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Cooperative learning: Is it the approach for the minorities

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Abstract

Cooperative learning ls a teaching strategy whereby students work together in teams to produce a group project or master a unit of study (Slavin, 1983). The teacher acts as a facilitator of knowledge, not the direct purveyor of information. Students are responsible for their own learning under the teacher/s general guidelines. They set up time frames, assign tasks within the group, and gather their own research.

COOPERATIVE LEARNING: IS IT THE APPROACH FOR THE MINORITIES?

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Cooperative Learning: Is it the Approach for Minorities?

Cooperative learning is a teaching strategy whereby students work together in teams to produce a group project or master a unit of study (Slavin, 1983). The teacher acts as a facilitator of knowledge, not the direct purveyor of information. Students are responsible for their own learning under the teacher's general guidelines. They set up time frames, assign tasks within the group, and gather their own research.

The purpose of this paper is to study the history of cooperative learning, to cite the various types of cooperative learning, and to extrapolate its virtues in American education. Emphasis will be given to the effects of cooperative learning on the education of cited minority groups.

This paper describes the cultural differences of African-Americans, Hispanics, and Native Americans in relation to their desire to work alone or cooperatively. It determines whether a cooperative learning experience could be one of the solutions to the high dropout rate among these minority students.

The History of Cooperative Learning

Cooperative learning is an instructional strategy that has been used for many years. In the late 1700s Joseph Lancaster and Andrew Bell made extensive use of cooperative learning groups in England. The idea was brought to America in 1806, when a Lancastrian school opened in New York City. In the early 1800s, there was a strong emphasis on cooperative learning in the United States (Lancaster, 1833). In the last three decades of the nineteenth century, the program implemented by Colonel Francis Parker in Quincy, Massachusetts, was so successful that the school system averaged over 30,000 observers a year (Parker, 1909).

In the late 1940s, Morton Deutsch proposed a theory of cooperative and competitive situations that has served as the foundation of today's research (Deutsch, 1949). Since that time, there have been several groups of researchers throughout the United States that are working with cooperative learning. David W. Johnson and Roger T. Johnson from the University of Minnesota have worked on a model of cooperative learning. At Johns Hopkins University, the work with cooperative learning that was started by David DeVries and Keith Edwards is being extended by Roger Slavin and his colleagues (Slavin, 1983).

Basic Elements of Cooperative Learning

Slavin (1988) proposes that the basic elements of cooperative learning are much more than being physically near other students, discussing materials with other students, helping other students, or sharing materials among students. He describes five basic elements. The first basic element of cooperative learning is positive interdependence, where students "sink or swim" together. They have mutual goals and a division of labor. They divide materials, resources or information among members. They are assigned student roles, and they are given joint rewards. The second basic element is face to face interaction in a setting where the interaction patterns and verbal exchange among students affects the educational outcome. The third basic element of cooperative learning is individual accountability. Each group member is responsible for learning the material, for providing appropriate support and assistance to others in the group, and to maximize the achievement of each individual student. The fourth basic element in defining small group skills is interpersonal; students are taught social skills needed for collaboration. Students are taught appropriate communication skills,

leadership skills, decision making skills, and conflict management skills. Finally, the fifth basic element described by Slavin is group processing. Teachers need to give students time and teach them procedures for analyzing how well their groups are functioning. Students are given time to think about how well they are using their social skills to help all of the group members achieve, while they maintain effective working relationships with their group.

Methods of organization

Cooperative learning has five learning approaches. The first approach is Student Teams-Achievement Divisions (STAD). In this approach, students assemble in teams of four or five to master worksheets on material covered in a lesson presented by the teacher. They may take a quiz on that material. The team's overall score is determined by the extent to which each student improved over his/her past performance. The team demonstrating the greatest improvement may be recognized in a weekly newsletter.

The second approach is the Team-Games-Tournament (TGT). The procedure is the same as that in STAD, but instead of taking quizzes, the students play academic games with other members in the class whose past

performance was similar to their own. The team score is also based on individual improvements.

The Jigsaw Method is the third approach. Students meet in groups and the teacher gives each student an item of information which the student must teach to the team. Students are then individually tested for their mastery of the material. Jigsaw II is the same, except that students obtain their information from textbooks, narrative material, short stories, or bibliographies. The class is then quizzed for individual and team scores.

