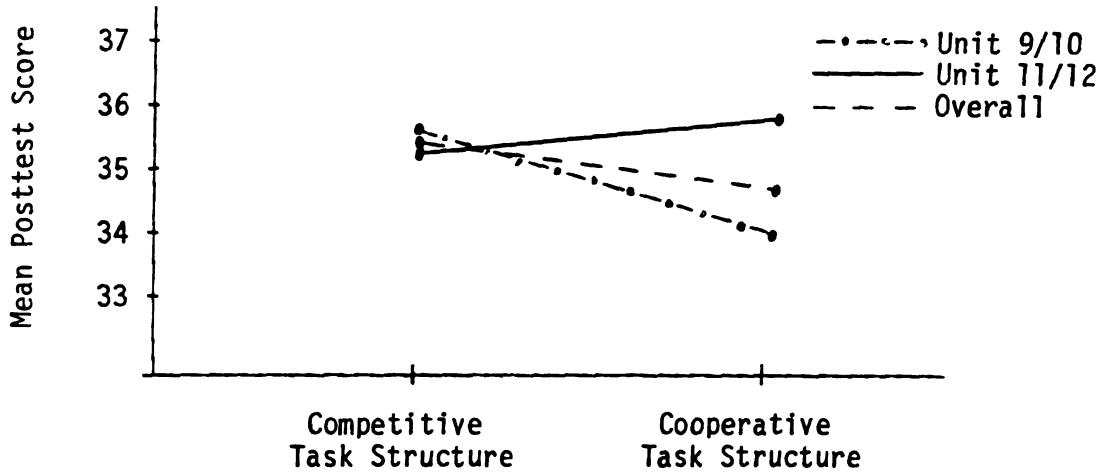


Figure 4.6.--Mean posttest scores for high-ability students in competitive and cooperative task structures.

F-Ratio

Null Hypothesis 4: There will be no statistically significant difference in the variance of scores on subscales of the attitudinal survey for students whose learning-style preferences are matched to task structure and for those same students whose learning-style preferences are not matched to task structure.

Students either matched or not matched to task structure represented a combination of cooperative learners and competitive learners. Certain subscales on the attitudinal survey (Feeling of Being Liked, Liking of Others, and Peer Pressure) might have elicited varied responses, depending on learner predisposition. Therefore, using the F-ratio and determining differences in the variances of students matched or not matched to task structure has more power than comparing means on the subscales of the attitudinal survey.

The attitudinal survey was administered to students after the Unit 9/10 posttest (at the halfway point in the study) and after the

Unit 11/12 posttest (at the conclusion of the study). In compiling the data for computer analysis, the numbers of the responses to Questions 2, 4, 6-7, 11,13, 16-17, 20, 23-24, 26-27, 29-30, 32, and 35 were reversed because of the wording of the questions. This assured that the response totals were not improperly skewed.

Table 4.7 includes data compiled for students identified as cooperative and competitive learners who were matched to task structure for Unit 9/10 and were not matched to task structure for Unit 11/12. Null Hypothesis 4 could not be rejected for any of the subscales of the attitudinal survey. As shown in the table, the variances of scores on the subscales differed, but not significantly.

Table 4.8 contains data compiled for students identified as cooperative and competitive learners who were matched to task structure for Unit 11/12 and were not matched to task structure for Unit 9/10. The null hypothesis could not be rejected for any of the subscales of the attitudinal survey. Again, there were differences, but these differences did not exceed the critical value for F.

Table 4.9 contains additional information concerning variances and means for the two administrations of the attitudinal survey. The variances were greater for students not matched to task structure than for those matched to task structure for the subscales Feeling of Being Liked, Incentive Value of Success, and Peer Pressure. The researcher concluded that, for these three subscales, students matched to task structure had more consistent responses than those not matched to task structure.

Table 4.7.--F-ratio for subscales of the attitudinal survey for students matched to task structure for Unit 9/10 and not matched to task structure for Unit 11/12.

Subscale	Matched			Not Matched			F-Ratio	Signif. at .05?
	Mean	Variance	df	Mean	Variance	df		
Satisfaction	2.70	6.555	40	2.62	7.527	38	1.148	no
Feeling of Being Liked	3.14	3.015	40	3.02	3.843	38	1.274	no
Liking of Others	2.81	1.899	40	2.85	1.320	38	1.438	no
Probability of Success	2.62	3.101	40	2.58	2.659	38	1.166	no
Incentive Value of Success	3.38	4.074	40	3.47	4.293	38	1.053	no
Peer Pressure	2.60	3.102	40	2.62	4.064	38	1.309	no
Dependence of Outcome on Performance	3.38	1.724	40	3.33	2.169	38	1.258	no
Motivation	2.88	3.814	40	2.76	3.250	38	1.173	no

Critical value of F = 1.69

Table 4.8.--F-ratio for subscales of the attitudinal survey for students matched to task structure for Unit 11/12 and not matched to task structure for Unit 9/10.

Subscale	Not Matched			Matched			F-Ratio	Signif. at .05?
	Mean	Variance	df	Mean	Variance	df		
Satisfaction	2.57	4.198	35	2.44	4.756	33	1.133	no
Feeling of Being Liked	3.08	4.892	35	3.01	3.906	33	1.252	no
Liking of Others	2.77	3.981	35	2.78	3.637	33	1.094	no
Probability of Success	2.85	3.294	35	2.69	3.460	33	1.054	no
Incentive Value of Success	3.53	2.832	35	3.63	2.774	33	1.020	no
Peer Pressure	2.66	4.184	35	2.64	3.140	33	1.332	no
Dependence of Outcome on Performance	3.39	1.924	35	3.42	2.215	33	1.151	no
Motivation	2.86	2.378	35	2.80	2.802	33	1.178	no

Critical value of F = 1.72

Table 4.9.--Comparison of the variances and means on the attitudinal survey.

Subscale	Variance		Mean	
	Matched	Not Matched	Matched	Not Matched
Satisfaction	P	M	M	P
Feeling of Being Liked		M,P	M	P
Liking of Others	M	P	P	M
Probability of Success	M,P		M	P
Incentive Value of Success		M,P	P	M
Peer Pressure		M,P		M,P
Dependence of Outcome on Performance	P	M	M,P	
Motivation	M,P		M	P

Note: The letters indicate the greater variance or mean.
M = the attitudinal survey scores collected midpoint in the survey.
P = the attitudinal survey scores collected at the conclusion of the study (post-attitudinal survey).

Students matched to task structure had greater variances for Probability of Success and Motivation than did those not matched to task structure. Unfamiliarity with the teaching methods or task structures employed may have affected the confidence level or initiative of some students, causing a greater spread of scores on these subscales despite being matched to task structure. Students matched

to task structure had higher means on the Dependence of Outcome on Performance subscale, and students not matched to task structure had higher means on the Peer Pressure subscale. These mean scores may reflect the novelty (and possible threat) of working with peers and greater control over performance for students operating in a matching task structure.

Posttest Item Analysis

Item analysis provides researchers with "techniques for summarizing the results of each item on a test" (Scannell & Tracy, 1975, p. 214). The researcher can use item analysis to determine the reliability of individual items, by considering quantitative information regarding the difficulty and discriminatory power of each test item. By calculating the difficulty level and determining how well the test items discriminate between students who achieved high scores and those who achieved low scores, one can confirm whether the test serves the purpose for which it was designed. "The goal of an achievement test is not to separate 'smart' students from others, but rather to reliably separate students who have learned something from those who have not" (Slavin, 1984, p. 86).

Tables 4.10 and 4.11 present the item-analysis data for the two achievement posttests on South America. The data for each posttest were based on a sample of 193 students. The researcher selected the 53 highest scores for the upper group and the 53 lowest

scores for the lower group. Each group constituted 27% of the total sample.

Table 4.10.--Item-analysis data for 40 items from the achievement posttest for Unit 9/10.

Item No.	Index of Difficulty	Index of Discrimination	Item No.	Index of Difficulty	Index of Discrimination
1*	.95	.07	21*	.85	.21
2*	.80	.31	22*	.89	.21
3*	.83	.21	23*	.77	.37
4*	.58	.58	24*	.83	.25
5*	.71	.41	25*	.68	.37
6*	.71	.56	26	.73	.47
7	.75	.37	27*	.75	.49
8*	.66	.50	28	.87	.25
9	.82	.23	29	.76	.35
10	.74	.15	30	.50	.51
11*	.94	.07	31	.79	.37
12	.64	.47	32	.53	.41
13	.49	.47	33	.54	.78
14	.63	.72	34	.52	.55
15	.41	.54	35	.56	.66
16	.75	.29	36	.57	.65
17*	.63	.37	37*	.79	.41
18*	.94	.11	38*	.93	.14
19	.70	.35	39*	.45	.39
20	.68	.47	40*	.61	.61

Mean index of difficulty for 40 items = .70

Mean index of discrimination for 40 items = .39

Difficulty desirability: Middle-range items (about .40 to .60)

Discrimination ratings: Reasonably good items (.30 to .39)
Very good items (.40 and up)

*Indicates test items taken from the unit tests (Alleman, Buggey, & Joyce, Latin America and Canada, 1983, Allyn & Bacon).

Table 4.11.--Item-analysis data for 40 items from the achievement posttest for Unit 11/12.

Item No.	Index of Difficulty	Index of Discrimination	Item No.	Index of Difficulty	Index of Discrimination
1*	.99	.01	21	.85	.29
2*	.97	.06	22	.83	.29
3*	.98	.02	23	.58	.50
4*	.82	.27	24	.69	.56
5*	.90	.20	25	.58	.62
6*	.78	.39	26*	.99	.01
7	.61	.51	27	.64	.58
8	.65	.59	28	.56	.74
9	.62	.62	29	.70	.58
10	.76	.47	30	.46	.61
11	.55	.43	31	.63	.49
12	.65	.41	32*	.85	.29
13*	.53	.57	33*	.67	.56
14*	.81	.25	34*	.74	.39
15*	.87	.18	35	.75	.41
16*	.78	.35	36	.96	.07
17*	.78	.16	37	.86	.19
18*	.68	.27	38	.60	.58
19*	.80	.39	39*	.91	.13
20*	.90	.20	40*	.94	.11

Mean index of difficulty for 40 items = .75.

Mean index of discrimination for 40 items = .355.

Difficulty desirability: Middle-range items (about .40 to .60)

Discrimination ratings: Reasonably good items (.30 to .39)
Very good items (.40 and up)

*Indicates test items taken from the unit tests (Alleman, Buggey, & Joyce, Latin America and Canada, 1983, Allyn & Bacon).

The 40 items on the Unit 9/10 posttest had a mean index of difficulty of .70 (Table 4.10). The 40 items on the Unit 11/12 posttest had a mean index of difficulty of .75 (Table 4.11). Ebel

(1979) suggested that items in the middle range of difficulty should be the goal when constructing achievement tests. The higher difficulty level (indicating that the test included easier items) resulted from the inclusion of items from the Follett unit tests provided by the publisher. These items (indicated by the asterisks in Tables 4.10 and 4.11) had mean indices of difficulty of .765 for the Unit 9/10 posttest and .834 for the Unit 11/12 posttest. The mean indices of difficulty for questions developed by the researcher were .649 for the Unit 9/10 posttest and .676 for the Unit 11/12 posttest.

The 40 items on the Unit 9/10 posttest had a mean index of discrimination of .39; those on the Unit 11/12 posttest had a mean index of discrimination of .355. According to Ebel (1979), if two tests are similar, the test with the higher mean index of discrimination will be more reliable. Therefore, the posttest on Unit 9/10 seemed to have somewhat higher reliability. This difference in discrimination can be explained by the order in which the tests were given. When the Unit 11/12 posttest was administered, students had already taken the Unit 9/10 posttest. Familiarity with test format, types of questions, and difficulty level (a practice effect) may have increased the number of correct responses and overall test scores.

In constructing the two unit posttests, the researcher wanted to measure achievement, while developing tests that were parallel to each other and similar to tests the students were accustomed to taking in their social studies classes (the unit tests provided by Follett). The tests did include maps, charts, tables, vocabulary questions, and

items requiring factual knowledge. The primary difference in the posttests employed in the research study and the unit tests from the textbook publisher was that items written by the researcher demanded the use of higher-level thought processes (analyzing, categorizing, and applying information learned in the units). The Follett unit tests were primarily recall-knowledge items. Therefore, the questions developed by the researcher discriminated better (.47 to .287) and were more difficult (.65 to .80) than the questions taken from the Follett unit tests.

Posttest Reliability Coefficients

"Reliability may be defined as the extent to which measurements reflect true individual differences among examinees" (Sax, 1979, p. 206). When constructing tests, the goal is to create measures that will consistently show differences between individuals who are really different and show the same scores for individuals who are the same. Some common methods for computing test reliabilities include internal consistency measures such as split half, coefficient alpha, and the Kuder-Richardson 20. Internal consistency measures indicate the level of random variation within a test and compare that to the level of variation between the total scores of individuals who take the test (Slavin, 1984).

The Kuder-Richardson 20 (KR 20) was appropriate for calculating the reliabilities of the four achievement posttests used in this study for several reasons. The KR 20 requires only a single administration of an examination to determine test reliability. It is

designed for tests that measure knowledge rather than the speed with which an individual can respond to the items. The KR 20 assumes that correct responses are accorded one point, and incorrect or omitted items, zero points. "Unlike the split-half technique, which involves correlating the scores on half of a test (i.e., the odd- versus even-numbered items), KR 20 provides an estimate of reliability for an entire test" (Sax, 1979, p. 214).

To calculate the KR 20 reliability of a test, the number of items, the variation of the total test, and the proportion of students passing each item are necessary. Tables 4.12 and 4.13 present data used in determining the reliability of the achievement posttests employed in this study. The first two columns include the distribution of scores and the frequency (F) of each score. The number of students who took the test (n) equals the total frequency for each test. The proportions of right (R) and wrong (W) answers are given as fractions and as decimals [p(R) and p(W)]. A frequency (F) column indicating the number of items for each proportion is located to the right of the proportion columns. Item variances (pq) were computed by multiplying the proportion of right answers p(R) by the proportion of wrong answers p(W) by the frequency of items (F). The number of examinees (n), the sum of test scores (x), the sum of squares (x^2), and the sum of the item variances (pq) are included at the bottom of each table. The formula for figuring the KR 20 reliability and the computation of the variance (s^2) and reliability (r) are also included below each table.

Table 4.12.--Data for calculating the reliability of a 40-item achievement posttest based on Unit 9/10.

Score Distribution		Response Proportions				Item Variances	
Score	F	R	W	p(R)	p(W)	F	pq
38	1	179/186	7/186	.962	.038	2	.073
38	3	174	12	.935	.065	2	.121
37	10	171	15	.920	.080	1	.073
36	8	162	24	.870	.130	2	.226
35	8	159	27	.854	.146	1	.124
34	15	156	30	.838	.162	1	.135
33	10	152	34	.817	.183	1	.149
32	5	149	37	.800	.200	4	.640
31	19	144	42	.774	.226	3	.525
30	8	139	47	.747	.253	2	.189
29	12	136	50	.731	.269	1	.196
28	10	134	52	.720	.280	1	.201
27	9	131	55	.704	.296	2	.416
26	12	126	60	.677	.323	1	.218
25	13	123	63	.661	.339	1	.224
24	3	121	65	.650	.350	3	.682
23	7	116	70	.623	.377	1	.234
22	7	110	76	.591	.409	1	.241
21	11	106	80	.569	.431	1	.245
20	6	103	83	.553	.447	3	.742
19	1	98	88	.526	.473	2	.498
18	1	91	95	.489	.511	1	.250
17	2	87	99	.467	.533	1	.249
16	2	83	103	.446	.554	1	.247
14	1	75	111	.403	.597	1	.240
13	1						

$n = 186$

$\Sigma x_2 = 5291$

$\Sigma x^2 = 156460$

$\Sigma pq = 7.138$

$$KR\ 20 = \frac{K}{K-1}\left[1 - \frac{\Sigma pq}{S^2}\right] \qquad K = 40$$

$$S^2 = \frac{156640 - \frac{(5291)^2}{186}}{186} = 31.99$$

$$(KR\ 20)\ r = \frac{40}{40-1}\left[1 - \frac{7.138}{31.99}\right] = .80\ (.7995)$$

Table 4.13.--Data for calculating the reliability of a 40-item achievement posttest based on Unit 11/12.

Score Distribution		Response Proportions				Item Variances	
Score	F	R	W	p(R)	p(W)	F	pq
40	2	182/183	1/183	.994	.006	1	.0059
39	6	180	3	.983	.017	4	.066
38	9	176	7	.961	.039	1	.037
37	10	170	13	.929	.071	1	.066
36	15	165	18	.900	.100	1	.090
35	13	163	20	.890	.110	2	.195
34	8	161	22	.880	.120	1	.105
33	14	159	24	.868	.132	3	.344
32	12	150	33	.820	.180	2	.295
31	12	147	36	.803	.197	1	.158
30	14	145	38	.792	.208	3	.494
29	9	142	41	.776	.224	2	.347
28	12	140	43	.765	.235	1	.179
27	8	136	47	.743	.257	2	.381
26	10	131	52	.715	.285	1	.204
25	8	127	56	.694	.306	1	.212
24	3	122	61	.667	.333	1	.222
23	4	115	68	.628	.372	1	.233
22	2	112	71	.612	.388	1	.237
21	2	109	74	.595	.405	3	.723
19	6	106	77	.579	.421	2	.487
18	2	100	83	.546	.454	2	.496
17	1	98	85	.535	.465	1	.249
16	1	88	95	.480	.520	1	.250
15		80	103	.437	.563	1	.246

$n = 183$

$$KR\ 20 = \frac{K}{K-1}\left[1 - \frac{\Sigma pq}{S^2}\right]$$

$K = 40$

$\Sigma x = 5637$
$\Sigma x^2 = 178913$
$\Sigma pq = 7.2489$

$$S^2 = \frac{178913 - \frac{(5637)^2}{183}}{183} = 28.825$$

$$(KR\ 20)\ r = \frac{40}{40-1}\left[1 - \frac{7.2489}{28.825}\right] = .77\ (.7687)$$

As indicated in Tables 4.12 and 4.13, the reliability coefficients for the two 40-item achievement posttests were .795 (Unit 9/10) and .7687 (Unit 11/12). The difference in the reliability of the two tests may be explained by the order in which the tests were given or by slight variations in the content evaluated or the format for each test. Further discussion of the KR 20 reliability results is included in Chapter V.

