CHAPTER 8

COOPERATIVE LEARNING IN THE HETEROGENEOUS ISRAELI CLASSROOM

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Abstract

The group investigation method of cooperative learning (CL), and its contribution to the heterogeneous classroom, is the subject of this article. A wide range of ethnic and cultural diversity among students in the classroom, as occurs in Israel as a nation of recent immigrants, requires a differentiated approach to instruction not provided by the uniformity inherent in traditional whole-class teaching. Group investigation through positive peer interaction in small groups increases students' motivation to learn while providing for flexibility and variety in the content and pace of teaching and learning.

Introduction

A wave of mass immigration in the 1950s brought to Israel over a million Jews from many of the Moslem countries of the Middle East. They joined a population of one million that already included Jews from Eastern and Western Europe, from North and South America, England and South Africa, as well as a veteran Middle-Eastern population. This new immigration from the Middle East arrived in Israel from countries stretching all the way from Morocco on the west, to Iran and Yemen on the east and southern-most part of the Persian Gulf.

Despite this variability in the origins of Israel's population, it became accepted practice in Israel to refer to the population as consisting of two main Jewish groups, those from Western and those from Middle-Eastern backgrounds. It is primarily to these two large groups (children of Middle-Eastern background now number close to 60% of the school-aged population in Israel) that we refer when speaking of desegregation and ethnic integration in the schools (Amir & Sharan, 1984).

Research in Israel has documented repeatedly the significant relationship between socio-economic status (SES) and ethnicity on one hand, and academic achievement on the other. Students from the Middle-Eastern group comprise the bulk of lower
SES students in schools, and their academic achievement is lower than that of their peers from Western backgrounds who are generally of middle class SES (Dar, Resh, & Erhard, 1989). Recent immigration to Israel from the former Soviet Union and Ethiopia will create new educational and social challenges to Israeli society in general and to the school system in particular. The present chapter focuses on the contribution of CL, particularly the group investigation (GI) approach, to instruction in ethnically mixed classrooms, as defined prior to the advent of the latest waves of immigration.

The main emphasis here is on the processes of classroom instruction, such as instructional method, classroom organization and students' interactions. This paper does not address the issue of specific cultural or curricular contents and their relationship to learning in the heterogeneous classroom, which is the central topic of many publications on multicultural education (Beckum & Zimney, 1991; Sharan, 1980). One reason for our approach here is that the Jewish population belongs to one national historic entity, and hence is not strictly analogous to the multi-national populations prevailing in other countries. GI has its roots in Dewey's philosophy of education and in the works of a number of social, educational and developmental psychologists. The origins and theoretical foundations of the GI approach to CL have been discussed in detail in other publications (Sharan & Sharan, 1992). GI is totally unrelated, historically or theoretically, to any political ideology, orientation or group in Israel or any other country.

During the 1960s and 1970s, curricular materials and texts underwent revision to reflect changes in the student population in the schools. Illustrations and characterizations in the texts and learning materials were portrayed differently than had been done previously for students in the first few grades of elementary school. Changes were also introduced with curricular contents for high school students that originally had been prepared exclusively for students from a Western background. What deserves notice is the fact that many, thought not all, students of Middle-Eastern background expressed interest in becoming part of Western culture. However, various components of Middle-Eastern Jewish culture gradually were incorporated in Israeli culture in general, as well as in Israel's school system. Today academic subject matter in Israel's schools contain rich and balanced contents that represent a broad range of ethnic culture. It appears that the difficulties emerging from the meeting of diverse groups was far less evident in Israel than in some other countries, due to the common historical background of the various ethnic groups, and the fact that they all identify themselves as belonging to the same people.