The fourth approach is Learning Together. After the teacher has presented a lesson, students work together in small groups on a single worksheet. The team as a whole receives praise and recognition for mastering the worksheet.

Group Investigation is the fifth approach. This is a more complex method, requiring students to accept greater responsibility for deciding what they will learn, how they will organize themselves to master the material, and how they communicated what they have learned to their classmates.

During Group Investigation, students form their own small groups. After each group decides on its

topic, the members research that topic in depth, using such materials as textbooks, trade books, classroom handouts, encyclopedias, audiovisual aids, and even primary sources. The students divide the labor in order to cover as many of these materials as possible. During class time they share the information they have collected which enables everyone in the group to work from the same knowledge base. Each group member is responsible for the assignment and each must help the other group members by reading their information and checking the content and mechanics. The group receives one grade (Slavin, 1988).

Research on Cooperative Learning

Slavin's (1988) studies of cooperative learning have consistently found that these approaches increase student achievement in a variety of subject areas and grade levels. He also found that within cooperative groups, the students who gained most from this learning setting were those who gave and received elaborate instructions.

Slavin (1988) states that students need to be taught how to cooperate and learn how to contribute their own ideas. They need to learn how to encourage others to participate, express support for others,

summarize, and coordinate the efforts of all the members of the group. Students who have not been taught cooperative skills may be unproductive in groups. That leads to the common complaint that a few students do all the work.

Sleeter and Grant (1988) found that student team learning improves both academic achievement and students' interpersonal relationships among high, average, and low achievers. Positive effects on achievement have been found because students encourage and help one another learn. Individual accountability and group rewards are necessary if cooperative learning is to have positive achievement effects. If learning of every group member is not critical to group success, or if group success is not rewarded, achievement is unlikely to be increased above the level characteristic of traditional classrooms.

In addition to increased academic achievement, Sleeter and Grant (1988) found positive effects on social relationships, such as improved race relations, and attitudes toward academically handicapped classmates. This expected learning in group dynamics creates the conditions of cooperative contact long

believed to improve relationships across boundaries such as race or ethnicity.

Lucker, Rosenfield, Sikes & Aronson (1976) found that the positive effects of cooperative learning methods on student achievement appeared as frequently in elementary as secondary schools; in urban, as in suburban, or rural schools; and in subjects as diverse as mathematics, language arts, social studies and reading. There is some tendency for African-Americans and other minority group students to gain, especially in achievement, as a result of working cooperatively, although Caucasians in cooperative groups also make more achievement gains than Caucasians in traditional classes.

Slavin (1988) found positive effects of cooperative learning on student achievement to be equal for high, average, and low achievers. Positive effects were seen for African-Americans as well as Caucasians, but were especially strong for African-Americans. Johnson, Johnson, and Holubec (1986) found that one of the strongest principles of social and organizational psychology is that working together to achieve a common goal produces higher achievement and higher productivity than does working by oneself.

Not all researchers are as universal in their endorsement of cooperative learning. DeVries, Mescon and Shackman (1975a), Edwards, DeVries and Snyder (1972), and Slavin and Oickle (1971), found greater gains for low achievers. Hulton and DeVries (1976) found that students who preferred to cooperate learned best in a cooperative program, whereas students who preferred to compete did best in a competitive program.

Studies conducted by Hertz-Lazarowitz, Sharan, and Steinberg (1980) and Slavin (1985) confirm earlier research which indicates that students who work together like school better than those who are not allowed to do so. They also like their fellow classmates more. Students who have worked cooperatively are more likely than others to be unselfish and to believe cooperation is good. They are also more likely to say that they want classmates to do well in school and that they feel their classmates want them to do well.

Students' attitudes are more favorable toward school when cooperative learning strategies are applied. They believe that teachers, teacher aides, counselors, and principals are important and positive; teachers care about and want to increase students'

learning; and teachers and principals want to be friends with students. Students experiencing cooperative instruction appear to like the teacher better and perceive the teacher as being more supportive and accepting, academically and personally (Johnson & Johnson, 1978). The positive attitudes displayed in cooperative learning could be those which potential dropouts need to develop to help them stay in school until they graduate.