Teacher Interview Data

The four teachers involved in this study were interviewed immediately after they had taught the four units on South America. The questions focused on four topics: (a) teaching experience, (b) teaching style, (c) reactions to the teaching methods and materials, and (d) responses to the task structures (competitive and cooperative). The teacher interview questions are listed below, followed by a discussion of the responses concerning each of the four major topics.

1. Experience. How many years have you been teaching? In the Okemos schools? At the middle school level? Sixth-grade social studies?

2. Teaching style. Briefly explain your teaching style in social studies. How often do students in your class work independently on assignments? In groups? Describe the social studies assignments you give your students. Describe any tests you employ and the criteria you use for evaluation of progress in social studies.

3. Teaching methods and materials. What were your reactions to the teaching-materials packet and the teaching methods you were asked to employ during the research study?

4. Task structures. What were the reactions of students to the cooperative and competitive task structures in effect during the study? Are these task structures appropriate for this age level? Will you use either or both of these task structures in your future teaching?

Experience. All four teacher participants had had extensive experience in teaching and specifically in teaching at the middle school level. They had accumulated a total of 74 years of teaching in the public schools. Table 4.14 illustrates the teaching experience of the four teachers. Three of the teachers had spent a majority of their careers teaching sixth-grade social studies in the community in which the study was conducted. The fourth (Teacher S) was an art teacher who was relatively new to the school system and was teaching sixth-grade social studies for the first time.

Table 4.14.--Years of experience of teacher participants.

	Teaching	This District	Middle School	Sixth-Grade Social Studies
Teacher C	21	21	21	12
Teacher M	16	16	16	14
Teacher S	14	2	7	1
Teacher Y	23	17	23	19

Teaching style. "The most comfortable way for me to teach is to be mostly in charge and directive." Teacher C stated that she was somewhat uncomfortable with sixth-grade students having too much control over what or how they learn. She said that, in her classroom, assignments were taken primarily from the textbook materials. Students completed dittos, answered most questions in the text, and took the unit tests provided by the publisher. Teacher C described the peer teaching that occurred in her class as students checking over assignments or reviewing for a unit test. She stated that students' grades in social studies were based on tests (two-thirds) and assignments (credit/no credit).

Teacher M described the learning environment in his classroom as being "laissez-faire rigidity." He indicated that there was a clear structure and sequence to what occurred in the classroom, but students were offered some freedom in how they completed assignments and interacted with the content. Teacher M stated that lecture was his primary method of teaching because it supplemented the content in the text and stimulated the students' interest. When describing assignments, he included dittos, questions from the text, and preparation for the unit tests provided by the publisher. Teacher M indicated that he had not used small-group learning with his students before this study. He mentioned that students were given grades in social studies based on test scores, assignments (credit/no credit), and the teacher's subjective assessment (ability, effort, and potential).

Teacher S was an art teacher who was teaching social studies for the first time. Having had no previous experience in that subject, she stated that she applied her background in teaching art to the methods she used in her social studies classes. Teacher S believed that students could benefit from working in small groups and completing hands-on projects. "Kids usually get more or at least as much from listening to each other than from a lecture, which can turn off a lot of kids in this age group." Grades in Teacher S's classes were based on unit tests (provided by the publisher), assignments (dittos and questions from the text), and projects.

"In social studies, I think, like everything else, you have to use a lot of variety." Teacher Y indicated that she provided opportunities for students to complete projects, work independently, work in small groups, and make presentations. She stated that if you offer many instructional approaches, you not only "hit more students' learning styles," but also maintain the interest of both students and the teacher. Teacher Y stated that she used scores on the tests provided by the publisher (students begin the school year using the text or notes while taking tests, and by March are on their own), participation, and assignments (primarily from the textbook materials) when determining students' social studies grades.

The four teachers completed the Teaching Styles Survey (Renzulli & Smith, 1978) at the outset of the study. This instrument measured how often teachers employed different methods in their

classrooms. Table 4.15 illustrates the results of the survey and supports the four teachers' analyses of their own teaching styles.

Table 4.15.--Results of the Renzulli-Smith Teaching Styles Survey.

Teaching Method	Teacher C	Teacher M	Teacher S	Teacher Y
Projects	3.00(5)[a]	1.78(7)	4.22(1)	3.44(3)
Simulation	1.00(9)	2.17(6)	1.17(9)	1.67(9)
Drill & Recitation	4.00(1)	4.63(1)	2.63(6)	3.13(7)
Peer Teaching	3.33(3)	1.17(9)	4.17(2)	3.50(2)
Discussion	3.25(4)	3.63(5)	3.25(4)	3.25(4)
Teaching Games	1.20(8)	1.60(8)	1.60(8)	2.60(8)
Independent Study	2.67(7)	3.89(3)	3.22(5)	3.22(6)
Programmed Instruction	2.86(6)	3.86(4)	2.29(7)	3.29(5)
Lecture	3.86(2)	4.00(2)	3.71(3)	3.57(1)

Note: 4.00-5.00 = Very Frequent. 3.00-4.00 = Frequent. 2.00-3.00 = Neither. 1.00-2.00 = Rather Infrequent. 0.00-1.00 Infrequent

[a]Numbers in parentheses represent the rank order of the nine teaching methods.

Teachers C and M identified themselves as more structured and teacher directed, and less likely to give students control over what and how they learn. These two teachers rated drill and recitation and lecture as the teaching methods they used most frequently. Teachers S and Y placed more value on students working in small groups and on projects. They ranked peer teaching (Teacher S--2nd, Teacher Y--2nd) and projects (Teacher S--1st, Teacher Y--3rd) as frequently employed teaching methods.

Teaching methods and materials. The four teachers agreed that the teaching packet was clear and concise and included teaching

methods that were effective with a variety of student learning styles. They recognized a consistent pattern for content presentation and assignments for all four units on South America. They did mention that adjustments were required initially as they adapted their teaching styles to the methods and materials outlined in the teaching packet. Teachers C and M indicated that they had experienced some frustration in employing the small-group (cooperative) approach at the outset of the study but stated that they had been more comfortable each time they had completed subsequent units. Teacher S remarked that her students were not accustomed to learning in the competitive task structure and that the approach was new to her as well. Teacher Y mentioned that the adjustment for her students was minor. She stated, "I thought it [the materials packet] was clear and it did fit my style. You had media, you had maps, you had straightforward questions, I-learn-facts, all the things I employ."

Task structure. Teachers reacted in various ways when describing students' responses to the cooperative and competitive task structures. Teachers mentioned that students who were not independent starters, who desired social acceptance, who were not motivated, and who rarely performed in the competitive task structure were most likely to benefit from small-group activities. Teacher C stated, "Lots of times they had a talent that the group could make use of so it really gave them some prestige, to be able to contribute." Teachers agreed that the competitive task structure was most effective with self-starters, those who were motivated to work, students who

were bright, and those who were responsible. They said frustration was evident because some individuals felt they were being held back by the group, that their grade would be lowered because of the group, or that group members would not do their share of the work.

Teacher S stated that her classes were ready to change to the cooperative task structure and that interest and performance had improved during the second half of the study. Teacher C mentioned that the individual work (competitive task structure) went faster for her students when they began the second half of the study, "and they were ready to be done with the group work, and so was I."

Student Interview Data

Twelve students were interviewed at the conclusion of the study. These students represented high- and low-ability, cooperative and competitive learning-style preferences, and classes of each of the teachers who participated in the study. Table 4.16 illustrates the gender, ability, and learning-style predispositions of the students who were randomly selected to be interviewed.

Table 4.16.--Characteristics of students selected for interviews.

Classroom	N	Gender		Ability		Predisposition		
		M	F	High	Low	Coop.	Comp.	Unclass.
Teacher C	2	1	1	1			1	1
Teacher M	2	2		2			1	1
Teacher S	3	1	2	1	1	2		1
Teacher Y	5	2	3	1		2	1	2
Total	12	6	6	5	1	4	3	5

Students were asked to answer ten questions concerning working in small groups and working independently on school work. The questions and students' responses are summarized below.

1. With which of the two approaches, working alone on assignments or working in groups on assignments, did you learn more in this social studies class?

   Groups 4 Alone 8

2. Which of the two approaches, working alone on assignments or working in groups on assignments, did you enjoy more?

   Groups 10 Alone 2

3. Prior to this unit on South America, how often did your class participate in units employing small groups?

   Never 5 Occasionally (1-3 times) 7 Often (+3 times) 0

4. What school subjects would be taught best using small groups? What school subjects would be taught best when students work alone?

Groups	Alone
Science 7	Language Arts 5
Math 3	Math 4
Shop Project 1	Computer 2
Learning Games 1	Reading 2

5. What do you like most about social studies this year? What do you like least about social studies class this year?

+ Social Studies	- Social Studies
Teacher 4	Content 4
Media 2	Assignments 4
Projects 2	Tests 2
Interaction 1	Teacher 1
Content 2	Reading 1
Assignments 1	

6. What percentage of the time in social studies class should be used for work in small groups, and what percentage of the time should be used for individual work?

Group		Individual
--	1	100%
75%	2	25%
50%	2	50%
67%	3	33%
25%	2	75%

7. What problems can occur when a student is working in a small group? What problems can occur when a student is working alone?

Small Group		Alone	
Arguments	4	Questions	5
Goofing off	4	No interaction	3
Distraction	3	Insufficient work time	2
Unfinished work	1	Less feedback	2

8. What benefits does working in small groups offer the student? The teacher?

Student		Teacher	
Sharing the task	6	More time	5
More interaction	4	Improved management	4
Student control of learning	2	Role in the classroom	3

9. What benefits does working alone offer the student? The teacher?

Student		Teacher	
Fairer grades	4	Quiet	9
Quiet	3	More control	3
Fewer distractions	2		
Avoid inferior classmates	1		
More time to work	1		
Better access to materials	1		

10. Why is it important to learn to work in small groups? Why is it important to learn to work alone?

Alone		Groups	
You won't always have someone to depend on	7	Careers that require interaction	5
To learn responsibility	3	Family/friends	3
Careers	2	Communication skills	2
		Control emotions	2

In reviewing the student interviews, the researcher noted that the students had had limited exposure to working in small groups, despite enjoying tasks structured in that way and recognizing the importance of learning in small groups. The majority of student interviewees stated that tasks requiring independent work facilitated an orderly, quiet learning environment, with few distractions. The majority (8) of students believed they learned more when tasks were structured in this way. However, almost every interviewee indicated that providing opportunities for students to work and learn together was important in several school subjects and gave them opportunities to practice skills that would be useful throughout their lives.

Summary

A two-sample t-test was performed on the posttest data from 81 subjects. The dependent variables were the Unit 9/10 and Unit 11/12 achievement posttests. The independent variables were learner predisposition (cooperative or competitive) and task structure. Students were exposed to a task structure that matched their learning style and a task structure that did not match their learning style.

Null Hypothesis 1 was rejected for the Unit 9/10 posttest scores; however, the difference in scores was in the direction opposite what the researcher hypothesized. Null Hypothesis 1 for the Unit 11/12 posttest scores was not rejected.

A two-way ANOVA was conducted to determine if there was an interaction between the ability of the learner and the task structure employed by the teacher. The results of the ANOVA suggested that there was an interaction between the two variables. Null Hypotheses 2 and 3 were rejected. The differences in the test scores did not meet the criterion for significance (alpha = .05).

An F-ratio was calculated to determine if there were statistically significant differences in the variances of scores on the attitudinal survey. Null Hypothesis 4 was not rejected. There were differences in the variances, but they were not statistically significant.

An analysis of the data concerning the Unit 9/10 and Unit 11/12 achievement posttests indicated that the two tests had appropriate indices of difficulty and discrimination (item analysis) and reliability (Kuder-Richardson 20). Both tests were also similar in types of questions and general format.

Data gathered from interviews with teachers and students were reported. Although they lacked experience in employing the task structures, teachers recognized the value of using both cooperative and competitive approaches in their teaching. Students also

recognized the benefits of being exposed to both task structures in their social studies classes.

Table 4.17.--Summary of the results of hypotheses investigated in this study.

Null Hypothesis 1	(Matching Learner Predisposition and Task Structure)	Not Rejected
Null Hypothesis 2	(Low-Ability Students in Cooperative Task Structure)	Rejected
Null Hypothesis 3	(High-Ability Students in Competitive Task Structure)	Rejected
Null Hypothesis 4	(Differences in Attitudes for the Two Task Structures)	Not Rejected

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter begins with a summary of the information contained in the preceding four chapters. Also included are a discussion of the findings, conclusions drawn from the findings, and recommendations for further research.

Summary

Purposes of the Study

This study was undertaken to examine the effects of task structure on the achievement and attitudes of various types of students. The writer had three major purposes in conducting this investigation. The first purpose was to compare the effects of competitive and cooperative task structures on the achievement of sixth-grade social studies students who were predisposed toward competitively or cooperatively structured classrooms. The second purpose was to measure the effects of competitive and cooperative task structures on the achievement of high-ability and low-ability social studies students. The third purpose was to determine the effects of competitive and cooperative task structures on the attitudes of students predisposed toward one task structure or the other.

Literature Review

The review of literature described the crisis in achievement and socialization facing the schools and indicated how application of research findings in the areas of language and learning, student learning styles, the transescent stage of development, and task structures employed in the classroom could address these problems.

Literature regarding the specific effects of structuring student talk into learning situations; teaching to a variety of student learning styles; and employing competitive, individualistic, and cooperative task structures was reported. A section on the developmental needs of the middle-school-age student was also included.

The literature review made it clear that teachers control who learns and how much is learned by the ways they choose to teach. With the changes in the structure of the family, schools now play a more important role than before, not only in teaching knowledge of content, but also in providing students with opportunities to develop and practice skills that will be useful and important throughout their lives. Teachers should recognize what research findings have suggested concerning the learner, the teaching process, and student needs.

Design of the Study

The effects of task structure on students of different learning predispositions and ability levels were examined in this study. The sample included 193 sixth-grade students and their social studies teachers from a middle school located in a suburban mid-Michigan community. The subjects were exposed to both cooperative and competitive

task structures concerned with content from the textbook Latin America and Canada (Coffman & Joyce, 1983).

From the results of a learning-styles inventory (Renzulli & Smith, 1978) and classification of students by classroom teachers (Good & Power, 1978), 87 students were identified as either competitive learners (n = 16) or cooperative learners (n = 71). Scores from the Reading Comprehension and Social Science subscales of the Stanford Achievement Test and student-evaluation information provided by teachers were employed in formulating the groups of low-ability (n = 34) and high-ability (n = 40) students. The remaining students participated in the study, but the data pertaining to those students were not used in answering the research questions.

Student achievement was measured through the use of posttests developed by the researcher. These tests included both recall and higher-level questions and were similar in difficulty (Unit 9/10 = .70, Unit 11/12 = .75), discrimination (Unit 9/10 = .39, Unit 11/12 = .36), and reliability (Unit 9/10 = .80, Unit 11/12 = .77). Student attitudes were determined by administering an attitudinal survey developed by Slavin (1978).

The statistical treatments used in analyzing the data were the t-test (Research Question 1), two-way analysis of variance (Research Questions 2 and 3), and F-ratio (Research Question 4). The data generated from the achievement posttests and the attitudinal survey were entered into the Michigan State University computer. The statistical

procedures used in analyzing the data were part of the Statistical Package for the Social Sciences (SPSS).

Discussion of the Findings

This section includes a discussion of the findings pertaining to the research questions. as well as additional data gathered in the study.

Research Question 1

> Is there a difference in the achievement levels of competitive and cooperative learners matched to task structure and competitive and cooperative learners not matched to task structure?

The results of the t-tests performed on the achievement data indicated that there was no significant difference in the mean scores of students matched to task structure and students not matched to task structure. The teachers and students with the least experience working in a cooperative task structure were randomly assigned to that classroom environment at the beginning of the study. Energy was diverted from learning the content to adjusting to a unique teaching/learning setting (a novelty effect). Therefore. this group (which contained 40 of the 45 students matched to task structure) had a mean score of 27.2 on the Unit 9/10 posttest. The teachers and students assigned to the competitive task structure were required to adjust to only slight changes in teaching methods. These class groups contained the majority of students who were not matched to task structure (34 of 45 students). The mean score on the Unit 9/10 posttest was 30.2 for students working in a competitive task structure. The resulting

comparison of mean scores on this posttest favored the students who were not matched to task structure (28.8 to 26.5).

The mean scores for the Unit 11/12 achievement posttest were higher for both students matched to task structure (31.1) and students not matched to task structure (30.1). These improved scores can be explained by familiarity with the teaching methods and test format (a practice effect). The mean scores of the matched group did exceed those of the unmatched group, suggesting that the novelty of different teaching methods or task structures was diminished or absent and that the difference in the mean scores was reflected in the teachers' experience in using the cooperative task structure.

The combined score for students matched to task structure was nearly the same as the combined score for students not matched to task structure (overall mean of matched students = 29.0; overall mean of not-matched students = 29.6). What if the teachers participating in the study had had similar exposure to and experience in using both task structures before the study? What would the results have been if the random assignment of class groups had been different? The effects of matching task structure and student predisposition toward cooperative or competitive classroom activities might have been in the direction hypothesized by the researcher if either of the above circumstances had occurred in this study.

Research Question 2

> Is there a difference in the achievement levels of low-ability learners exposed to a cooperative task structure and low-ability learners exposed to a competitive task structure?

The results of the two-way ANOVA and other data indicated that there was an interaction between the ability of the student and the task structure employed in the classroom. Students identified as low-ability learners did achieve a higher mean score when working in a cooperative task structure (25.57 to 25.10). Fifty-four percent of the low-ability learners had a higher test score after exposure to a cooperative task structure. 36% had a higher test score after exposure to a competitive task structure. and 10% had the same score after exposure to each task structure. The mean scores for this group of students also increased from the Unit 9/10 posttest (23.37 cooperative task structure. 25.1 competitive task structure. 24.24 overall mean) to the Unit 11/12 posttest (28.5 cooperative task structure. 25.12 competitive task structure. 26.81 overall mean).

These data suggest that frequently exposing low-ability learners to cooperative task structures would enhance their achievement. Participating often in small-group work would place low-ability students in contact with students of varying abilities. permitting them to observe how others study and learn. encouraging interaction and sharing among students. and creating an opportunity for success for those who have consistently failed (and possibly given up) in other task structures.