Junior high schools, grades 7–9, are by intention the most heterogeneous schools in Israel. Elementary schools serve smaller neighborhood areas, and senior high schools select their populations depending on their educational mission, such as academic or technical schools. Teachers in heterogeneous junior high schools (300 in the country) frequently voice dissatisfaction with their inability to effectively instruct their students, many of whom are from low SES Middle-Eastern background. Instruction in most classrooms is conducted with the traditional whole-class method, and clearly the slower students cannot comprehend the academic material at the pace teachers set for an average level of learning ability. This average is relatively lower in heterogeneous classes, and is due to differences between students from the different ethnic groups. Many teachers conclude that they are virtually unable to overcome the gap in learning ability of students from the different groups.
Heterogeneous Classrooms: Some Critical Characteristics

The term *heterogeneous classroom* refers to a wide range of differences found in almost any Israeli public school classroom. There are virtually no private schools in Israel. We identify five features of the heterogeneous classroom with differences in: (1) the pace students absorb, work through and internalize academic material; (2) students' personal talents and abilities; (3) students' strivings for achievement and success in their studies; (4) the degree of interest students display toward different subjects; and (5) the meanings and emotional responses subject matter arouses in different students. These characteristics exist in almost any given classroom. However, when students differ greatly to a large degree on all five features, *and* when these differences are highly correlated with their ethnicity or SES, the class is known as *heterogeneous*.

The greater the degree of heterogeneity in the classroom on any specific criterion, the greater the demand on teachers to employ a more differentiated approach to instruction. Highly heterogeneous classes taught with distinctly uniform or standardized methods will almost inevitably appeal to relatively limited numbers of students. The effectiveness of whole-class instruction is probably positively correlated with the extent of homogeneity in the classroom. In heterogeneous classes, most students may find themselves detached from the process of classroom learning. Teachers may use a wide variety of technical aids, but if the pace of instruction remains unchanged, the entire class is treated as one undifferentiated audience, different subgroups of students in the class will be unable to follow. Many teachers lament this predicament. Ability grouping, both between and within classes, has been the primary mechanism schools use for coping with student heterogeneity (Slavin, 1990b). From the point of view of ability grouping, the challenge of the heterogeneous classroom is to make whole-class instruction as effective as possible, while alternative forms of instruction without ability grouping are not considered.

Some Assumptions and Goals of the Heterogeneous Classroom

The educational enterprise generally assumes that students' social understanding and perceptions as adults are molded by their experiences in school. Greater variation in students' social contacts with age-mates during the school years appears to be associated with greater possibilities for more effective social integration into an ethnically diverse society (Cook, 1969).

One goal of the heterogeneous classroom is to foster positive relations among students from divergent backgrounds, and to create a supportive climate for learning and academic progress (Oakes, 1985; Sharan, 1990b). Many educators are concerned with the reduction of prejudice as the central challenge of the heterogeneous classroom (Miller & Brewer, 1986). In Israel, the major focus of concern is with reducing the academic and social gap between subgroups in the population (Amir & Sharan 1984).

The goals of Israel's school system correspond to the need for creating a climate of acceptance among different groups. The school system was selected as one instrument for implementing a policy of ethnic integration, and the creation of a shared social basis for all the different groups of Jews who immigrated to Israel from different parts of the globe, with their distinct cultures. The heterogeneous classroom populations reflect
educational values as well as national policy. This policy entails allocation of specific resources to schools that refrain from instituting tracking practices, and that make an effort to compose classrooms reflecting the ethnic composition of the entire school.

The heterogeneous classroom seeks to achieve the following goals, relevant to homogeneous classes as well, but emphasizing social aspects to a greater extent:

1. Reduce the existing and perceived correlation between academic achievement and students' social status and/or background variables.

2. Create, support and sustain positive peer relations among students of divergent backgrounds and status in the classroom.

3. Improve inter-group relations in the classroom. Note that interpersonal and intergroup relations are not identical, and the former cannot be substituted for the latter.