Determining the Dropout Rate

President Bush, in his first State of the Union Address in January, 1990, announced that the United States must increase the school graduation rate to no less than 90 percent by the year 2000. Explaining why some marginal at-risk students leave school while others stay to graduate is both difficult and complex. Part of the difficulty is due to the lack of a standard definition of the term "dropout". Some administrators characterize them as students with a poor attitude toward school, low grade point average, or behind in credits ("Bush announces," 1990).

Hahn (1987) noted that the public schools in Chicago have nineteen different "leave codes" for students who leave school before graduation. Some of

the categories are "lost-not coming to school", "needed at home", "married", and "cannot adjust". Hahn (1987) also stated that "ghost students" padded the rolls of many schools to increase the average daily attendance. This allows schools to obtain funds even though the students had been truant beyond the legal number of days.

There are two common formulae that school districts use to determine the number of dropouts. First, many districts still estimate this by an annual count of how many students stopped attending school that year. However, an increasing number of school districts are more accurately estimating the number by using the cohort dropout rate; this indicates how many entering freshmen graduate four years later (Harris & Loughrey, 1990).

Estimates of the percentage of young people who drop out today vary, depending on whose statistics one chooses to use. The National Center for Education reports that the number of eighteen and nineteen year olds not enrolled is 14.3 percent (Iowa Department of Education, Vol. 19, 1987-88). Bosma (1988) finds dropout rates for minority groups vary widely from state to state and region to region, but national

figures indicate a 25 percent for Afro-Americans, 40 percent for Hispanics, and 42 percent for Native Americans. The Iowa Department of Education lists demographics of the region in the United States, and urban school settings as reasons for dropping out (Iowa Department of Education, Vol. 19, 1987-88).

Special Needs of Dropouts

Discipline or student conduct has long been perceived as a major problem of public schools. Bartz, Hillman, and Uchitelle (1989), collected information about the impact that school suspensions, used as a control measure, have on the dropout rate. Information was primarily gathered on urban African-American students who chose to attend majority white suburban schools as a part of an inter-district desegregation plan in the St. Louis, Missouri area. The reason for this study was to gather information which would be used to propose strategies for reducing the rate of suspensions, an act they believed led to dropping out. These researchers found that students suspended repeatedly in the elementary grades were twelve times more likely to experience multiple suspension in the middle grades, and they claim that these situations

eventually led to dropping out. While large numbers of suspended children were Caucasian, proportionally more were African-American, poor, and male. Reasons for eventually dropping out were dislike for school, suspension and expulsion, and home problems. They suggested integrating the varied cultures of the student population into the curriculum, and providing appropriate academic assignments to reinforce inter-cultural understanding. Nothing was mentioned in these reports about preferred learning styles due to culture.

Harris and Loughrey (1990) conducted a study in an urban New Mexico high school. The subjects had GPAs below 1.0 or less than a "D" average. Ninth and tenth graders were chosen. Sixty percent of the 235 attitude surveys were mailed to ninth graders and forty percent went to tenth graders. In each mailing was an explanatory cover letter and a parent permission form. An estimate based on surnames indicated that approximately two-thirds of the students were Caucasian and the remaining third were Hispanics.

Some major reasons for dropping out included students' negative feelings about their poor grades, alienation from peers, boredom, or the feeling that

academic challenges were too great. Of those wanting to stay, 81% said they liked being with friends, 48% said they had friends who wanted them to stay, and 51% indicated they were receiving extra help.

The thrust of Eberhard's longitudinal study (1989) was to provide data for characterizing Native American secondary urban dropouts. Four cohorts, or graduating classes, were examined: (a) 1980-84, (b) 1981-85, (c) 1982-86), and (d) 1983-87. Dropouts and "stayers" were examined on six variables: (a) academic achievement, (b) family mobility, (c) family constellation, (d) school attended, (e) gender, and (f) tribal affiliation.