Research Question 3

> Is there a difference in the achievement levels of high-ability learners exposed to a competitive task structure and high-ability learners exposed to a cooperative task structure?

As indicated in the discussion for Research Question 2, there was an interaction between the ability level of the student and the task structure employed in the classroom. High-ability learners achieved higher mean scores when exposed to competitive task structures (35.47) than when exposed to cooperative task structures (34.84). This difference in achievement was primarily because of the low mean score of the high-ability students when first exposed to a cooperative task structure. Their mean score on the Unit 9/10 posttest was 34.1. The lack of experience working in small heterogeneous groups, and the initial encounter with a difficult posttest, probably caused the lower score. Students and teachers interviewed by the researcher indicated that the posttests for this study included questions that required understanding the content and applying what had been learned. The unit tests from the publisher emphasized recall of information.

In contrast, the highest mean score for high-ability learners was on the Unit 11/12 posttest for those learners exposed to a cooperative task structure (35.76). This score can be explained by the students' previous exposure to the Unit 9/10 posttest and their increased familiarity with working in groups (these students had more experiences working in groups in their social studies classes). Fifty-five percent of the students identified as having high ability in social studies achieved a higher test score after exposure to a competitive task structure, 34% of them achieved a higher test score

after exposure to the cooperative task structure, and 11% received the same score on both posttests.

The data relating high-ability students to task structure suggested that students exposed to cooperative task structures did nearly as well on the social studies posttests as those exposed to competitive task structures. Since high-ability students did not suffer from working with students of lower ability, using cooperative task structures would provide additional benefits to high-ability students in the areas of communication and leadership.

Research Question 4

> Is there a difference between student attitudes when task structure is matched to learning style preferences and when task structure is not matched to learning style preferences?

Results indicated that there was a difference in the attitudes of cooperative and competitive learners matched to task structure and those same learners not matched to task structure; however, this difference was not statistically significant. There were several reasons for this lack of significance. The attitudinal survey was administered at the beginning of data collection, after exposure to the first task structure, and after exposure to the second task structure. The time devoted to each task structure (18 to 20 class periods) may have been insufficient to influence a change in attitude. One-third of the students participating in the study identified social studies as their least favorite subject. Teacher S stated during her interview, "To be honest, most of them [the sixth-grade students] could care less about

South America." Focusing on the text and related materials contributed to this negative attitude toward social studies. Altering task structure over a short period of time may not have been enough to overcome low student interest in the subject matter.

Assessment of the Variables

The researcher attempted to limit the variations in teaching style through training and the use of a teaching-materials packet. The training included providing teachers with information concerning task structures and student learning styles and having teachers and their classes participate in an activity employing cooperative groups. The teaching-materials packet was developed to guide teachers through the content, explain the assignments, and describe the two task structures. This materials packet was not a script; therefore, individual interpretations and teaching styles could not be completely controlled (as indicated in Chapter I, Limitation 3). "When you ask teachers to learn and implement a method new to them, you are asking them to unlearn and learn" (Sarason, 1984, p. x). The 74 years of cumulative teaching experience and the individual biases of the teachers were evident from the students' resulting test scores and from the interviews conducted with both students and the teachers.

When the two task structures were randomly assigned to the class groups, the two teachers who had had little experience with cooperative learning groups were to employ that task structure first. The other teachers, who were accustomed to using small-group teaching in their social studies classes, were to employ a competitive task

structure first. The change in "management style" for the teacher and in classroom environment for the students was greater for individuals engaged in the cooperative task structure than for those involved in the competitive task structure. Teacher Y stated that she was comfortable teaching in either task structure, but the other three teachers expressed relief and exhibited increased confidence in using the task structure that corresponded to their teaching style for Units 11 and 12. Students also achieved the highest test scores when the task structure was consistent with that employed by their social studies teacher before the study. If the random assignment of classes to task structure had been reversed, the four teachers would have become accustomed to the demands of the study while employing task structures more familiar to them. This would have diminished the effects of variations in experience and teaching styles.

In assessing other variables that may have influenced the results, the validity of the instruments and treatments must be weighed. Both posttests conformed to the same structural specifications; that is, both tests had the same number of items and the same reading level, contained similar formats, and covered related content (different regions of South America). In addition to their parallel specifications, the validity of the tests was strengthened by their high and similar reliability coefficients and mean indices of discrimination. Therefore, it seems probable that the higher scores on the Unit 11/12 posttest were a result of a "practice effect" and not structural inequalities between the two tests.

The two treatments were designed to be identical in terms of teaching methods, types of assignments, and overall format. The only differences were that the content involved various geographical regions of South America, and the students completed assignments and prepared for tests in the two task structures. Changes in methods or work settings, however, can affect student behavior. Students may require time to adjust to differences in classroom routines. If one treatment had required time for novelty to become ineffective, the diminished exposure time to the content might have influenced posttest results and subsequently the conclusions drawn from the data. Teacher C mentioned after completing Unit 10 in cooperative groups, "The groups were much more efficient [in the second unit]. There was less frustration on the part of the groups if individuals did not get their work done. Less assertive kids were more involved. I've certainly learned that keeping the same group is important, at least for a period of time." It appears that mean scores were lower on the Unit 9/10 posttest due to the adjustment period necessary for students and teachers.

Additional Findings

In this study, 87 students were identified as either cooperative or competitive learners. However, all 193 subjects were exposed to a cooperative and a competitive task structure. When examining the achievement posttest results for the entire sample, only a slight difference was noted in the performance of students after exposure to

a cooperative task structure (mean score = 29.6) and after exposure to a competitive task structure (mean score = 30.0). This was the case, even though half of the teachers and students lacked experience in working in small groups before the study. This finding offers convincing support for the use of cooperative learning groups. Such a task structure enables students to achieve at a level comparable to their achievement in a competitive task structure, while developing communication skill and learning from each other. The cooperative task structure offers teachers another approach to "work in the classroom setting," providing more variety, involving more students in the learning process, and creating greater interest in the content.

Because of the nature of the community in which the study was conducted (upper middle class, educated, professionals with emphasis on the importance of education, high achievement, and winning programs--i.e., winning athletic teams, award-winning music groups, National Merit Scholars), the researcher expected to identify numerous competitive-independent learners. This was not the case. The developmental level of the middle-school-age student seemed to have a greater effect on learning-style preferences than did the home environment. The increased influence of the peer group, desire for interaction, and emerging self-confidence and independence greatly influenced how these students felt they learned best. Responses to the Learning Styles Inventory indicated that students preferred learning activities in which they worked with their peers (Teaching Games--3.83, Peer Teaching--3.74) or had control over what they

learned (Projects--3.67). They scored lowest on teaching/learning approaches that were teacher directed (Drill and Recitation--2.80. Independent Study--3.15. and Lecture--3.25). One characteristic of the community that was supported by the results of the LSI was the value of education. The majority of these students liked school and had a positive response to almost every teaching method.

Another finding that emerged from the results of the LSI was the mismatch between the methods teachers employed most frequently and the preferred modes of learning identified by students. Table 5.1 indicates that students of the teacher who had the closest match to student interests had the highest means for both posttests. Students of the teacher who had the poorest match to student interests had the lowest scores on both posttests. These findings suggest that teachers need to be aware of the learning-style preferences of their students and should use that information when planning instruction.

Conclusions

Based on the findings of this study. as well as the review of literature and research. the following conclusions are offered to persons concerned with social studies teaching and curriculum.

1. Teachers should employ competitive. individualistic. and cooperative task structures in the classroom. Students need to be taught to engage productively in structured activities guided by the teacher. in independent projects that require decision making. and in

Table 5.1.--Results of the LSI comparing teaching methods most frequently employed by the teachers and the teaching methods most preferred by the students.

Teaching Method	Unit 9/10 Mean	Unit 11/12 Mean
Teacher Y: Lecture/Peer Teaching/Projects Students: Teaching Games/Peer Teaching/ Projects	31.0	33.6
Teacher S: Projects/Peer Teaching/Lecture Students: Teaching Games/Simulation/ Peer Teaching	29.4	30.2
Teacher C: Drill & Recitation/Lecture/ Peer Teaching Students: Projects/Peer Teaching/ Teaching Games	28.0	31.5
Teacher M: Drill & Recitation/Lecture/ Independent Study Student: Projects/Peer Teaching/ Teaching Games	26.5	27.9

small-group activities that depend on communication and problem solving. Using a variety of task structures provides opportunities for more students to experience success, while maintaining greater interest on the part of both students and the teacher. "A benefit of including a diversity of classroom structures within the educational experience of all students would be that such diverse experiences would better prepare students for the rapidly changing world that they will encounter as adults" (Kagan et al., 1985, p. 309).

2. Teachers should possess a variety of teaching strategies and understand how to use diverse strategies to accommodate the

developmental level of the class group and the learning style of each student. There is a lack of fit between what is known about young adolescents and what is done with them five days a week in school. When planning instruction, teachers need to recognize the developmental level of their students, gather learning-styles information, and consider individual differences. Students become engaged when they devote substantial time and effort to a task, when they care about the quality of their work, and when they commit themselves because the work is meaningful to them. This engagement is more likely to occur if educators work to escape the routine, the regimentation, and the sameness that make school an unstimulating environment for many students. Teachers can match the varied abilities and interests of students with an equally diverse educational environment by using a variety of teaching styles, methods, and materials.

3. Schools appear to position students in essentially dependent roles and relationships. The majority of "talk" that occurs in the classroom comes from the teacher, and students complete most tasks by working alone in a quiet environment. Teachers need to create opportunities for students to use language in the classroom and to engage in interdependent problem solving and decision making. "Language experiences in social studies not only foster a more precise understanding of language but help pupils develop skill in their own use of language" (Davis, 1967, p. 239). Students working together in social studies practice effective discussion, benefit from the help and insight of classmates, and observe how others study and learn.

Instead of struggling to maintain a quiet learning environment in the classroom, teachers should direct students' verbal energy into constructive, positive interaction.

4. Methods of assessment are needed that measure what teachers are trying to teach, that enhance student engagement, and that celebrate what students have learned. Students learn what is valued by the ways educators choose to evaluate. If the emphasis is on paper-and-pencil achievement tests, what is measured and reported is what is taught in the classroom. Where does this leave skills that are crucial for successful existence in our culture, such as effective communication, working with other people, and ability to think creatively? Educators need to expand the ways they judge students' abilities. Valid measures of what was taught should be developed, and these measures should include rapid feedback. Creative approaches to evaluation, such as written responses, interviews, monitoring and observation, and combinations of various evaluative techniques, could overcome the limitations of objective tests. If the purpose of teaching is for students to learn tremendous amounts of information and content, then standardized instruments and objective achievement tests are appropriate methods of evaluating progress. However, if the purpose of teaching is to help students develop skills in written and oral communication, decision making, problem solving, evaluation, analysis, working independently, and working with others, it is necessary to develop and implement new and varied methods of evaluating progress.

5. One component of this study was developing materials and training teachers involved in the research project. The researcher attempted to provide teachers with information regarding the various types of learners in a typical social studies classroom and the ways tasks could be structured to meet the needs of more learners and lend variety to the learning environment, without requiring a major change in teaching style. This effort to provide something that was immediately applicable in the classroom and was demonstrably successful for some students had a positive effect on all four teachers participating in the study. "Increased opportunities to serve and discuss one another's teaching and to work cooperatively in planning can provide solutions to specific problems, emotional support and general professional stimulation likely to improve teaching" (Newman, 1986, p. 245). The collegiality (improvement of teaching through the interaction and sharing of teachers [Newman, 1986]) that developed among the participants in the research project overturned the adage, "You can't teach an old dog new tricks." These teachers, with 74 years of cumulative experience in educating young people, stated that they saw the value of using cooperative groups in their social studies classes and would incorporate that task structure into their teaching repertoire in the future.

Recommendations for Further Research

Future researchers examining the relationship between learner predisposition and task structure should consider the following design recommendations:

1. Conduct the study early in the school year, before students become accustomed to teaching styles and classroom routines.

2. Vary the presentation of the two task structures. Using a counterbalanced design (Treatment A/Treatment B/Treatment B/Treatment A to outweigh unfair practice effects) or including a unit of work that is not a part of the experiment between the two treatments could diminish the effect of multiple-treatment interference.

3. Use additional evaluation techniques, such as observation or interviews, to assess development of communication skills, small-group effectiveness, and cooperative behaviors.

The limitations and delimitations of the study, enumerated in Chapter I, included the restricted nature of the research setting (suburban, midwestern school district), the grade level of the student participants (sixth grade), and the content (South America). Future investigators should examine various types of schools, possibly comparing the effects of matching task structure and learner predisposition in rural, suburban, and inner-city school districts.

Additional insights would also be gained by replicating this study with students at different grade levels. Elementary school pupils have been less affected by the emphasis on individual work in a competitive environment than have older students. Grades are not stressed by elementary teachers or pupils, and there is some familiarity with group work. However, these groups are not structured cooperatively; they tend to be composed of students with similar abilities and to be teacher directed. In high school, where the

competition is fierce. students usually are aware of their academic and social standing. A study in which students are given opportunities to participate in diverse task structures would bring students of different abilities and interests into contact with each other. while demonstrating to high school teachers that there are other ways to structure work in their classes.

The content for this study was based on the textbook Latin America and Canada. Teacher S reported, "In my opinion, the book seems to hit very heavily on the geography and climate of South America but doesn't make anything very exciting or interesting. There is so much that is really relevant and exciting that is missed by the book." A replication of this study using content that requires problem-solving, higher-level thinking or is more interesting to students might have different results.

APPENDICES

APPENDIX A

DESCRIPTION OF THE RESEARCH PROJECT, CONSENT LETTERS, AND CURRICULAR INFORMATION

MICHIGAN STATE UNIVERSITY

UNIVERSITY COMMITTEE ON RESEARCH INVOLVING
HUMAN SUBJECTS (UCRIHS)
258 ADMINISTRATION BUILDING
(517) 355-2186

EAST LANSING • MICHIGAN • 48824-1046

January 6, 1987

RECEIVED
JAN 0 9 1987
ASST. SUPT. FOR BUS. AFFAIRS
OKEMOS PUBLIC SCHOOLS

Mr. Steven R. Warrington
2165 Rolling Brook
East Lansing, Michigan 48823

Dear Mr. Warrington:

Subject: Proposal Entitled, "How Students Respond to Different Methods of Instruction"

UCRIHS' review of the above referenced project has now been completed. I am pleased to advise that the rights and welfare of the human subjects appear to be adequately protected and the Committee, therefore, approved this project at its meeting on January 5, 1987.

You are reminded that UCRIHS approval is valid for one calendar year. If you plan to continue this project beyond one year, please make provisions for obtaining appropriate UCRIHS approval prior to January 5, 1988.

Any changes in procedures involving human subjects must be reviewed by the UCRIHS prior to initiation of the change. UCRIHS must also be notified promptly of any problems (unexpected side effects, complaints, etc.) involving human subjects during the course of the work.

Thank you for bringing this project to our attention. If we can be of any future help, please do not hesitate to let us know.

Sincerely,

Henry E. Bredeck, Ph.D.
Chairman, UCRIHS

jms

cc: Dr. Janet E. Alleman

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November 24, 1986

Steven R. Warrington
2165 Rolling Brook Lane
East Lansing, Michigan 48823

Dear Mr. Warrington:

Allyn and Bacon is pleased to grant permission, as per your November 5 request addressed to Laura Peluso, to include the specified material from LATIN AMERICA AND CANADA in your doctoral study for Michigan State University.

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If at a future date you decide to have your work published, you must reapply for permission and indicate the exact passages and page numbers of the material you wish to use, the name of your publisher, and other pertinent information.

Sincerely,

Michele A. Sullivan

Michele A. Sullivan
Permissions Supervisor

MAS/rlt

OKEMOS PUBLIC SCHOOLS · 4406 North Okemos Road, Okemos, Michigan 48864

LEE GERARD, ASSISTANT SUPERINTENDENT FOR CURRICULUM AND PERSONNEL · (517) 349-9440

January 6, 1987

Dear Parent:

This is to advise parents of a research project which will soon be conducted in the Okemos Public Schools that could involve your child. A description of the project follows. Additional information regarding the project, as well as a copy of any measuring instrument which might be used, will be available in the office of your child's school. Please sign either the Consent To Project Participation or Refusal For Project Participation and return to the office of your child's school. If you agree to have your child participate in the research described here but later change your mind, you have the option of withdrawing your child from the project by signing the Withdrawal From Project Form, which also accompanies the project description, and returning the signed form promptly to the school principal.

If you have further questions please feel free to contact your school principal or me.

Sincerely,

Lee Gerard

Lee Gerard
Assistant Superintendent
for Curriculum and Personnel

LG/mq

Dear

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Dear Parent:

My name is Steve Warrington and I have been employed as a teacher in the Okemos school system for the past 15 years. After teaching 5 years at the elementary level (grades 3,4 and 5 at Edgewood), I transferred to Kinawa. My position until this school year has been teaching social studies in the 7th Grade Bloc, and teaching one section of 6th grade language arts/social studies.
During the current school year (1986/87) I have been on sabbatical leave, working to complete the dissertation requirement for a P.H.D. in Elementary Social Studies. The following information is a description of the research study I will be conducting with the help of several 6th grade social studies teachers and their students. Before this study can begin I must have signed Consent to Project Participation forms, or Refusal for Project Participation forms from each student in the classes chosen for the study. I would appreciate a prompt response. If there are any questions regarding the purpose of the study, the instruments that will be used, or any other issues that need clarification, please contact me (351-9568).

Sincerely,

Steven R. Warrington

Steven R Warrington

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REQUEST FOR RESEARCH OKEMOS PUBLIC SCHOOLS

Project Applicant: Steven R. Warrington, 2165 Rolling Brook Lane, East Lansing, Michigan 48823 (351-9568)

Project Title: How Students Respond to Different Methods of Instruction

Research to be conducted under the auspices of Michigan State University

Major Project Advisor--Dr. Janet E. Alleman

Date Project Submitted--January 6, 1987

Proposed Project Beginning Date--January 9, 1987

Proposed Project Conclusion Date--March 13, 1987

Purpose of Research: To investigate the interaction between individual learning style and task structure. Students will be given a learning styles inventory. Then, they will be instructed in social studies content, working on assignments and preparing for tests alone, or working on assignments and preparing for tests in small groups. This study will demonstrate that students need opportunities to complete schoolwork working by themselves, and opportunities to work with others on assignments. Both teaching approaches need to be employed in the classroom because there are students who learn more effectively working alone and competing for grades, and there are others who learn better when they are working and learning in cooperation with their classmates.