4. Create conditions which facilitate all students' access to and successful use of learning resources and experiences.

Some Problems of Instruction in the Heterogeneous Classroom

Teachers' professional norms and skills are frequently at cross purposes to the needs of teaching in the heterogeneous classroom. For example, the conduct of effective instruction in the heterogeneous classroom requires the use of a wide variety of teaching and learning materials (Cohen, 1986). That requirement is rarely met in most classrooms. This variety can include materials directly relevant to students' cultural and ethnic experience, as well as a variety of academic tasks formulated by curriculum developers. Another source of conflict for teachers of the heterogeneous classroom stems from the expectation that large quantities of subject matter be taught in specified periods of time, regardless of the composition of the classroom.

Several developments in education are changing educators' thinking about the heterogeneous classroom. For example, shrinking budgets prevent schools from maintaining homogeneous ability-grouped classrooms in most subjects. Another source of change is the development of new instructional methods accompanied by extensive empirical research. These approaches provide alternatives to traditional whole-class teaching and are being presented to teachers with increasing frequency in many in-service training courses. In recent years, a portion of Israel's national educational budgets was earmarked for dealing with two central problems of interaction in heterogeneous classrooms. One is the paucity of curricular materials designed for use with CL methods, or other forms of differentiated instruction with students of varying ability. The second problem is the absence of national programs for supporting administrators and teachers in a concrete instructional change effort. Consequently there is a growing awareness among teachers, that it is possible to teach differently and perhaps even more effectively than in the manner to which they are accustomed. However this awareness has yet to manifest itself in observed teaching behavior.

CL in the Heterogeneous Classroom

CL in small groups is one of the primary alternative approaches that has considerable potential for improving teaching and learning in the heterogeneous classroom (Cohen,
How does CL assist teachers in coping more effectively with their task? Our reply to this question must begin by referring to the five basic dimensions or categories that are useful in thinking about events and behavior in the classroom: (1) teacher’s role and behavior; (2) design of the learning task; (3) students’ role and behavior; (4) classroom organization; and (5) nature of the communication among people in the classroom (Hertz-Lazarowitz & Davidson, 1990). These five dimensions operate simultaneously and encompass a broad range of phenomena typical of classroom life. Each of these five dimensions can be placed on a scale extending from conditions prevailing in the traditionally taught classroom, to those found in classrooms conducted with the GI approach to CL.

The impression in Israel is that elementary schools have made significant progress toward a more cooperative and interactive form of teaching along all five of these components. Junior high schools (grades 7–9), on the other hand, are largely located on the more traditional side of these scales. Yet, some movement in the desired direction can be observed in schools where intervention programs have been implemented. Initial signs of this kind can be found in 40 out of a total of 300 junior high schools in Israel.

The view of instruction presented here implies that the goals of the heterogeneous classroom can be achieved indirectly rather than by a direct approach aimed specifically at improving inter-group relations. Moreover, changing one or another dimension of classroom instruction in isolation from the others is unlikely to yield the expected results. All of the dimensions of classroom teaching mentioned here exert a combined impact on students’ academic achievement and social adaptation (Sharan, 1990a). Thus, ethnic, cultural and academic diversity in the heterogeneous classroom are accommodated by altering all five of the dimensions listed above.

**The GI Approach to CL in the Heterogeneous Classroom**

Extensive descriptions of the procedures for implementing the GI method appear elsewhere (Sharan & Sharan, 1992). The primary features of this method can be understood by a summary listing of the six stages describing the process of implementation.

1. The entire class determines the subtopics to be investigated and students organize into research groups.
2. Groups plan their investigation. Cooperative planning includes division of labor within each of the small groups.
3. Groups carry out their investigation. They locate the information needed, organize it, interpret and integrate their findings to create a group product.
4. Groups plan a presentation of their work to the class. They determine the main ideas and decide how to present them in an interesting fashion.
5. Groups make their presentations to the class. The goal is to have students actively participate in presenting the ideas they learned in cooperation with their peers.
6. Evaluation focuses on the knowledge students acquire during the investigation, as well as on their experiences during the project. Evaluation may be done on an individual, group, or class basis.