Eberhard (1989) found eighty-eight percent of the Native American pupils in this study dropped out after being retained. GPAs were significantly higher for those who stayed in school; math or English seemed to be their strong subjects. Parental support was important. There were no specific gender implications. The more often students moved, the more likely they were to drop out. Implications concerning school climate were unclear, urban schools were preferred over reservation schools. Data on tribal affiliation showed that Navajo pupils were less likely to drop out than

all other tribes. Their dropout rate was 27 percent; the dropout rate of all others was 60 percent.

Eberhard (1989) also believes that individual learning, including computers, should be expanded. He says old practices such as maintaining the pupil as a passive learner, competitive environments, and retention practices should be re-examined.

The Impact of Cooperative Learning on the Drop Out Rate for Stated Minorities

Does cooperative learning impact dropout rates of minorities? The following studies on African-Americans and Hispanics indicate that it could, in a positive way. However, the bulk of the research uncovered on Native Americans cites various intrinsic values and behaviors that would tend to block the advantages of learning in a cooperative setting.

African-Americans

Shade (1982) and Jones (1989) found African-American students, from an early age, to be significantly more person-centered than mainstreamed children who are characterized by an object-centered approach to learning. The heightened tendency toward socialization in the African-American community may be

due to historical settings that required African-Americans, for survival purposes, to be highly sensitive to the moment-by-moment moods of others. Both Shade (1982) and Jones (1989) found that African-Americans prefer, and learn better, if many stimuli are present at one time, and they do markedly better if formats have high variability in problem solving tasks.

Smith (1986) and Vasquez (1990) studied African-American students and concluded that teachers should provide activities that allow African-American students to work on projects with others in small groups, to use more people-dealing-with-one-another concepts in math, and to have more opportunity for student input and role playing.

These cited researchers are espousing cooperative learning for African-American students. By determining the kinds of activities or practices they would prefer to engage in, the cognitive performance of African-American students in a school setting should improve (Jones, 1989).

Hispanics

The studies conducted by Smith (1986) and Vasquez (1990) also included Hispanic students. These

researchers found that many of these students are distinguished by a sense of loyalty to family. Vasquez states that socialization of this type cannot help but produce a sense of motivation that is other-directed, external, and familial. Furthermore, he reports that Hispanics and mainstream students differ significantly along the dimensions of cooperation and competition. He found that the preference of many of these Hispanic learners is for activities in which they can achieve a goal with other students. In contrast, he finds that mainstreamed youths learn early on to be competitive, to strive to be number one and to achieve in school at someone else's expense.

Valverde (1984) considers the most potent factor related to achievement, and consequently having the greatest promise for program intervention and remediation, is the cognitive style of Hispanics. This study of Hispanics revealed that they tended to be more field dependent rather than field independent. Valverde (1984) states that field dependent students view their environment as unified and having an inherent order. They learn more readily when working together and when competition is minimized. Program intervention, therefore, in mathematics should favor

social content, group learning, and a minimal amount of competition.

According to Connoly and Tucker (1982), Hispanic children are taught to be cooperative and have a sense of community. As a result of this, they many times do not see the relevance of the instruction they receive in school. Therefore, they may not achieve academically nor appear to have high academic aspirations.

Dodd, Nelson, and Peralez (1988) suggest presentation of activities in ways in which children can work together because they too found Hispanic children feel more comfortable when attempting new tasks if they are allowed to work with other children. Freedom from time constraints, within limits, is another suggestion; the Hispanic "ahora" (now) means sometime in the present. Other events may intervene and (now) may be extended considerably. Thus, the use of time is leisurely and considerate and waits for everyone. It does not preclude things being accomplished or completed, but it includes interruptions and delay. Touching, oral communication, displays of warmth and affection are other aspects of Hispanic cognitive and social behavior. Research

evidence compiled by Smith (1986), Vasquez (1990), Valverde (1984), Connoly and Tucker (1982), and Dodd, Nelson, and Peralez (1988), suggests that a cooperative learning approach would be a preference for Hispanic children.

Native Americans

Most of the research on Native Americans has not supported cooperative learning as an approach that would make a marked difference in whether these youths stay in school or drop out. The following researchers studied various tribes in an attempt to discern reasons for their failure to become interested enough to complete school. Some views were common but there also were differing opinions as to how to inspire these students academically.