Methodology and Instrumentation: All students will be given a learning styles inventory (Rezulli-Smith, 1978) at the outset of the study. This LSI determines how individual students respond to different teaching methods. Students will also be given an attitudinal survey (Slavin, 1978) at the beginning, midpoint, and conclusion of the study. This survey will be employed to identify student attitudes toward subject, peers, success, and motivation. Content area posttests will be administered at the end of each of the four units covered during the study. These posttests were constructed from questions taken from the textbook unit exams, and questions generated by the researcher.

Teachers will be required to complete weekly feedback sheets, and interviews will be conducted with teachers and selected student participants at the conclusion of the study.

1. Administer LSI, and pre-attitudinal survey.
2. Half of the classes complete two units on Latin America where students complete assignments and prepare for tests working alone. Remaining classes complete the same two units where completion of assignments, and preparation for tests occurs in small groups.
3. Students take unit tests. At the end of the second unit students take attitudinal survey.
4. The two treatments are reversed, using different, but similar content on other parts of Latin America.
5. Students take unit tests and final attitudinal survey.
6. Researcher conducts interviews with selected students and all teachers involved in the research study.

All students will be exposed to both treatments.

Proposed involvement of staff, students, and facilities: This study will involve four sixth grade social studies teachers and their social studies classes (approximately 200 students). Teachers will be required to participate in training, conduct classes following lesson plans provided by the researcher, and provide feedback concerning the two treatments. Students will participate in the social studies units, and complete tests and questionnaires.

Use of Responses and Observations: Identities of all participants in this study will be kept in strict confidence. Teacher participants will be given access to information concerning their classes, so that efforts can be made to improve effectiveness in the teaching/learning process. The researcher will use all data generated from this study for completion of the dissertation requirement for a P.H.D. in Elementary Social Studies. Teachers will use data for their respective classes in evaluating student progress, and planning future instruction.

Researcher's perceived benefits of project to the Okemos Public School System, students, parents/guardians: This research project offers a variety of benefits to the Okemos school community. Teachers who participate will experience the insight learning styles information can offer them, will engage in staff development

activities, and enlarge their repetoire of teaching methods available for use in their classroom. Student participants will be offered greater variety in teaching methods, information on how they learn most effectively, and opportunities to engage in "constructive talk" as they learn social studies skills and content.

Proposed presentation of findings to the school system: Upon completion of this study, the findings could be presented to the Okemos school system in a number of ways. Teacher participants, the building principal, and the Director of Curriculum and Personnel would be given copies of information summarizing the research project. Presentations concerning the purpose, procedures, and conclusions of the study could occur before the Board of Education, Administration, Staff, or Parents.

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CONSENT TO PROJECT PARTICIPATION
Okemos Public Schools

I hereby give my consent to the participation of _____(Child's name) in the research project described above. I understand that neither the researcher and/or his/her approved assistants nor any other group or individual will use the material gathered in any way that would invade the privacy of this child or his/her family. I understand that the rights of this child with regard to confidentiality will be paramount.

_____
(Parent/Legal Guardian Signature)

_____
(Date)

REFUSAL FOR PROJECT PARTICIPATION
Okemos Public Schools

I do not consent to the participation of _____(Child's name) in any way in the research project described above.

_____
(Parent/Legal Guardian Signature)

_____
(Date)

WITHDRAWAL FROM PROJECT

I wish to withdraw my child_____
from the _____ Project.
I do not want him/her to participate in any way in this project.

_____
(Parent/Legal Guardian Signature)

_____
(Date)

PROJECT TITLE: How Students Respond to Different Methods of Instruction

PROJECT RESEARCH APPLICANT: Steven R. Warrington

MAJOR PROJECT ADVISOR: Dr. Janet E. Alleman

ALL PERSONS WORKING WITH STUDENT(S): The researcher will be providing training and instructional information to the sixth-grade social studies teachers participating in the study.

INCLUSIVE DATES RESEARCH WILL BE CONDUCTED: January through March 1987.

SPECIFIC PLACE WHERE RESEARCH WILL BE CONDUCTED: In sixth-grade social studies classrooms at Kinawa Middle School.

TIME (MINUTES, DAYS, WEEKS, ETC.) TO BE SPENT WITH CHILD(REN): The research study will involve two 3-week units, during the social studies class period (45 minutes per day).

WHY IS THE RESEARCH BEING DONE? So that the researcher can complete the dissertation requirement for a Ph.D. in Elementary Social Studies.

WHO WILL BENEFIT FROM THE RESEARCH? The researcher, the Okemos school system, teacher participants, and students.

WHAT EXACTLY WILL THE CHILD(REN) BE DOING? Participating in social studies units that will require them to complete assignments working alone, or complete assignments while working in small groups. Students will be working in their current social studies classes, taught by their social studies teacher, in content required by the sixth-grade curriculum. The material they will be studying is The Andean Highlands (Unit 9), The Tropical Lowlands (Unit 10), The Eastern Highlands (Unit 11), and The Subtropical Plains (Unit 12) from the textbook, Latin America and Canada.

WILL THERE BE QUESTIONING, SURVEYING OR ADDITIONAL INSTRUMENTS USED THAT ARE NOT DESCRIBED?

Students will take a learning styles inventory (Renzulli-Smith, 1978) to determine how they respond to different teaching methods, an attitudinal survey (Slavin, 1978) to indicate feelings concerning subject, motivation, success, and peers, and content-area posttests. Copies of all instruments are available from the researcher or from the office of the Director of Curriculum and Personnel.

ARE YOU SEEKING INFORMATION REGARDING PERSONAL AND/OR INTERPERSONAL RELATIONSHIPS INVOLVING THE CHILD(REN) PARTICIPATING?

No.

ARE THERE ASPECTS OF THIS RESEARCH WHICH COULD CAUSE OR LEAD TO EMOTIONAL UPSET FOR THE CHILD(REN) PARTICIPATING?

No.

SPECIFICALLY, HOW WILL THE RESULTS AND INFORMATION BE USED?

Results and information from this study will be used for the completion of my dissertation. All participants will remain anonymous.

WHO WILL HAVE ACCESS TO THE INFORMATION GATHERED IN THE RESEARCH UPON ITS COMPLETION? IN THE FUTURE?

Teachers will have access to information involving their own classes. This would include learning styles information for individual students, and test scores.

WILL THERE BE WAYS OF IDENTIFYING A CHILD BY BIRTHDATE, RESPONSE, ETC.?

No.

OKEMOS PUBLIC SCHOOLS

PHILOSOPHY OF SOCIAL STUDIES

The social studies are the school subjects concerned with human relationships. The content is derived principally from the scholarly disciplines of history, anthropology, sociology, political science, economics, geography and psychology.

The goals of social studies emphasize the application of rational thinking to the consideration of societal problems and the grasp by pupils of the knowledge and skills that are basic to rational thought. But the ultimate and broadest goal of education in the social studies is the development of socio-civic and personal behavior, consistent with democratic principles.

Man's behavior is affected by his understanding of pertinent knowledge about his society and the issues with which it must deal, and by his ability to use that knowledge effectively. Consequently, the knowledge included in the social studies program will be related to important generalizations about human relationships, institutions and problems. Students should be helped to use the specific facts they study so as to develop significant generalizations. As they do so, students should be introduced, at a level appropriate to their maturity, to methods of inquiry used by social scientists in their search for understanding. Knowledge of and practice in the methods of scholarly inquiry should prepare youth to better evaluate evidence in order to teach rational conclusions concerning societal issues.

To use knowledge effectively, the student must develop a variety of skills and abilities. To obtain knowledge, one needs skill in locating and evaluating sources of information, in observing, in listening and in reading. To make knowledge socially useful, one must be able to think reflectively about data and conclusions derived from them. One must also be able to express his views orally and in writing, and have the will and ability to work effectively in groups.

The goals of social studies should be to help the student behave in a manner consistent with the beliefs gained through knowledge acquired by use of skills and abilities. To achieve this goal a comprehensive program of instruction in the social studies is required for all children and youth through elementary and secondary school. In addition to this required program, elective subjects in the social studies should be provided to encourage students to pursue and develop their special interests and aptitudes in social science areas.

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SIXTH GRADE CURRICULUM - SOCIAL STUDIES
Kinawa Middle School

Reading skills

1. Building social studies vocabulary
2. Determining meaning from context

Comprehension

1. Previewing a reading selection
2. Skimming for information
3. Recognizing main ideas
4. Seeing relationships
5. Recognizing time order
6. Identifying point of view
7. Discovering cause and effect
8. Recognizing the author's purpose
9. Reading for details
10. Using details to support main ideas
11. Distinguishing fact from opinion
12. Interpreting facts
13. Distinguishing fact from fantasy
14. Drawing conclusions
15. Paraphrasing
16. Following directions

Organizing information

1. Alphabetizing
2. Note taking
3. Outlining
4. Listing
5. Summarizing
6. Constructing charts, graphs, time lines, etc.

Interpreting graphics

1. Maps
2. Photographs and illustrations
3. Graphs
4. Charts
5. Forms
6. Diagrams
7. Tables
8. Captions
9. Cartoons
10. Symbols and signs
11. Satellite imagery

Citizenship skills

Decision making skills

1. Identifying choices
2. Considering alternatives
3. Making decisions
4. Considering the consequences of alternatives
5. Following through once decisions are made

Social participation skills

1. Consider self and others
2. Work in groups
3. Accept responsibilities
4. Receive feedback
5. Examine stereotypes
6. Utilize community resources

Thinking skills

1. Knowing
2. Observing
3. Classifying
4. Comparing
5. Analyzing
6. Synthesizing
7. Predicting
8. Hypothesizing
9. Evaluating
10. Generalizing-inferring

Learning outcomes

History

1. Learning the history of Latin America and Canada from their exploration and colonization through their struggles for independence to the present day
2. Understanding the chronology of key historical events in Latin America and Canada
3. Analyzing the future prospects of Latin America and Canada in relation to the world community

Geography and economics

1. Understanding a comprehensive overview of the geography of Latin America and Canada
2. Strengthening globe and map skills in terms of location, scale, distance, symbolization, and projection
3. Understanding the economy of each regional unit and the work its people do in relation to its resources and technology

Political science, sociology, and anthropology

1. Learning about the origins and forms of government in Latin America and Canada
2. Examining the culture and way of life of the indigenous people of Latin America and Canada, including the Olmecs, Mayas, Aztecs, Incas, and Eskimo
3. Interpreting the population patterns of Latin America and Canada in relation to regional lands, climates, and cultures

APPENDIX B

TRAINING UNIT AND TEACHING-MATERIALS PACKET

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Definition of Cooperative Learning

Positive Interdependence

Individual Accountability

Interpersonal Interaction

Group Social Skills are taught. Task Skills help the group reach its goals and get the task done. Maintenance Skills help maintain group stability and meet the needs of individual group members.

The ways teachers structure tasks in the classroom determine who learns and who goes through the motions of learning, how much effort individual students put into their learning, and how the individual feels about school, subject, the teacher, their peers, and themselves.

Competitive Task Structure--Students work against one another to achieve a goal. NEGATIVE INTERDEPENDENCE

Individualistic Task Structure--Students work to reach learning goals where their performance is unrelated to the performance of classmates. NO INTERDEPENDENCE

Cooperative Task Structure--Students work together in groups on academic tasks while learning effective, positive interpersonal skills. POSITIVE INTERDEPENDENCE

TEACHER'S ROLE

1. Specify Academic and Collaborative Skills OBJECTIVES.
2. Make GROUPING DECISIONS.
3. Explain TASK, GOAL STRUCTURE, and LEARNING ACTIVITY.
4. OBSERVE and MONITOR learning groups.
5. PROCESS and EVALUATE performance (both academic achievement, and social skills development).

"STRANDED"

You are the surviving members of a disastor at sea. You were able to swim to safety and are now stranded on an island that can be described as follow:

The island is three miles long and one mile wide.
The highest point on the island is 350 feet and is located at the top of a hill on the south end.
There is a cave halfway up this hill, and you are able to store 500 pounds of wheat that floated ashore in this cave.
There is a freshwater spring on the island.
The island is located somewhere in a warm-water ocean.
One/third of the island is covered with tropical vegetation.
One/third of the island is covered with grassland.
One/third of the island (the end where the hill is located) is rocky.

The island is not on any air or sea navigation chart. Under normal circumstances, ships or planes do not pass within sight of the island. If you were on a ship, the snip has sunk to a depth of three miles in the open sea. The ship nad no contact with port authority, or any other ship prior to the accident. If you traveled by air, all contact with air traffic control was lost 1,000 miles from your present location. No SOS or MAYDAY was sent. Your physical condition on the island is exactly as it is at this moment.

Your Assignment:

Brainstorm for ideas on how your group will SURVIVE, remain HAPPY while stranded on the island, and what you will do to improve the chance that you will be RESCUED.
Construct a detailed, accurate MAP of the island.
Write a STORY that explains how you became stranded.
Write a STORY that tells what finally happens to your group (Are you rescued? Do you perish? Does your group decide to remain on the island?)

Your goal is to work together as a group, attempting to produce the best possible project. You may use drawings, lists, paragraphs, or any other means of presenting information, as long as you include: HOW YOU WILL SURVIVE? WHAT YOU WILL DO TO REMAIN HAPPY AND FREE OF BOREDOM? WHAT YOU WILL DO TO TRY TO BE RESCUED? TELL HOW YOU GOT INTO THIS PREDICAMENT & WHAT FINALLY HAPPENS TO YOU.

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Before starting...

Divide students into groups with 4 or 5 members. These groups should be mixed (girls and boys), and have members of all ability levels. I would suggest also spreading out close friends. When students look at the make-up of the groups around the room, they should recognize that all the groups are nearly equal in ability. Have necessary materials available. Make copies of the explanation ditto (2 per group), and provide what students will need for their map.

DAY 1

Explain to the class that for the next 5 days they will be working in groups. Tell them that their goal is to work within their groups in efforts to create the best project they can. Have them break into the groups and select one person to act as RECORDER. The Recorder's job is to write down all information for that day. Pass out 2 "Stranded" sheets to each group and a folder (where they keep their work). Read through the sheet with the class, answering questions as they come up. When you get to the words Your Assignment, have the Recorder take these notes:

Primary Needs: what human beings need to survive. (food, water, clothing, shelter, air, rest, exercise)

Secondary (emotional) needs: what human beings need to be happy. (friendship, variety, recognition, safety)

You may want your students to try to come up with these needs or any others that they can justify. Just make sure that they recognize that Primary (first) needs are necessary or the person will die, and Secondary needs may vary from individual to individual. Finish reading through the "Stranded" sheet and when everyone in each group seems to understand the assignment, the groups should begin BRAINSTORMING for ideas, with the Recorder writing down the information. You should remind them of the climate, warm water ocean, etc. to help focus their efforts.

PROCESSING--Last five minutes...

Collect all folders. Then have students think about how they would answer the following questions. 1. Did I contribute to my group today? 2. Did I help people focus on the assignment? 3. Was I an effective listener to other members of my group? 4. Did I look at the person who was speaking? 5. Was our group organized?

DAY 2

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DAY 2

Have students form into groups. Briefly review the assignment. Have each group select a new Recorder. Suggest to them that they may want to divide up the jobs required for this assignment. Make sure that they recognize that anything that is done by an individual must be approved by the group. Each group should select someone to be their CHECKER. This person's job is to check the progress of individual's and of the group as a whole. The Checker makes sure all the jobs are being done, and everything seems to make sense.

Before they begin working, briefly provide these hints to help them focus their energies, without providing them with answers.

How might they get food? (gather, fish, hunt, grow, trap)

What tools/weapons will they need to make?

What type of shelter and clothing will be necessary in a tropical climate?

What materials will be available for making these necessities?

Tell them that they may use lists, drawings, paragraphs, any approach that their group agrees on, for presenting their ideas.

Tell them to begin working.

PROCESSING--Last 5 minutes...

Pass out the short processing sheet and have group members fill it out individually. When they have finished, allow them to briefly report their responses to the other members of the group, and put all of the sheets in the folder.

Processing Sheet for DAY 2 of "Stranded"

NAME_____

1. What one word would you use to describe how the group was today?

_____

2. What one word would describe the way you would like the group to be?

_____

3. What will you do to improve the way you perform in the group tomorrow?

_____

4. What does the Recorder do in your group?

_____

5. What does the Checker do in your group?

_____

DAY 3

Have students get into their groups. Briefly discuss the roles of RECORDER (the person or people in the group who will be writing the information), the CHECKER (the person in the group who checks the progress, and makes sure things are done), and add the third role of OBSERVER (a person in the group who will observe the way individuals and the group as a whole function, and provides feedback). Have groups decide who will be the RECORDER (this role should be taken by individuals who are neat and have good writing skills. groups may want to have two recorders), and CHECKER for the remainder of the week. Have them select an observer for Day 3. Before they begin working, briefly provide these hints to help them focus their energies, without providing them with answers.

> What games or activities might your group devise to make time go more quickly, and limit boredom and homesickness?
>
> What kinds of things might you do to attract attention to your group in case that a search plane or boat happen to come near the island?

Tell groups to begin working, and ask the Observers to meet with you for a few minutes.

Briefly explain to observers that they will be watching how effectively their group works on the project. Provide them with the observation sheet.

PROCESSING--Last 5 minutes...

Observers report their findings to the group.

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Observer Processing Sheet for DAY 3 of "Stranded"

Observer's NAME_____

Write the names of group members who demonstrate the following. Use tally marks next to their names if they demonstrate the behavior more than once.

1. Show they are listening.

2. Suggest how to do something.

3. Ask someone for his or her ideas.

4. Questions for observers. Answer these toward the end of the hour.

   1. Did everyone talk? Explain?

   2. Which students participated the most?

   3. Did everyone understand what he or she was supposed to do? Explain?

   4. How would you rate the group's work?
      a. Very Good
      b. Good
      c. O.K.
      d. Not so good
      e. Poor

   5. Give a reason for your rating.

DAY 4

You should remind the students that they only have today and tomorrow to finish the project. Groups should select an observer for the day. The CHECKER should examine all of the work to see what needs to be written in final form by the RECORDER(S), and what areas need more work. Review what they need to have finished for tomorrow. Tell them to begin working, and call the observers to you for briefing.

PROCESSING--Last 5 minutes...

Observers report their findings to the group.

Observer Processing Sheet for DAY 4 of "Stranded"

Observer's NAME_____

Write the names of group members who demonstrate the following. Use tally marks next to their names if they demonstrate the behavior more than once.

1. Show they are listening.

2. Suggest how to do something.

3. Ask someone for his or her ideas.

4. Questions for observers. Answer these toward the end of the hour.

    1. Did everyone talk? Explain?

    2. Which students participated the most?

    3. Did everyone understand what he or she was supposed to do? Explain?

    4. How would you rate the group's work?
        a. Very Good
        b. Good
        c. O.K.
        d. Not so good
        e. Poor

    5. Give a reason for your rating.

DAY 5

This is it! The project will be due at the end of this hour. Tell each group to decide on a symbol that represents them. They will use the symbol for an activity that will take place while they are finishing their project (instead of their names). The symbol should only be known by members of their group. Explain that while they are working you will be giving them questions that they must answer concerning problems they encounter on the island. Tell them they will be graded on their responses.

As the hour progresses, have each group respond to 3 of the situations and put their answer (with their symbol on the card) into the envelope. They will be disqualified if they look at the answers that are in the envelope. When all groups have answered 3 questions, Give each group an envelope, and have them rank the answers, giving a 5 for the best answer, a 3 for second best answer, and a 2 for the third best answer. When this is done, have each evaluating group read the question and the best response. After all questions and best responses have been read, answers should be returned to the groups that wrote them (based on the symbol), so that scores can be totaled. The high score would receive an A, the next score an A- or B+ or B (depending on the way you choose to grade), etc. Have groups hand in final project.

PROCESSING--Last 5 minutes...

Have all group members fill out Peer Evaluation Sheet.

These problem questions go with the activity on DAY 5 that is concerned with decision-making. Cut out the strips and attach each to an envelope.

ONE GROUP MEMBER IS BULLYING SOME OF THE OTHERS. HOW WOULD YOU SOLVE THIS PROBLEM?

YOU DISCOVER LARGE GREEN WORMS ARE EATING THE VEGETATION ON THE ISLAND. HOW ARE YOU GOING TO DEAL WITH THIS PROBLEM?

ONE MEMBER OF YOUR GROUP REFUSES TO DO THEIR SHARE OF THE WORK. WHAT WILL YOU DO TO DEAL WITH THIS PROBLEM?

YOUR GROUP HAS CONSTRUCTED A RAFT SO THAT YOU CAN ATTEMPT TO LEAVE THE ISLAND. THERE IS ONLY ENOUGH ROOM FOR HALF OF YOU TO LEAVE ON THIS RAFT. HOW WILL YOU DECIDE WHO GOES AND WHO STAYS?

A MEMBER OF YOUR GROUP HAS WASHED THEIR CLOTHES IN THE SPRING. WHAT WOULD YOU DO TO INSURE THAT THIS WOULD NOT HAPPEN AGAIN?

SOMEONE IN YOUR GROUP HAS BEEN STEALING THE WHEAT. HOW WOULD YOU FIND OUT WHO IT IS, AND WHAT WOULD YOU DO TO MAKE SURE THIS DOES NOT HAPPEN AGAIN?

PEER EVALUATION SHEET NAME_____

Answer the following questions conserning your group. You may not use your name when answering these questions.

1. What person did the most work in your group?

2. What person did the second most work in your group?

3. What person did the most to make your group work well together?

4. If you could change anything about this assignment, what would you change? Explain your answer...

5. What was your favorite part of this assignment?

6. If you could grade the other members of your group, what grade would you give each of them. List the names of group members and the grade you believe each of them deserves.

TEACHING MATERIALS PACKET

OUTLINE OF THE RESEARCH PROJECT

Administer Learning Styles Inventory and Attitudinal Survey

TREATMENT A (Cooperative Groups)
In this treatment students will complete all of the assignments and prepare for tests in groups.

TREATMENT B (INDIVIDUAL)
In this treatment students will complete all of the assignments and prepare for tests working alone.

DAY 1: UNIT PREVIEW
Assignment: Read the entire unit.

DAY 2, 3 & 4

Jigsaw Activity
Day 2: The teacher sets up groups/explains the assignment/ students begin work in "expert" groups.
Day 3: Students continue in "expert" groups.
Day 4: Students return to "home" group for teaching and learning from each other.

Individual Worktime
Day 2: The teacher explains the assignment. Students work individually.
Day 3: Students continue to work alone on the unit, requesting help from the teacher when necessary.
Day 4: Same as previous day.

Assignment: Write answers to the Checking Up questions at the end of each section of the unit. Checking Up answers must be in COMPLETE SENTENCES. List the 10 MOST IMPORTANT FACTS for each section of the unit.

DAY 5: PROJECT EXPLANATION AND WORKTIME
Assignment: Begin work on Application Project. Answer "What Have You Learned?" section of Unit Review in COMPLETE SENTENCES.

DAY 6: LECTURE
Assignment: Notetaking and Workbook Pages.

DAY 7: MEDIA
Assignment: Notetaking and workbook pages.

DAY 8: REVIEW
Assignment: Complete all work for the unit, review materials for the exam, hand in Application Project.

DAY 9: UNIT TEST and ATTITUDINAL SURVEY
Assignment: Hand in all work for the unit.

The treatments will be repeated twice with each group. All student participants will be exposed to both treatments. (Example: Units 9 and 10--Cooperative Groups and Units 11 and 12 Individual)

DAILY LESSON FORMAT

I. TEACHER PRESENTATION — 5 to 20 minutes

Unit Preview, Lecture, Media, Explanation of Assignments, Review of good work habits and how to use the book effectively.

TREATMENT A ONLY: Preview PROCESSING that will be used later that hour, remind students of characteristics of an effective group.

II. Student Worktime — 15 to 35 minutes

Students work alone or in groups on assignments.

INDIVIDUALS may keep assignments until the end of the unit, or hand them in as they complete them (this is up to the teacher).

GROUPS keep all assignments in their folders until the end of the unit.

Students should save all notes, so that they can prepare for the tests.

III. CLOSING THE HOUR — 5 to 15 minutes

This time is devoted to collecting materials, folders, or assignments. Students should be reminded of what they should have accomplished, and what will be occuring the next day.

This is the time for GROUPS in TREATMENT A to do their PROCESSING. Make sure enough time is allowed for responding to the sheets, and reporting to the other group members. This PROCESSING time helps students recognize that an important part of this class is to make an effort to improve their group's effectiveness.

DAY 1

UNIT PREVIEW

Whenever the teacher is introducing new content to the class, it is important that he/she leads students through the material that will be studied, highlighting important information, while familiarizing them with what will be studied. This is especially important when the focus of the content is the textbook. Donald O. Schneider and Mary McGee Brown suggest that if students are to effectively use and understand textbook materials, instruction should involve a Pre-Reading Phase (Assessing, Diagnosing, and Setting the Stage), a Reading Phase (Guided Reading, Interaction, and Comprehension), and a Post-Reading Phase (Providing for Reinforcement, and Application). As a pre-reading activity for the materials in this study (Latin America and Canada), the teacher will use inspectional reading. This technique requires the teacher and class to skim and scan the units of study, examining main headings, subheadings, pictures, maps, charts, grapns, and answering questions. "As with any other aspect of teaching, the development of an instructional strategy for helping students make effective use of their textbooks is likely to pay dividends in learning outcomes." (page 9, taken from "Helping Students Study and Understand Their Social Studies Textbooks" by Donald O. Schneider and Mary Jo McGee Brown, in Improving the Use of Social Studies Textbooks, Bulletin 63 William E. Patton. NCSS, Washington D.C. 1980, pp. 9-20)

UNIT PREVIEW

Unit 9 The Andean Highlands
Read orally title and caption pg. 210 briefly discuss objectives.
the climate and landforms of the Andean Highlands region
the region's two major cultural groups of people
agriculture, mining, and tourism in this region
Look at map (pg. 213), locating all four regions, noting especially the Andean Highlands.

Pp. 214-217 **THE REGION**

Note 3 vocabulary words (214), map of region (214), chart of World's tallest maountains and picture of mountain (215), identify the 6 countries that have land in the Andean Highlands (216-217, Colombia, Ecuador, Peru, Bolivia, Chile & Argentina), and have students skim for context definitions for HEADWATERS, LANDLOCKED & ALTIPLANO.

Pp. 218-220 **THE PEOPLE**

Note 3 vocabulary words (218), graph (219), picture of Hacienda and housing development (220), and have students skim for context definitions for ILLITERACY & ADOBE (219), & MIGRATE (220).

Pp. 221-223 **WHAT THE PEOPLE DO**

Note vocabulary words (221), bar graph (222), picture of copper mine (223), and have students skim for context definitions for ARABLE (221), PASTORIALISM (222) & SMELTERS (223). Read orally the Unit 9 Summary (223).

ASSIGNMENT: Read the entire unit (pp. 210-223).

Unit 10 The Tropical Lowlands

Read orally title and caption pg. 226 briefly discuss objectives:

the characteristic features and variety within the Tropical Lowlands region

resources and challenges of the Amazon Basin

people and products of the Orinoco Basin and the Coastal Plains

Pp. 228-232 THE AMAZON BASIN

Note 3 vocabulary words (228), map of region (228), The Tropical Rain Cycle (229), Levels of Life in the Amazon Rain Forest (231), pictures of the Amazon (230 & 232), and have students skim for context definitions for LATIFUNDIA & MINIFUNDIA (229), & CANOPY (230).

Pp. 233-235 RESOURCES OF THE AMAZON BASIN

Note 2 vocabulary words (233), pictures (233, 234, 235), and have students skim for context definitions for FLOODPLAIN (234) & HYDRO-ELECTRIC POWER (235).

Pp. 235-239 THE ORINOCO BASIN AND THE COASTAL PLAINS

Note 2 vocabulary words (236), pictures (237 & 239), Citizenship Map (238), and have students skim for context definitions for LLANOS (236) & GASOHOL (237). Read orally the Unit 10 Summary (239).

Pp. 240-241 SUGARCANE

Discuss map (240) and pictured steps in growing sugarcane (241).

ASSIGNMENT: Read the entire unit (pp. 226-241).

Unit 11 The Eastern Highlands

Read orally title and caption pg. 244 briefly discuss objectives:

the two parts of the Eastern Highlands region

the people and resources of the region

the major industries of the region

Pp. 246-247 THE REGION

Note vocabulary word (246), map of region (247), picture (247), and have students skim for context definition for MESA (246).

Pp. 248-252 THE PEOPLE AND THE RESOURCES

Note vocabulary word (248), pictures (249,250,252), pie graph (251), and have students skim for context definition for INDUSTRIALIZE (250).

Pp. 253-257 WHAT THE PEOPLE DO

Note vocabulary words (253), pictures (254,256), have students skim for context definitions for FRONTIER (253) & INFLATION (256).

Read orally Unit 11 Summary (257).

Pp. 258-259 COFFEE

Discuss bar graph & picture (258) and the map (259).

ASSIGNMENT: Read the entire unit (pp. 244-259).

Unit 12 The Subtropical Plains

Read orally title and caption pg.262 briefly discuss objectives:

the five land areas of the Subtropical Plains

the people living in the region

the recent history of Argentina, Uruguay and Paraguay

Pp. 264-267 THE LAND

Note vocabulary words (264), map of region (265), the names of the 5 regions (264-267), pictures (264, 266 & 267), and have students skim for context definitions for DROUGHT (266) & TEXTILE MILL (266).

Pg. 268-269 URUGUAY

Briefly discuss bar graphs, pie graphs, and map of Uruguay.

Pp. 270-272 THE PEOPLE

Note vocabulary words (270), pictures (270, 271 & 272), chart (272), and have students skim for context definitions for LITERACY RATE (272) & METROPOLITAN AREA (272).

Pp. 273-275 THE HISTORY OF ARGENTINA, URUGUAY AND PARAGUAY

Note vocabulary words (273), pictures (273, 274 & 275), have students skim for context definitions for EXILE (274), STRIKE (274), CIVIL WAR (274), & COUP (275). Read orally Unit 12 Summary (275).

ASSIGNMENT: Read the entire unit (pp. 262-275).

DAY 2, 3, 4 (TREATMENT A)

JIGSAW ACTIVITY

4 or 5 members in each "home group"

Students meet in "home groups" (the cooperative group they will be working in throughout Treatment A) and decide who will focus on which section of the unit. Students who have more ability may chose a section that seems more difficult, and those who are absent often should "double up" on the section they study.

THE ASSIGNMENT

Become an expert on the part of the unit entitled--

Unit 9 The Region (214-217)
The People (218-220)
What the People Do (221-223)

Unit 10 The Amazon Basin (228-232)
Resources of the Amazon Basin (233-235)
The Orinoco Basin and the Coastal Plains (236-239)

Unit 11 The Region (246-247) & Maps and Graphs Tell the Story of Coffee (258-259)
The People and the Resources (248-252)
What the People Do (253-257)

Unit 12 The Land (264-247)
A Map and Graphs Tell the Story of Uruguay (268-269) & The People (270-272)
The History of Argentina, Uruguay, and Paraguay (273-275)

Make sure that you have complete, well written answers to the Checking Up questions at the end of your section(s). Decide and list the 10 MOST IMPORTANT FACTS from your section(s). You should be able to go through the material in your section and share any information you have learned with other members of your "home group".

EXPERT GROUPS

You will be working with representatives from other groups in efforts to develop expertise in your section(s) of the unit. Remember that your "home group" is counting on you to help them learn about your section(s) of the unit. "Expert groups" must have a minimum of 3, and no more than 5 members. After working on assignments in "expert groups", students return to their "home groups" and teach each other the content from their section.

ASSIGNING STUDENTS TO GROUPS

Students were assigned to "home groups" by the researcher. Teachers were asked to list students in their classes by ability. The researcher used this list to develop teams that represented a cross-section of the class in past performance, race or ethnicity, and sex. Each team would include at least one high performer, two middle performers, and at least one low performer. Teachers then examined the "home groups" and recommended changes if serious personality conflicts existed. Teams were heterogenous so that students could tutor and learn from each other, and balanced so that no single team had an advantage in academic performance. (taken from "Using Student Team Learning" by R. E. Slavin, 1980, pp 16-17)

ROLES OF GROUP MEMBERS

Recorder: This is a shared role by all group members. The recorder is any person who writes down information that is assigned, taken as notes, or enhances the chance of group success.

Checker*: The checker is a very important group member. This person is responsible for making sure that all work is being completed and is handed in at the right place, at the right time.
The checker is also responsible for ensuring that all group members know the material so that they can do as well as they possibly can on the unit test.

Noise Monitor: In addition to helping on all assignments and participating in group activities, the noise monitor is responsible for controlling the noise level in the group. It is important to keep the noise level down for several reasons. If your group is too loud you might be giving free information and answers to other groups. Too much talk, or loud talk can also interfere with the quality and quantity of work a group completes.

Observer: The observer is a role that an individual in each group will assume for DAY 6 and DAY 7. The observer's job is to watch the group and fill out the Observer Recording Sheet. At the end of the period the observer provides feedback on group functioning.

DAY 2 PROCESSING

GROUP Processing (Teacher Directed)

Have students think to themselves about how they would respond to the following questions.

1. Did I contribute to my group today?
2. Did I help people focus on the assignment?
3. Was I an effective listener to other group members?
4. Did I look at the person who was speaking?
5. Did I ask questions of other group members?
6. Was our group well organized?

DAY 3 PROCESSING

GROUP Processing Sheet

NAME_____

1. What one word would you use to describe how the group was today?

_____

2. What one word would describe the way you would like the group to be?

_____

3. What will you do to improve the way you perform in the group tomorrow? _____

_____

DAY 4 PROCESSING

GROUP RATING

Scale 1 2 3 4 5 6 7 8 9
(low) (high)

1. There is trust and openness in the group. Members feel free to say what they think. ____
2. Members of the group pay attention to what is being discussed. ____
3. The group is well-organized. It gets things done. ____
4. The group budgets its time wisely.
   a) It does not skim over discussions just to get them over with. ____
   b) It does not spend too much time on irrelevant (unimportant) discussion. ____
   c) It does not spend too little time on relevant discussion. ____
5. Every member of the group has the opportunity and encouragement to use his or her talents. ____
6. There is a sense of belonging in the group. ____
7. The group is serious in its efforts. ____
8. There is respect for each individual's opinions in the group. ____
9. The group does not give up when there is lack of participation or disagreement within the group. ____

DAY 2, 3, 4 (TREATMENT B)

INDIVIDUAL WORKTIME

Students are to work alone on the following assignments. Answer the Checking Up questions, and listen the 10 MOST IMPORTANT FACTS from the following sections of the unit. Make sure your answers are well written and in COMPLETE SENTENCES.

Unit 9	The Region (214-217)
	The People (218-220)
	What the People Do (221-223)
Unit 10	The Amazon Basin (228-232)
	Resources of the Amazon Basin (233-235)
	The Orinoco Basin and the Coastal Plains (236-239)
Unit 11	The Region (246-247)
	Maps and Graphs Tell the Story of Coffee (258-259)
	The People and the Resources (248-252)
	What the People Do (253-257)
Unit 12	The Land (264-267)
	A Map and Graphs Tell the Story of Uruguay (268-269)
	The People (270-272)
	The History of Argentina, Uruguay, and Paraguay (273-275)

At the conclusion of each class period, the teacher will describe methods helpful in writing complete answers to questions, and locating important facts. Students will also be notified of where they should be concerning assignments, and encouraged to take work home if they seem to be falling behind.

DAY 5
APPLICATION PROJECT

Explain assignment, provide examples and suggestions.

Unit 9 The Andean Highlands

Create a MAP that represents the following information. Countries, Capital Cities, Main Port Cities, surrounding Countries and Bodies of Water, Landmarks, and the ELEVATION of the Andes Countries. This map should be NEAT, CLEAR, COMPLETE, and have a KEY.

Unit 10 The Tropical Lowlands

Have students pretend they are writing advertisements trying to persuade families to move to Venezuela. They should write about the possible advantages, such as climate, government, and availability of jobs.

Unit 11 The Eastern Highlands

Construct a CHART that includes information about the three most important cities in Brazil, Brasilia, Sao Paulo, and Rio de Janeiro. Place information you learn about each city under the categories; History, Location, Advantages, Resources, and Problems.

Unit 12 The Subtropical Plains

Have students use the APPENDIX to make graphs showing as much information as possible about ethnic makeups of the populations of Argentina, Uruguay, Paraguay, Chile, and Bolivia. Let them decide which types of graphs would be appropriate.