Results of the Meyers-Briggs Personality Indicator cited in Meyers and McCaulley (1985), and administered by Hultt (1988), to Navajo college students raised on the reservation concluded that Native Americans viewed themselves as introverted on the personality indicator (64.6%) and they preferred enhanced lecture with films and overheads, in a logical step-by-step fashion. Hultt (1988) stated the indicator revealed that Navajo students prefer to work individually and may not relate

well to self-paced instruction, an integral facet of cooperative learning. Rather, these students may respond well to situations where a teacher is setting goals, checking for progress, and providing feedback on task completion. He advised using computer instruction as long as it is not self-paced. The results also showed that Navajo college students are much more homogeneous than are non-Native American students.

Hultt (1988) went on to report data collected in reservation schools at the junior and high school level. The data suggest that relative percentages of personality types at this level are similar to the Navajo college students, and recommendations to instructors would be similar too. Hultt (1988) cautions about the generalizability of this data. He observes that one might expect that Navajo students who grow up in daily contact with the majority culture, off the reservation, will not show the same homogeneity of personality type as the students in this particular study. Therefore, the findings of this study may be less appropriate when designing instruction for individuals living off the reservation. Hultt (1988) concludes that these results and accompanying suggestions for teaching strategies should be

considered as merely a starting point for determining personality traits, preferred learning styles, and preferred teaching methods.

Forrest Cuch (1987), Education Division Head for the Ute tribe, studied the philosophies, values, and belief systems of Utes and Anglos. He states that although a lot of studies have been conducted, none have looked deeply enough into the Native American world to develop an adequate understanding of the socio-cultural issues confronting Native Americans. Some aspects of their culture are that they are believers in free will, they believe in "flowing" which suggests living in the here and now; the parental role is one of advising and admonition and seldom one of force. Therefore, Cuch (1987) suggests experiential learning where a greater emphasis is placed on individual choice and internalization of actual experiences and consequences, rather than upon adherence to rules and standards of moral conduct. Self-reliability becomes the rule. Cuch (1987) states that when Ute children leave this flexible/permissive environment and enter a highly structured, rigid, controlled environment they might become violently

angry or completely withdrawn. They tend to classify the new situation with more familiar ones.

Cuch (1987) states that instructional approaches should be holistic in nature, and he advocates using a multi-sensory approach with a significant amount of social independence. He also says Ute people are individualistic even though the dominant culture insists upon strict adherence to social norms and group standards of behavior. He theorizes that Ute individualism may stem from the established fact that prior to reservations, Utes were never actually one nation or large tribal group; instead, they were comprised of many family groupings scattered throughout western Utah and eastern Colorado.

According to Cuch (1987), Anglos believe in competition and aggression. They believe in strict discipline of children and they believe in evaluation of others. The Utes' belief systems do not match up with Anglo culture belief systems, but some beliefs do match up with philosophies of cooperative learning. Those would be non-competitive and non-agressive behavior, and freedom of choice.

Rhodes (1988) studied Hopi as well as the Navajos and states that the Hopis also need a holistic approach

to education. He found that these tribes are also self-evaluators, preferring to work alone, showing their work only after they are comfortable with it. The emphasis is on success rather than learning through failure as is the norm in mainstream techniques. He suggests projects, individualization, experimentation, peer teaching, non-threatening evaluations, reinforcement, structured play, incubation time, and private practice time. Presenting the whole idea first, details later was another approach he suggested.

Trimble and Fleming (1989) report that the U.S. Bureau of Census currently recognizes over 500 different tribes and 187 Indian languages. They believe that "bridging the gap between Indian and non-Indian world is crucial to the success of their schooling" (Trimble and Fleming, 1989). They further believe that educators have to use materials and teaching methods relevant to Indian cultures.

Gilliland and Reyhner (1988) and Locust (1988) found that some common core values are shared by many tribes. Among the common values are cooperation, sharing, and harmony.

Lee Little Soldier (1989), head of elementary bilingual and reading education in the College of

Education, Texas Tech University in Lubbock, advocates cooperative learning for Native American students. She states that education must have personal meaning for students. Education must begin where students are, with material that is relevant to their culture. She says core values of Native Americans are group-centered and include cooperation and sharing. They are accustomed to sharing whatever they have with many family members at home, and this sense of sociability is carried over into the school setting.