LECTURE

Andes Highlands---Unit 9

The Andean Highlands region of South America is located along the western (Pacific) side of the continent.
Colombia, Ecuador, Peru, Bolivia, Chile, and Argentina are included in this region.
Two cultures, European influence in cities/ Indians in rural areas.
Many subsistence farmers.
Mining makes money/few jobs.
Problems--Illiteracy, hunger, poverty.

Bodies of Indians adapted to high altitudes.
Large lungs--lack of oxygen
Hearts
Short arms and legs, small hands and feet
less strain on heart, less exposed to cold
Incas and Spanish restricted travel between lowlands and highlands. (devastating effects of altitude change.)
Today, Indians perform incredible feats, work long hours in high altitudes, a lowlander would need an oxygen tank.

Hacienda--self-sufficient, self-contained farm or ranch, huge, best land in the area. Owned by the Spanish or their descendants. Worked by local people for small plots of land. Kept ignorant, dependent, no reason to modernize.
Reforms of hacienda system in Bolivia and Chile.

Hardships facing the Indians

High altitudes/extreme cold requiring indians to wear heavy clothing year round. Homes are adobe brick, grass roofs. No electricity, central heating, running water. No wood, fuel is grass, reeds, or llama dung. Clothing made by hand. Style and decoration of a hat identifies village of the wearer.
Farm small plots, grow potatoes, corn, beans using primitive techniques.

DAY 6
LECTURE

Conducting a lecture can be an efficient method of dispensing lots of information in a short period of time. This teaching approach should be well-organized and effectively presented. "Lecturing may be useful in teaching social studies to elementary school children if it gives them interesting and useful information on a level they can understand." (Teaching Elementary School Social Studies, by J.B. Moffet, Little Brown and Co. Boston, Mass. 1977, pg. 229) Teachers will be giving short (15 minute) lectures that provide background and supplementary information for each of the four units. Students will be provided with notetaking sheets to help them focus on the important content within the lectures.

Teachers will consider the following when preparing and conducting the lecture segment of the research project.

Do not exceed time limit children are able to listen with good comprehension.

Make sure children have some background on the content of the lecture.

Begin by capturing attention and interest.

Make lecture interesting, concise and informative.

Plan some kind of follow-up activity.

Use media whenever possible.

Use the chalkboard (colored chalk), or an overhead to illustrate the main points of the lecture.

Check for signs of poor understanding during the lecture, rephrase, elaborate, and clarify when necessary.

(taken from Teaching Elementary School Social Studies by Moffet)

The content of the lectures is taken from the Teacher's Edition of the textbook, Latin America and Canada.

Notetaking Sheet--THE ANDEAN HIGHLANDS--Unit 9 NAME_____

Location_____

Countries_____

Problems 1) _____

2) _____

3) _____

The Hacienda_____

INDIANS of the ANDES

Hardships_____

Bodies_____

Miscellaneous Information_____

Unit 10 The Tropical Lowlands

Made up of Amazon Basin, Orinoco Basin, and Coastal Plains
Mainly Amazon Basin in Brazil, although few people live there.

Amazon River--carries more water than any other river, 2nd longest in world (Nile is longer) 3,915 miles.

Rubber
Early explorers discovered Indians using a milky white liquid that dripped from a tree for shoes, bottles, balls. English named rubber in 1770 (it rubbed out pencil marks). British took seeds for rubber trees to Ceylon and Malaya, established plantations in Central America and other parts of South America. Today replaced by syntnetic rubber, developed during WWII.

Gasohol
blend of petroleum and alcohol used to run cars and machines.
Energy crisis in 1970"s made gasohol profitable.
Use for Brazilian sugar and manioc surplus, create jobs in agriculture, expand economy.
Some cars in Brazil run entirely on Alcohol but they do not sell well.

Orinoco Basin and Coastal Plains small part of this region, where most of population and economic activity. Population clusters at transportation centers on rivers and coastlines. Orinoco--cattle and minerals. Coastal Plains--farming, mining, fishing, ranching, induatry.

Amazon Basin--wealth of natural resources. minerals, wood, land. Vegetation, climate discourage development. Brazil is attempting to tap these resources without upsetting the balance of nature. Wet plain, low elevation, direct sunlight--tropical growth, low population except at river trading cities, Indians living as ancestors lived.

Note

Desc

The

Rub

Ga

Th

Notetaking Sheet--THE TROPICAL LOWLANDS--Unit 10 NAME_____

Description of the Region_____

The Amazon River_____

Rubber_____

Gasohol_____

The Orinoco Basin and the Coastal Plains_____

The Amazon Basin_____

Unit 11 The Eastern Highlands

Composed of two areas separated by the Tropical Lowlands. Elevations 1,500 to 3,000 feet.

Guiana Highlands--means "land surrounded by water" includes three small countries (Guyana, Surinam, and French Guiana) and part of Venezuela. Dense tropical resources, untapped resources, and few people. One of the worlds last frontiers. Poor transportation

Brazilian Highlands--contain most of Brazil's population, mixture of etnnic backgrounds, religions. Catholicism main religion, Protestants, Jews, other faiths enjoy religious freedom. Macumba is a religion that combinesChristianity and African beliefs. (hypnotic states, magic, becoming possessed by good or evil spirits. Brazil major agricultural and industrial force.

Coffee

Rich soil, mild climate, high elevation makes Sao Paulo the coffee center. Frosts have damaged crops several times, it takes 5 years for a damaged tree to become productive again. Other countries have increased coffee production. Farmers have been encourage to produce other crops for export. (soybeans, sugarcane, tobacco, fruit). agriculture could be modernized. Still number 1 in coffee and number 2 in soybeans.

Notetaking Sheet--THE EASTERN HIGHLANDS--Unit 11 NAME_____

Description of the Region_____

Guiana Highlands _____

Meaning

Countries

Resources

Brazilian Highlands _____

Population

Religion

Miscellaneous Information

Coffee

Requirements for growing coffee

Problems facing coffee growers

Other crops

Unit 12 The Subtropical Plains

Steppes, forests, dry plains, rocky deserts, fertile river valleys. Argentina, Paraguay, Uruguay. Most people descended from Europeans, work in ranching, mining and industry.
All are in subtropics, all part of a plain. Very different in climate and vegetation.

Gaucho--Argentine cowboy, admired, legendary figure. Fought gallantly in war for independence, worked on ranches, slept under the stars. Today some ranchhands stil
dd
may wear gaucho clothing, however modern day customs show that they are different from their ancestors.

Buenos Aires--modern buildings, taxis, subways, art galleries, few very old structures at the city's centers.
Located on the Pampa and the Rio de la Plata, 1/3rd of Argentina's population, portenos "port dwellers".

People are Indians, Mestizos, and descendants of Europeans.
Uruguay/Argentina--European Urban, high literacy rate
Paraguay/Chile--Mestizo
Bolivia--Indian
Paraguay low literacy, most of population in capital--Asuncion

Uruguay's Constitution--model for modern day democracy. Freedom of speech, religion, free medical care, education, protection of human rights. Military dictatorship in 1970, suppression of opposition human rights violations (bombings, assassinations, torture by the government).

Freedom from Spain in the 1800's, internal struggles since then. Military governments with restricted human rights (especially in Uruguay and Paraguay).

Notetaking Sheet--THE SUBTROPICAL PLAINS--Unit 12 Name_____

Description_____

1.

2.

3.

4.

5.

Countries 1._____

2._____3._____

People_____

Gaucho_____

Buenos Aires_____

Uruguay's Constitution_____

Miscellaneous Information_____

DAY 6 & 7 PROCESSING

GROUP Processing (Observer Recording Sheet)

Observer's NAME_____

Write the names of group members who demonstrate the following. Use tally marks next to their names if they demonstrate the behavior more than once.

1. Show they are listening.

2. Suggest how to do something.

3. Ask someone for his or her ideas.

4. Questions for observers. Answer these toward the end of the hour.

   A. Did everyone talk? Explain_____

   _____

   B. Rank group members from those who contributed the most to the least_____

   _____

   C. Did everyone understand what he or she was supposed to do? Explain_____

   _____

   D. How would you rate the group's work today?

      a. VERY GOOD
      b. Good
      c. OK
      d. not so good
      e. poor

   E. Explain why you rated your group the way you did.

   _____

   _____

   _____

   _____

DAY 7
MEDIA

Students will be exposed to audiovisual materials as an introductory activity during each of the four units on Latin America. Teachers will follow a three step procedure (taken from AV Instruction: Technology, Media and Methods, by J.W. Brown, R.B. Lewis, and F.F. Harcleroad, McGraw-Hill, N.Y. 1983, pp 69-70):

1. prepare yourself, prepare the environment, prepare the class
2. use the item
3. follow up

Teachers should decide what objectives the item is designed to attain, preview the item, develop questions and activities related to it, and make arrangements for the showing.

When introducing the AV materials to the class, the teacher should give an overview, and show how it relates to the unit being studied. "The students should have a clear idea of what you expect them to understand from a film or filmstrip." (Teaching Strategies for the Social Studies, by J.A. Banks, Longman Inc. N.Y. 1985, pg. 234) Teachers will provide students with a list of key questions to help them focus while viewing the AV materials. After viewing, the cooperative groups will discuss major points in the media, how it relates to the unit being studied, and evaluate the AV experience. The teacher will lead a similar discussion in the individual--competitive treatment.

Possible Media:

South America: A Unit of Study (filmstrips on The Land & The People)

Films: Indians of the Andes; Amazon Family; Argentina, Paraguay and Uruguay; Bolivia, Peru and Ecuador; Brazil; Chile and Argentina; Countries of the Andes; Highland Indians of Peru; Life in the Grasslands; Life in the Hot Rainforest; Miners of Bolivia; North Brazil; Peru: Filberto of the High Valley; Rancheros and Gauchos; South Brazil; South American Andean Indians and Five Northern Countries.

Films used in the research study will be selected if available, appropriate, and up-to-date. One media activity will be used with each unit.

MEDIA

Media Notetaking Sheet UNIT 9 Name_____

Country Cities People Resources

Ecuador

Peru

Bolivia

Chile

Central Highlands (Sierra)

Llamas

Farming

Problems

Products

Coastal Lowlands

Climate
Location
Problems

Products
What resources come from the Atacama desert?

Rainforests

Climate
Transportation
Problems

Products
What is unusual about Lake Titicaca?

Why do most people choose to live in the Andes Mountains?

MEDIA

Notetaking Sheet Unit 10 The Amazon Basin Name_____

Describe the CLIMATE and the PHYSICAL ENVIRONMENT.

Take notes on SHELTER, JOBS, and TOOLS of the people who live in this region of South America.

List PRODUCTS that people get from the Amazon Region.

What are three ways the river is useful to these people?

1.

2.

3.

MEDIA

Notetaking Sheet Unit 11 The Eastern Highlands Name_____

Brazil The Area The Population

The Language

The North The Amazon River Basin

Population

Resources

Climate

The Northeast Coastal Lowlands Plateau

Climate Climate

Recife Problems 1.

Sugar 2.

3.

The East Population

Rio de Janeiro Sao Paulo

Favelas Coffee

Cariocas Paulistas

Tourism Industry

Santos

The Interior Population

1960

Brasilia

The South Forests, Farms, & Ranches

Population

Ten facts about the Land, Cities, and People of Brazil...

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

MEDIA

Media Notetaking Sheet Unit 12 Name_____

Vocabulary (Define the following)

Campesino

Favella

Land Reform

Minimum Wage

South America is a beautiful, fertile land with many resources. There are also many problems. Give an example for each of the problems mentioned in the filmstrip.

Problem #1 POVERTY--

Problem #2 POOR HEALTH CARE--

Problem #3 LACK OF EDUCATION--

Problem #4 RISING POPULATION--

Problem #5 WEAK ECONOMIES--

Three major forces are blamed by many for these problems. What are these forces?

1_____ 2_____ 3_____

Facts about South American Governments

1.

2.

3.

4.

5.

DAY 8
UNIT REVIEW

Teachers will conduct a review of the content for each of the four units. This review will include a brief examination and discussion of all assignments, leading students through the chapter noting main headings, illustrations, maps and charts, a summary of vocabulary words, important people, and important facts, and examples of effective study skills.

Students will use time remaining in the hour to complete unfinished assignments, or prepare for the unit test. Students in TREATMENT A may chose to quiz each other, review together, read sections orally, or compare notes. Students in TREATMENT B may chose to reread the chapter, review notes or other assignments, or finish work that is incomplete.

DAY 8 PROCESSING

PEER EVALUATION SHEET NAME_____

Answer the following questions concerning your group. You may not use your name when answering these questions.

1. What person did the most work in your group?_____
2. Who was the next best worker? _____
3. What person did the most to help your group work together?

   _____
4. Who had the best ideas?_____
5. What was your favorite part of this assignment?_____

   _____

   _____
6. If you were able to change anything about this assignment, what would you change? (Explain your answer)_____

   _____

   _____
7. If you could grade the other members of your group, what grade would you give each of them. (A=Excellent, B=Good Job, C=Fair, D=Poor) List the names of the other members of your group and the grade you believe each person deserves.

   _____

   _____

   _____

   _____

   _____

REQUIRED ASSIGNMENTS UNIT 9

Page 217 Checking Up 10 most important facts
Page 220 Checking Up 10 most important facts
Page 223 Checking Up 10 most important facts

APPLICATION PROJECT (MAP)

Unit 9 Review "What Have You Learned?"

Workbook Pages 63, 63, 66, 67 & 68

Lecture Notes

Media Notes

Treatment A (Cooperative Groups) will require one copy of each assignment and a copy of Lecture Notes and Media Notes for each person in the group. Groups will also have to hand in all PROCESSING sheets.
Treatment B (Individual) will be required to hand in a copy of all assignments and Notes listed above.

REQUIRED ASSIGNMENTS UNIT 10

Page 232 Checking Up 10 most important facts
Page 235 Checking Up 10 most important facts
Page 239 Checking Up 10 most important facts

APPLICATION PROJECT (ADVERTISEMENT)

Workbook Pages 69, 70, 71, 73 & 74

Lecture Notes

Media Notes

Treatment A (Cooperative Groups) will require on copy of each assignment and a copy of Lecture Notes and Media Notes for each person in the group. Groups will also have to hand in all PROCESSING sheets.
Treatment B (Individual) will be required to hand in a copy of all assignments and Notes listed above.

REQUIRED ASSIGNMENTS UNIT 11

Page 247 & Page 259 Checking Up 10 most important facts
Page 252 Checking Up 10 most important facts
Page 257 Checking Up 10 most important facts

APPLICATION PROJECT (CHART)

Unit 11 Review "What have You Learned?"
Workbook Pages 75, 76, 77, 79 & 80

Lecture Notes
Media Notes

Treatment A (Cooperative Groups) will require one copy of each assignment and a copy of Lecture Notes and Media Notes for each person in the group. Groups will also have to hand in all PROCESSING sheets.
Treatment B (Individual) will be required to hand in a copy of all assignments and Notes listed above.

REQUIRED ASSIGNMENTS UNIT 12

Page 267 Checking Up 10 most important facts
Page 269 & Page 272 Checking Up 10 most important facts
Page 275 Checking Up 10 most important facts

APPLICATION PROJECT (GRAPHS)

Unit 12 Review "What Have You Learned?"
Workbook Pages 81, 83, 84, 85 & 86

Lecture Notes
Media Notes

Treatment A (Cooperative Groups) will require one copy of each assignment and a copy of Lecture Notes and Media Notes for each person in the group. Groups will also have to hand in all PROCESSING sheets.
Treatment B (Individual) will be required to hand in a copy of all assignments and Notes listed above.

APPENDIX C

LEARNING STYLES INVENTORY (STUDENT AND TEACHER FORMS), ACHIEVEMENT POSTTESTS, AND ATTITUDINAL SURVEY

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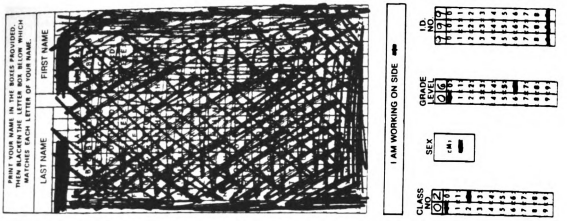
LEARNING STYLES INVENTORY:

a measure of student preference for instructional techniques

by

JOSEPH S. RENZULLI LINDA H. SMITH

TEACHER FORM



DIRECTIONS

Decide how often you have students participating in each class activity listed below.

Darken A if it is **very infrequently.**
Darken B if it is **rather infrequently.**
Darken C if it is **neither frequently nor infrequently.**
Darken D if it is **rather frequently.**
Darken E if it is **very frequently.**

1. Have students who are experts on a topic present their ideas to the class.
2. Send a committee of students to the library to look up information.
3. Have friends help each other learn material that they are finding difficult to grasp.
4. Have students study on their own to learn new information.
5. Assign a panel to discuss current events.
6. Have students plan projects that they will work on by themselves.
7. Give assignment. After the students are finished, give them a test to see how much they remember.
8. Allow students to use games that help them practice basic skills.
9. Have students work with others on projects that will be graded as a group.
10. Have students discuss class material with a group of other students.
11. Explain new information to the class.
12. Have a class discussion on a topic you suggest.
13. Have students work on their own to prepare material to be presented to the class.
14. Have students learn about an event such as the signing of the Declaration of Independence by acting it out in class.
15. Ask the class questions on work that was assigned for the student.
16. Give written assignments on material that students have read.
17. Have students read a book in order to learn all about some topic.
18. Have students listen to the ideas of other students during class discussion on a topic.
19. Have students practice vocabulary words by playing a game such as Password.

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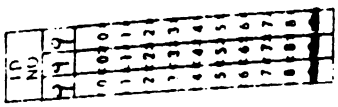


A = Very infrequently
B = Rather infrequently
C = Neither frequently nor infrequently
D = Rather frequently
E = Very frequently

I AM WORKING ON SIDE

20. Give students periodically to see if they understand a story they read
21. Have students work together on a project that you suggest
22. Present to the class all background information on a new topic
23. Have students teach each other about things they do especially well
24. Give assignments where students fill in the missing word to complete sentences
25. Ask questions and have students give answers out loud
26. Have students discuss issues on which classmates disagree
27. Have students work together to develop projects related to topics they are studying
28. Have students play the role of a member of a campaign team competing with another team to win votes for their candidate
29. Give specific instructions on how to do things
30. Have students go off on their own to study a subject of their choice
31. Give assignments where students find out after each question whether their answers are correct
32. Have students share their ideas with other students during class discussion of some topic
33. Have students learn new information or how to solve a problem from another student in the class.
34. Have a guest speaker talk about a subject being studied in class.
35. Have students go over homework assignments with classmates.
36. Have students do research in the library for papers they want to write.
37. Have students in the same grade work together to review material for a test.
38. Have a class drill where you ask for specific information from members of the class.
39. Give assignments that have many questions but ones that students are likely to get right
40. Teach about possible careers by having students play the roles of job counselors and job applicants.
41. Have students listen to classmates give their opinions on a subject.
42. Make it clear what you expect from the class.
43. Teach how government works by having students play the role of officials who must deal with a crisis situation.
44. Have students take notes as you talk to the class
45. Have students use flash cards to practice what they have learned.
46. Have students talk with classmates about topics in which they are interested.
47. Have students work in committees to prepare lessons that will be presented to the class
48. Call on individual students to recite information such as multiplication tables or the names of past presidents of the United States
49. Have students work together to plan and complete a project.
50. Present a lesson to the entire class.
51. Have a spelling bee where one team tries to out-spell another team.
52. Have students work independently on projects they select to pursue.
53. Have students work in committees to prepare written reports.
54. Have students work together on schoolwork in the back of your classroom.
55. Call on individual students by name to answer questions.
56. Present information to the class.
57. Have contests to see which team can correctly answer the most questions about topics being studied in class.
58. Have students work by themselves to collect information on topics of interest.
59. Lead a discussion on a new topic.
60. Have students talk over ideas about a subject.
61. Test students out loud to see what they have learned.
62. Present various points of view on a subject.
63. Have students work on their own to prepare reports that will be shared with the class.
64. Have a panel discussion on how to solve classroom problems.
65. Have students go to the library to find more information on a topic.

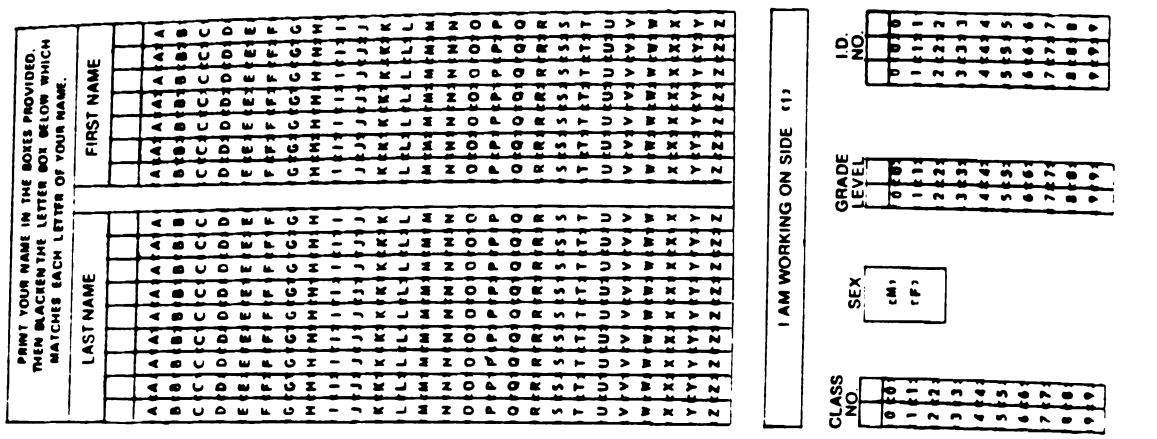
LEARNING STYLES INVENTORY:

a measure of student preference for instructional techniques

by

JOSEPH S. RENZULLI LINDA H. SMITH

STUDENT FORM



DIRECTIONS

Decide how you feel about participating in each class activity listed below.

Darken **A** if it is **very unpleasant.**
Darken **B** if it is **rather unpleasant.**
Darken **C** if it is **neither pleasant nor unpleasant.**
Darken **D** if it is **rather pleasant.**
Darken **E** if it is **very pleasant.**

1. Having other students who are experts on a topic present their ideas to the class
2. Going to the library with a committee to look up information
3. Having a friend help you learn material you are finding difficult to understand
4. Studying on your own to learn new information
5. Being a member of a panel that is discussing current events
6. Planning a project you will work on by yourself
7. Working on assignments where the questions are arranged in an order that helps you get them right.
8. Playing a board game that helps you practice one of your school subjects. (An example of a "board game" is Scrabble or Monopoly.)
9. Working with other students on a project with little help from the teacher.
10. Discussing class material with a group of other students
11. Hearing the teacher explain new information.
12. Having a class discussion on a topic suggested by the teacher
13. Working on your own to prepare material you will present to the class.
14. Learning about an event such as the signing of the Declaration of Independence by acting it out in class.
15. Having the teacher ask the class questions on work that was assigned to be studied
16. Answering questions in writing on material that you have just read
17. Reading a book in order to learn all about some topic.
18. Hearing the ideas of other students during class discussion of some topic.
19. Practicing vocabulary words by playing a game such as Password.

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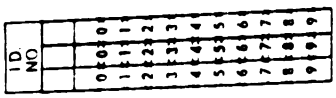


A = Very unpleasant
B = Rather unpleasant
C = Neither pleasant nor unpleasant
D = Rather pleasant
E = Very pleasant

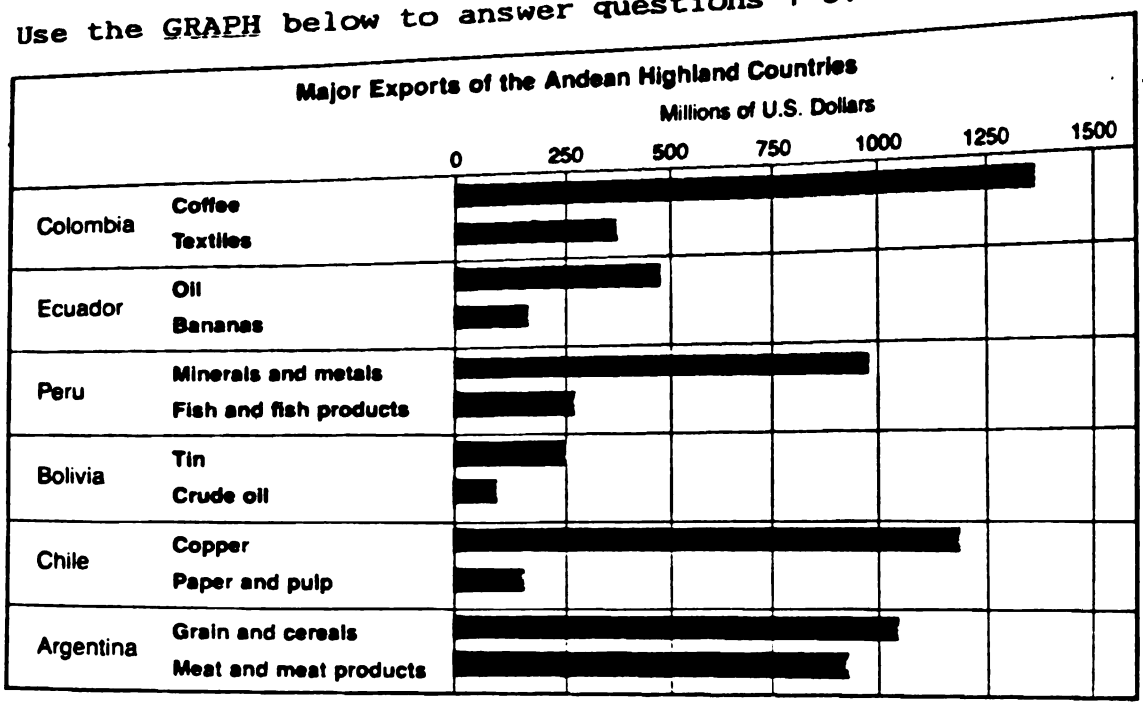
I AM WORKING ON SIDE 2

20. Being quizzed by the teacher to see if you understand a story you read
21. Working with other students on a project the teacher suggests
22. Learning new things by having the teacher present all the information
23. Having a classmate teach you how to do something he or she does especially well.
24. Working on assignments where you fill in the missing word to complete a sentence
25. Giving answers out loud to questions asked by the teacher
26. Discussing an issue because you disagree with what another student has said
27. Working with other students to plan a project about a topic you are studying
28. Learning about the election process by playing the role of a member of a campaign team competing with another team to win votes for your candidate
29. Having the teacher give specific instructions on how to do things
30. Going off on your own to study a subject you choose
31. Doing assignments where you can find out after each question whether your answer is correct
32. Sharing ideas with other students during class discussion of some topic
33. Learning new information or learning how to solve a problem from another student in your class
34. Hearing a guest speaker talk about a subject you are studying in class
35. Meeting with a classmate to go over homework assignments
36. Doing research in the library for a paper you want to write
37. Having a student in your grade work with you to review material for a test
38. Participating in a class drill where the teacher asks for specific information from members of the class.
39. Working on assignments that have many questions but ones that you are likely to get right.
40. Learning about possible careers by playing the role of a job counselor and interviewing other students who are acting as job applicants.
41. Listening to classmates give their opinions on a subject
42. Having the teacher make clear what is expected of the class
43. Learning how government works by playing the role of an official who must deal with a crisis situation.
44. Taking notes as the teacher talks to the class
45. Playing a game using flash cards in order to practice what you have learned.
46. Talking with others in your class about a topic of interest.
47. Working with a committee to prepare a lesson to present to the class.
48. Having the teacher call on individual students to recite such things as multiplication tables or the names of past presidents of the United States.
49. Working with other students in planning and completing a project.
50. Listening as the teacher presents a lesson.
51. Having a spelling bee where your team is trying to out-spell another team.
52. Working independently on a project you choose yourself.
53. Preparing a written report with a committee.
54. Working in the back of your classroom with another student who is helping you with schoolwork.
55. Having the teacher call on individual students by name to answer questions.
56. Hearing the teacher present information to the class.
57. Having a contest to see if your team can correctly answer the most questions about a topic you are studying in class.
58. Working by yourself to collect information on a topic of interest.
59. Having the teacher lead a discussion on a new topic.
60. Hearing students talk over ideas about a subject.
61. Having the teacher test you out loud to see what you have learned.
62. Listening to the teacher present various points of view on a subject.
63. Working on your own to prepare a report you will share with your class.
64. Being a member of a panel that discusses how to solve classroom problems.
65. Going to the library by yourself to find more information about a topic.

NAME_____

UNIT 9 TEST

Use the GRAPH below to answer questions 1-5.



1. What kind of graph is this?

   A. bar
   B. line
   C. pie
   D. dot

2. Chile's most important export is--

   A. coffee.
   B. oil.
   C. tin.
   D. copper.

3. Which product exported by an Andean Highland country has the highest value in U.S. dollars?

   A. textiles
   B. tin
   C. copper
   D. coffee

4. The Andean country for which two minerals are major exports is--

   A. Colombia
   B. Argentina
   C. Bolivia
   D. Chile

5. Which is the best estimate of the value of Argentina's meat and meat products exports in U.S. dollars?

   A. 250,000,000
   B. 500,000,000
   C. 750,000,000
   D. 900,000,000

---

6. The only country in the Andean Highlands that is landlocked is--

   A. Peru.
   B. Bolivia.
   C. Argentina.
   D. Ecuador.

7. What evidence do geologists have that the Andes are young mountains?

   A. There are frequent earthquakes and many volcanoes.
   B. The Andes are tall with rounded peaks.
   C. Ancient Indian stories tell of times before the mountains.
   D. All mountains in the Western Hemisphere are young.

8. The climate of the Andean Highlands is--

   A. hot, because the Andes are near the equator.
   B. hot or cold, depending on the season.
   C. cool, because of the elevation and the Peru Current.
   D. very cool in the eastern part, and very warm in the western part.

9. Why do Indians of the Andes often have large families?

   A. Because food is abundant.
   B. Large families mean more workers.
   C. The government gives financial support to large families.
   D. Families with more than 5 children get extra farmland.

10. Why do most people living in the Andes countries choose to live in the high plateaus, rather than at sea level?

    A. Building on the steep, rocky Pacific coastline is difficult.
    B. The scenery in the mountains is more beautiful.
    C. Transportation is easier in the mountain valleys.
    D. The elevated areas offer a cooler, more comfortable climate.

11. What is illiteracy?

    A. the inability to read or write
    B. the stage before starvation
    C. the inability to hear or speak
    D. the lack of money

12. Most of the people in the Andes countries work in agriculture. Nevertheless, mining, oil wells, and the sea provide the greatest share of income for each country. How can this be explained?

    A. Fertile land and good growing conditions encourage farming.
    B. Most farmers grow barely enough food to survive.
    C. Prices and profits for food products are above average.
    D. It is easier for the government to train people to farm.

13. The Peru Current is a cold water current flowing from the Antarctic region along the coastlines of Chile and Peru. What impact would occur on the climate of these countries if this current originated at the equator?

    A. The climate would be colder.
    B. The climate would be dry all year.
    C. The climate would be warmer.
    D. There would be no difference.

Use the TABLE to answer questions 14-16.

Continent	Mountain	Country	Height
South America	Aconcagua	Argentina	22,834 ft. (6,960 m)
	Ojos del Salado (ō'hōs del säl-ad'ō)	Argentina-Chile	22,572 ft. (6,880 m)
	Bonete (bō nat'ā)	Argentina	22,546 ft. (6,872 m)
	Tupungato (tōō'poon-gät'ō)	Argentina-Chile	22,310 ft. (6,800 m)
Europe	Mont Blanc	France	15,771 ft. (4,807 m)
Asia	Everest	Nepal-China	29,028 ft. (8,848 m)
Africa	Kilimanjaro (kil'e-man-jär'ō)	Tanzania (tan'zan-ē'a)	19,340 ft. (5,895 m)
North America	McKinley	United States	20,320 ft. (6,194 m)

14. Most of the world's tallest mountains are in which continent?

A. Asia
B. South America
C. North America
D. Africa

15. What is the name of the tallest mountain in the Western Hemisphere?

A. Everest
B. Mckinley
C. Ojos del Salado
D. Aconcagua

16. Which two mountains are the nearest to being the same elevation?

A. Ojos del Salado and Bonete
B. Kilimanjaro and McKinley
C. Tupungato and Bonete
D. Alconcagua and Tupungato

---

17. Adobe, which is important to highland Indians, is a--

A. a kind of hut.
B. crop of the Andes.
C. building material.
D. tool used for farming.

18. Titicaca is the name of South America's--

A. steepest plateau.
B. highest city.
C. largest lake.
D. broadest plain.

19. Which of these tools would most likely be used by Indians of the Andean Highlands?

A. a saw
B. a machete
C. a bow and arrow
D. a hoe

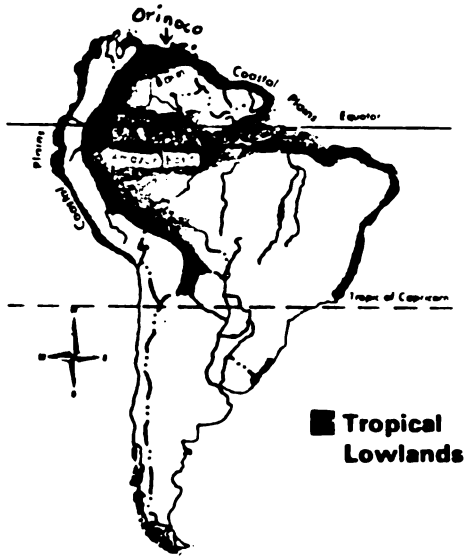
20. Mineral wealth is good for the economy of a country. What is a disadvantage facing a country with an economy based mainly on mineral resources?

A. When the minerals are gone, the mines must close.
B. Producing too much of a mineral can raise the price.
C. Minerals are often replaced by manmade materials.
D. Training mine workers can be difficult and expensive.

UNIT 10 TEST

NAME_____

Use the MAP to answer questions 1-4.



1. The map shows--

   A. the four major regions of South America.
   B. the location of the Tropical Lowlands.
   C. the location of the Andean Highlands.
   D. the two major regions of Latin America.

2. The Tropical Lowlands region extends as far south as the--

   A. equator.
   B. Amazon Basin.
   C. Orinoco Basin.
   D. Tropic of Capricorn.

3. What is the largest area of the Tropical Lowlands?

   A. the lowland around Lake Maracaibo
   B. the Orinoco Basin
   C. the Coastal Plains
   D. the Amazon Basin

4. Which statement best describes the location of the Tropical Lowlands region?

   A. It covers the entire northern coast of South America.
   B. It covers much of the southern half of South America, including the coastline.
   C. It covers the northwest corner of South America.
   D. It covers much of the northern half of South America, including the coastline.

---

5. What two factors make the Tropical Lowlands one geographical region?

   A. low elevation and a tropical climate
   B. mountains and rain forests
   C. humidity and lack of farmland
   D. the Amazon River and Lake Maracaibo

6. During the early afternoon, it usually rains in the Tropics. This occurs because--

   A. winds blowing over the Peru Current cool the warm air, causing rain to fall.
   B. there are frequent hurricanes in this part of the world.
   C. warm, moist air rises in the morning, cools, and falls as rain in the afternoon.
   D. the Tropics are a warm, wet, swampy, lowland region.

7. Which statement best describes the Amazon Basin?

   A. It is a highland region where the Amazon River begins.
   B. It is the lowland region around the Amazon River and its tributaries.
   C. It is the area where the Amazon River cuts through the Andes Mountains.
   D. It is a large body of water.

8. Plants and animals are plentiful in the Amazon area. However, few people live there. Why is this so?

   A. Humans choose to live in areas that have many natural resources, the Amazon area has little of value.
   B. The danger of attack from animals discourages humans from living in the Amazon area.
   C. The government limits the number of humans allowed in this area, so that animals and plants will not be threatened.
   D. The hot, humid climate and poor farming conditions make life difficult for humans.

9. The headwaters of a river are--

   A. the beginnings of a river.
   B. the direction opposite the river's flow.
   C. the mouth of the river.
   D. the deepest part of the waterway.

10. Why do most Blacks living in South America, live in the Tropical Lowlands region?

   A. The best paying jobs are located in the Tropical Lowlands.
   B. Racism and discrimination discourages Blacks from moving from the Tropical Lowlands to the cities.
   C. Their ancestors were slaves who worked the sugar plantations of the Tropical Lowlands.
   D. When Blacks first came to South America, they chose to live in areas most like their homeland, Africa.