Little Soldier (1989) also states that traditional Native American families encourage children to develop independence, to make wise decisions and abide by them. Native Americans respect and value the dignity of the individual; children are afforded the same respect as adults. Thus, their locus of control is internal rather than external; they are not accustomed to viewing adults as authoritative figures who impose their will on others. Native American students entering school for the first time may respond with confusion and passivity to an authoritarian teacher who places many external controls on them.

Little Soldier (1989) feels that the problem facing educators is to build a warm, supportive

learning environment for Native American students without compromising educational goals. She says that to make cooperative learning work, educators must rid themselves of the notion that students who help other students are somehow "cheating". Educators are programmed to view learning as a competitive activity and tend to overlook the value of group methods of reaching individual goals.

Cooperative learning is based on principles of team sports, and Native American students have a heritage of playing team sports and are avid team competitors (Little Soldier, 1989). Cooperative learning teams work toward a common goal. Team members discuss problems, make decisions, and quiz and encourage one another. The teacher serves as a resource, guide, evaluator, catalyst--a teaching role that is compatible with the attitudes of Native American students who look to their elders for wisdom and counsel.

Little Soldier (1989) concludes that cooperative learning improves student achievement. It also matches such traditional values and cultural behaviors as respect for the individual, development of an internal locus of control, cooperation, sharing, helping, and

harmony. Cooperative learning can improve the attitudes of students toward themselves, toward others, and toward school, as well as increasing cross-racial sharing, understanding, and acceptance. She concludes by stating that if Native Americans are to have a wider array of choices in their adult lives, our schools must be more responsive to the major problems in their education and more willing to conduct experiments to find solutions.

Summary and Conclusions

This paper reports on the concerns and cites statistics about the alarming dropout rate among minority students. Emphasis has been placed on three minority groups in America, African-Americans, Hispanics, and Native Americans. The review of these differences and the review of cooperative learning as an alternative learning/teaching style is presented to determine whether cooperative learning would be an effective strategy to implement with these minorities in order to improve their academic competency and self-image, thereby keeping them in school.

Studies have shown that dropout rates usually decrease when there is an increase in academic competency and self-image. African-Americans, with a

historical background of oral tradition and the necessity for socialization, benefit from cooperative learning. Jones (1989) states that since culture exerts its influence on cognition, cooperative learning, with its small group inteactions, group decisions, and group efforts, provides the social cognitive approach most meaningful to African-Americans.

Valverde (1982) concludes that the underachievement of Hispanics in the American education system is well documented. Research efforts have provided greater insights into the Hispanic child's cognitive and affective styles. Academic performance is enhanced by cooperative learning because of their adherence and deep-rooted ties to belief in family and cooperation instead of competition within the family.

Not all research supports the use of cooperative learning with Native Americans, although there is support for this teaching approach. The belief systems of the Navajo, Ute, Hopi, and Sioux Native Americans are so similar one might conclude that most of the Native American groups believe and react to school situations similarly. Cuch (1987) and Little Soldier (1989) say that cooperative learning is found to be

useful in raising academic achievement and promoting inter-racial friendships in urban classrooms. Locust (1988) and Gllllland and Reyhner (1988) support Cuch's (1987) and Little Soldier's (1989) point of view that bridging the gap between the Indian and non-Indian worlds is crucial to the success of schooling, and they conclude that there are some common core values that are shared by many tribes. Among the common values are cooperation, sharing, and harmony. These students would tend not to respond to competitive learning situations; they would likely prefer noncompetitive, individual, or cooperative activities. Follow- up studies of cooperative learning need to be conducted with Native American students--in both homogeneous and racially mixed classrooms (Little Soldier, 1989).

If minorities are to enjoy the benefits that should accrue from schooling, educators must devise strategies that allow all minority cultures to figure prominently in the learning process. Cooperative learning is one strategy to be seriously looked at in the educational process. The findings of this research paper support the use of cooperative learning for African-Americans and Hispanics, but not as conclusively in the classrooms of Native Americans.

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