11. How does a "minifundia" differ from a "latifundia"? A minifundia is a--

   A. part of a latifundia used for grazing animals.
   B. small subsistence farm and a latifundia is a large plantation or ranch.
   C. part of a latifundia used for growing crops.
   D. mountain ranch and a latifundia is a large plantation.

12. "Slash and Burn" agriculture is used by Indians in the Amazon region. A problem with this farming technique is that it--

   A. leaves a layer of ash on the surface of the soil.
   B. is dangerous, leading to many forest fires.
   C. is hard to start fires in the wet, swampy jungle.
   D. uses up the nutrients in the soil.

For questions 13-16, read the quotation and tell if the speaker--

A. lives in an urban area in the Tropical Lowlands.
B. lives in an urban area in the Andes Highlands.
C. lives in a rural area in the Tropical Lowlands.
D. lives in a rural area in the Andes Highlands.

13. "Poverty and hunger are my constant companions. I work hard growing barely enough beans, corn, and potatoes to survive. I am exhausted by day's end when I return to my adobe house."

14. "We are fortunate to be surrounded by valuable natural resources. Many people bring products here and the river acts as a highway for transporting forest materials, mineral resources, and foods."

15. "Few people come in contact with our village. When a trader visits we exchange skins, rubber, Brazil nuts, wood, and plants for steel tools. These tools help in clearing the areas we use for farming."

16. "I thought that life would improve when I came here. It is no better, and possibly even worse. I live in a crowded, unhealthy slum, without work, and I barely have enough food to survive."

---

17. The five levels of life in the Amazon rain forest are the river, the forest floor, the shrub, in the trees, and--

A. the sea level.
B. atop the highest trees.
C. the forest level.
D. atop the mountains.

18. Hydroelectric power is electricity produced by the power of--

A. strong winds.
B. the sun.
C. rushing water.
D. petroleum.

19. Two important resources of the Amazon Basin are--

A. petroleum and gold.
B. bauxite and sugar.
C. sugar and coffee.
D. cattle and petroleum.

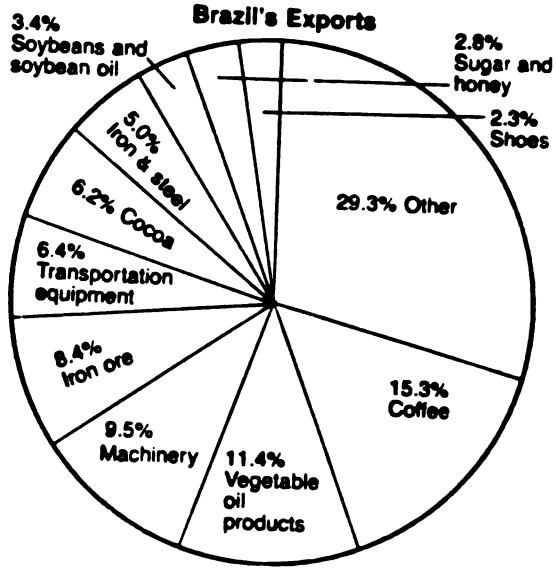
20. Some companies hope to help satisfy world food needs by--

A. growing fruit trees in the rain forest.
B. fishing in the Amazon River.
C. cattle ranching in the rain forest.
D. growing rice on the Amazon's floodplains.

UNIT 11 TEST

NAME_____

Use the PIE GRAPH to answer questions 1-5.



1. The graph shows the exports of--

   A. the Eastern Highlands.
   B. Latin America.
   C. Brazil.
   D. Mexico.

2. Just over 15 percent of Brazil's exports are made up of--

   A. cocoa. C. shoes.
   B. machines. D. coffee.

3. Vegetable oil products make up what percent of Brazil's exports?

   A. 29.3 B. 15.3 C. 11.4 D. 9.5

4. Two categories on the graph that total just under 18 percent of Brazil's exports are--

   A. iron ore and machinery.
   B. machinery and coffee.
   C. vegetable oil products.
   D. coffee and transportation equipment.

5. Any product that makes up less than 2.3 percent of Brazil's exports is put into the category "other". What percent of Brazil's exports does this category make up?

   A. 2.3 B. 5.0 C. 15.3 D. 29.3

---

6. Between the two parts of the Eastern Highlands lie the--

   A. Andean Highlands. C. Subtropical Plains.
   B. Tropical Lowlands. D. Eastern Lowlands.

7. Few people live in the Guiana Highlands. Most of Brazil's population lives in the Brazilian Highlands. How could these two similar areas have developed so differently?

   A. Portugal encouraged colonization while other European countries did not.
   B. More people live in Brazil than in Surinam, Guyana, and French Guiana combined.
   C. The Brazilian Highlands have more natural resources and are along the Atlantic coast.
   D. The Brazilian Highlands are a much larger area.

Questions 8-11

The three most important cities in Brazil are Brasilia, Sao Paulo, and Rio de Janiero. Imagine that you are a Brazilian leader in charge of improving these cities. Which city would benefit from the following policies?

8. Create and enforce anti-pollution laws so that the quality of air and water can be improved.

   A. Brasilia
   B. Rio de Janeiro
   C. Sao Paulo
   D. none of these

9. Build low income housing, in efforts to eliminate the slums on the hillsides.

   A. Brasilia
   B. Rio de Janeiro
   C. Sao Paulo
   D. none of these answers

10. Provide money for the improvement of a poor natural harbor.

   A. Brasilia
   B. Rio de Janeiro
   C. Sao Paulo
   D. none of these answers

11. Further improve transportation, so that this city becomes less isolated, and the resources nearby are developed.

   A. Brasilia
   B. Rio de Janeiro
   C. Sao Paulo
   D. none of these answers

---

12. Brazilian farmers are moving to the cities because--

   A. poor soil and weather conditions make farming difficult.
   B. the government will not give aid to farmers.
   C. severe frosts regularly destroy crops.
   D. they seek better jobs in the expanding factories.

13. What is the fastest-growing industry in Brazil?

   A. food processing
   B. steelmaking
   C. car and truck manufacturing
   D. coal refining

14. A country with a high rate of inflation has--

   A. high demand for supplies.
   B. growing industry.
   C. rapidly increasing prices.
   D. a high rate of employment.

15. Bauxite ore is made into--

   A. iron.
   B. steel.
   C. carnauba.
   D. aluminum.

16. A landform with a flat top and steep sides is--

A. a savanna.
B. a mesa.
C. an escarpment.
C. a highland.

Use the table to answer questions 17-20.

Largest Metropolitan Areas in Latin America and the United States

Metropolitan area	Population
Mexico City	13,994,000
São Paulo	10,041,000
Buenos Aires	9,749,000
Rio de Janiero	8,329,000
Santiago	3,692,000
Lima	3,303,000
Bogotá	3,143,000
New York	15,589,000
Los Angeles	9,478,000
Chicago	6,711,000

17. Latin America's third largest metropolitan area is--

A. Sao Paulo
B. Buenos Aires.
C. Los Angeles.
D. Santiago.

18. The metropolitan area with the largest population on the list is--

A. Mexico City.
B. New York.
C. Sao Paulo.
D. Buenos Aires.

19. How many metropolitan areas in Latin America have larger populations than the Los Angeles metropolitan area?

A. none
B. one
C. two
D. three

20. About how many more people live in the Chicago metropolitan area than in the Santiago metropolitan area?

A. 1 million
B. 3 million
C. 5 million
D. 7 million

Use the table to answer questions 17-20.

Largest Metropolitan Areas in Latin America	
Metropolitan Area	Population
Buenos Aires	11,931,000
Lima	6,321,000
Mexico City	19,028,000
Rio de Janeiro	11,469,000
Santiago	5,307,000
São Paulo	17,711,000

17. Latin America's third largest metropolitan area is—

A. Rio de Janeiro C. Los Angeles.
B. Buenos Aires. D. Santiago.

18. The metropolitan area with the largest population on the list is—

A. Mexico City. C. São Paulo.
B. New York. D. Buenos Aires.

19. How many metropolitan areas in Latin America have larger populations than the Los Angeles metropolitan area?

A. zero C. two
B. one D. three

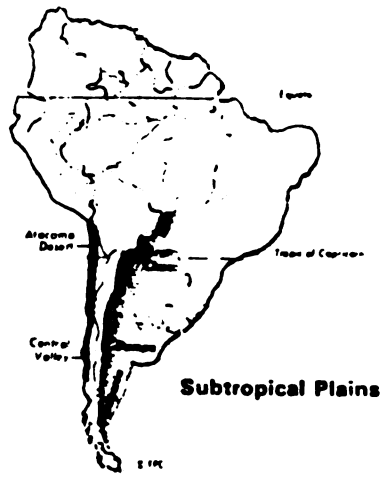
20. About how many more people live in the São Paulo metropolitan area than in the Santiago metropolitan area?

A. 1 million C. 5 million
B. 3 million D. 7 million

UNIT 12

NAME_____

Use the MAP to answer questions 1-3.



1. The map shows--

   A. the four major regions of South America.
   B. the location of the Subtropical Plains.
   C. the location of the Eastern Highlands.
   D. the two major regions of South America.

2. The Subtropical Plains region extends from the southern tip of South America northward--

   A. to the equator.
   B. to the Central Valley.
   C. just above the Tropic of Capricorn.
   D. to the northern edge of the Pampa.

3. Which statement best describes the location of the Subtropical Plains region?

   A. It covers much of the southern half of South America, except for the Andes.
   B. It covers much of the northern half of South America, except for the Andes.
   C. It covers the entire southern coast of South America.
   D. It includes all of Chile, and Argentina, and parts of Uruguay and Paraguay.

4. Why do military leaders rule many Latin American countries?

   A. The people elect strong leaders who will improve conditions.
   B. Most of the people are uneducated and will not vote.
   C. When problems become too great, military leaders take over.
   D. Military leaders improve chances for freedom and justice.

5. Why did many people leave Europe to come to Uruguay and Argentina?

   A. They were exiled from their European countries.
   B. They came to get an education.
   C. They came to start businesses and work in agriculture.
   D. They came for freedom and a democratic government.

6. Grain dies and rivers dry up during--

   A. storms.
   B. floods.
   C. earthquakes.
   D. droughts.

Questions 7-10.

Read the following quotations and identify the speaker.

7. "We have shown that democracy can work. Uruguay has the highest standard of living in all of Latin America. The civil war is over and we are united."

A. Jose Ordonez
B. Domingo Sarmiento
C. Juan Peron
D. Altredo Stroessner

8. "To improve the economy we must follow these policies. Eliminate all opposition. Control the press. Encourage foreign investment. Paraguay can survive and prosper, even without the support of the United States."

A. Jose Ordonez
B. Domingo Sarmiento
C. Juan Peron
D. Alfredo Stroessner

9. "I helped Argentina by raising wages, creating jobs, and building schools and hospitals, and my thanks is exile from the country. Now, you invite me to return and become your leader again."

A. Jose Ordonez
B. Domingo Sarmiento
C. Juan Peron
D. Alfredo Stroessner

10. "I wish to thank you for this Nobel Prize. Writing, teaching, and children are my life. My poems will live on after I die."

A. Gabriella Mistral
B. Isabel Peron
C. Evita Peron
D. Mary O. Graham

---

11. Why are sheep ranches in Patagonia so large?

A. Sheep need open space and exercise to be healthy.
B. Wool and mutton are products people use.
C. Grass grows sparsely, requiring large grazing areas.
D. Large ranches provide more jobs for farm workers.

12. The Argentine Pampa is a--

A. prairie.
B. plateau.
C. rocky desert.
D. forest.

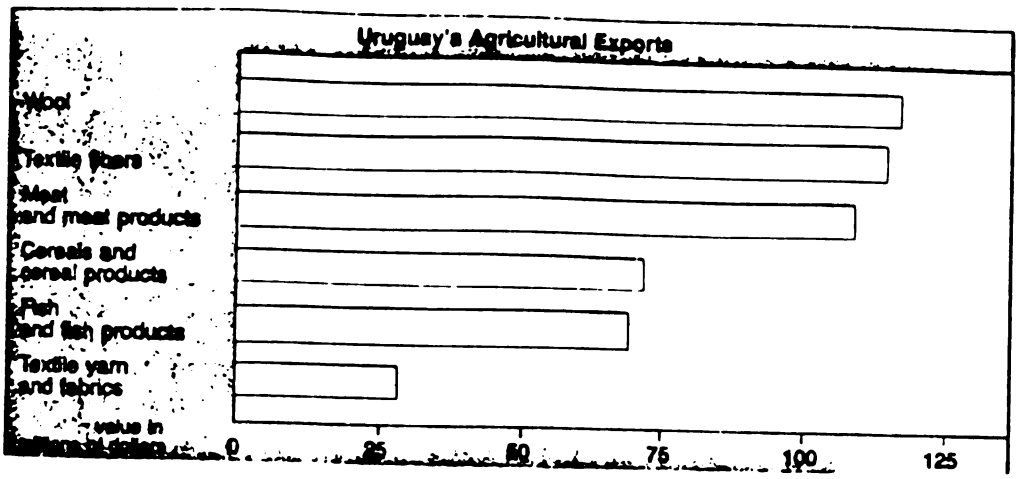
13. Lumbering and cattle raising are the two most important ways of making a living in--

A. the Atacama Desert.
B. Patagonia.
C. the Gran Chaco.
D. the Pampa.

14. Which of the following is not found on the Subtropical Plains?

A. a prairie
B. a river valley
C. a rocky desert
D. a mountain range

Use the GRAPH to answer questions 15-18.



15. What kind of graph this?

A. A bar graph that shows Uruguay's farming products that will be sent to other countries.
B. A line graph that shows Uruguay's farming products that will be sent to other countries.
C. A bar graph that shows what farm products Uruguay receives from other countries.
D. A line graph that shows what farm products Uruguay receives from other countries.

16. What is Uruguay's most important export?

A. Textile fibers
B. Wool
C. Fish and fish products
D. Meat and meat products

17. Which is the best estimate for the value of Uruguay's Cereal and cereal products?

A. $50,000,000
B. $60,000,000
C. $70,000,000
D. $80,000,000

18. Which is the best estimate for the total value of Uruguay's agricultural exports?

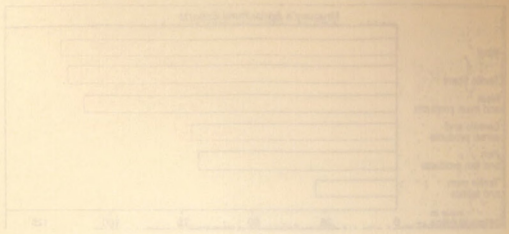
A. $300,000,000
B. $500,000,000
C. $700,000,000
D. $900,000,000

19. What happens during a strike?

A. The government is overthrown by a small group of people.
B. The leader of a country is forced to leave that country.
C. The government takes over large industry and plantations.
D. Workers stop working, in hopes of winning higher pay and better conditions.

20. A country's literacy rate tells what percent of the people--

A. do not have jobs.
B. can read and write.
C. buy newspapers.
D. are going to school.



ANSWER SHEET FINAL TEST FOR UNIT ____ SCORE ____

TEACHER'S NAME _____ NAME _____

DIRECTIONS: BLACKEN OVER THE LETTER FOR THE BEST ANSWER. MAKE SURE YOU ERASE MISTAKES COMPLETELY.

1. A B C D
2. A B C D
3. A B C D
4. A B C D
5. A B C D
6. A B C D
7. A B C D
8. A B C D
9. A B C D
10. A B C D
11. A B C D
12. A B C D
13. A B C D
14. A B C D
15. A B C D
16. A B C D
17. A B C D
18. A B C D
19. A B C D
20. A B C D

ATTITUDINAL SURVEY

Circle the BEST answer. NAME_____
SA=Strongly Agree A=Agree TEACHER_____
D=Disagree SD=Strongly Disagree

1. I enjoy this class.	SA	A	D	SD
2. The other students in this class do not like me.	SA	A	D	SD
3. I like the other students in this class.	SA	A	D	SD
4. It is hard to do well in this class.	SA	A	D	SD
5. It is important to me to do well in this class.	SA	A	D	SD
6. Other students do not care how well I do in this class	SA	A	D	SD
7. Doing well in this class is mostly luck.	SA	A	D	SD
8. I am usually eager to go to this class.	SA	A	D	SD
9. This class is a lot of fun.	SA	A	D	SD
10. Almost all the students in this class are friendly toward me.	SA	A	D	SD
11. I do not like some of the students in this class.	SA	A	D	SD
12. I always have a good chance of doing well in this class.	SA	A	D	SD
13. I do not care very much if I do well or poorly in this class.	SA	A	D	SD
14. Other students want me to work hard in this class.	SA	A	D	SD
15. If someone does well in this class, it is because they worked hard.	SA	A	D	SD
16. I often give up too easily in this class.	SA	A	D	SD
17. I do not like this class.	SA	A	D	SD
18. Most of the students in this class like me.	SA	A	D	SD
19. Some of the students in this class are my best friends.	SA	A	D	SD

SA=Strongly Agree A=Agree D=Disagree SD=Strongly Disagree

20. It seems that I cannot do well in this class no matter what I do.	SA	A	D	SD
21. Doing well in this class always makes me happy.	SA	A	D	SD
22. Other students care whether I do well or not in this class.	SA	A	D	SD
23. Studying does not help you very much to do well in this class.	SA	A	D	SD
24. I only do the minimum work I need to get by in this class; I never do extra work.	SA	A	D	SD
25. This class is one of the best I have ever had.	SA	A	D	SD
26. I feel left out of things in this class.	SA	A	D	SD
27. Some of the students in this class are not very friendly.	SA	A	D	SD
28. It is easy to do well in this class.	SA	A	D	SD
29. Doing well in this class is not very important to me.	SA	A	D	SD
30. Other students do not care if I work hard or not in this class.	SA	A	D	SD
31. The only way you can do well in this class is to work hard and learn the material.	SA	A	D	SD
32. I become discouraged easily in this class.	SA	A	D	SD
33. I like the work in this class.	SA	A	D	SD
34. I get along well with the other students in this class.	SA	A	D	SD
35. I am not interested in what the other students in this class do.	SA	A	D	SD
36. Students in this class want me to come to class every day.	SA	A	D	SD
37. I like to start work on new things in this class.	SA	A	D	SD

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