When the main goal of instruction is to foster academic learning together with positive human relations in a multiethnic or multilevel classroom, students should cooperate in the process of constructing their knowledge. In this fashion their individual
and group differences can contribute to the process of learning, instead of being a source of competition among them and a barrier to communication and interaction. Consequently, effective instruction in the heterogeneous classroom involves a change in the basic conception of the methods and goals of classroom teaching.

_Differences between Ethnic Groups and the Role of the GI Method_

There are two salient components in the way we relate to culture and academic differences between students of Middle-Eastern and of Western backgrounds. One component refers to the cultural content of these differences. The other refers to the element of time needed for the educational system to cope with these differences. The content refers primarily to some elements of language, and traditional patterns of family and community life, in contrast to the family patterns typical of modern Western society. There is also a high correlation between ethnicity and socio-economic status.

One consequence of this condition was a large gap in academic achievement. In the 1970s, the achievement gap measured by standardized tests, was quite large. In elementary schools the school populations were more homogeneous because schools are fed by specific neighborhoods. In junior high schools, heterogeneity is at its peak as a result of Israel’s policy to mix groups from different neighborhoods. Senior high schools are less heterogeneous than the junior highs because they track students into different academic and vocational streams. Yet, alongside this selection system there is also a movement to establish comprehensive schools that seek to meet the cultural and academic needs of different groups of students.

A survey of student achievement in the 1980s (Dar, Resh, & Erhard, 1989) found that the achievement gap between students from Western and Middle-Eastern background had in fact decreased in size, but it was still an average of one-half of a standard deviation. In the mid 1980s, it because apparent that the physical proximity in school of students from different ethnic backgrounds, in and of itself, cannot achieve the school system’s goals. More effective learning strategies had to be implemented in the classroom. The Ministry of Education undertook programs for changing the prevailing instructional methods in heterogeneous classrooms. These programs are consistent with research findings about the relative effectiveness of CL in fostering achievement and social integration in heterogeneous classrooms (Sharan, 1990b).

Just how does the GI Model of CL contribute to a significant extent to the achievement and social relationships of students? First, this instructional method fosters open verbal interaction among students in their own words and with the meaning that they themselves attribute to their communications. Second, personal preferences for particular study topics are legitimated. Third, the GI method in particular and CL in general, enable students to become resource persons for one another in addition to the resources ordinarily available in the classroom. That feature deserves attention at a time of declining resources in education, and the addition of these human resources appears to exert a cumulative effect on the educational progress of students of lower-class background (Dar, Resh, & Erhard, 1989).
Research on the Effects of GI

We will limit our examination of research to work on the GI method. For studies on other methods of CL readers are referred to other publications (Cohen, 1986; Johnson, Maruyama, Johnson, Nelson, & Skon, 1981; Miller & Harrington, 1990; Sharan, 1990a; Slavin, 1990a).

Several extensive field experiments were conducted in Israel with the GI method (Sharan, Kussell, Hertz-Lazarowitz, Bejarano, Raviv, & Sharan, 1984; Sharan & Shachar, 1988). Teachers in these experiments had no prior exposure to CL. All of them had taught exclusively with the whole-class presentation-recitation method. A series of workshops (the number depended on local conditions) were held to help teachers acquire the skills and competence they needed, to work through their feelings of resistance to the new method, and to provide collegial support for implementing the new method. We will concentrate here on two experiments where the data were analyzed by ethnic group as well as by instructional method.

Academic achievement

Both experiments (Sharan et al., 1984; Sharan & Shachar, 1988) assessed the effects of GI on academic achievement. In the first study (Sharan et al., 1984) seventh grade pupils studied under one of three instructional methods; student teams achievement division (Slavin, 1990a), GI and whole-class. Of the students, 42% came from Western backgrounds and 58% were from Middle-Eastern backgrounds.

Students in both CL learning methods (STAD and GI) achieved higher scores in English than their peers who studied in classes taught with the whole-class method. The achievement tests evaluated students’ understanding of spoken English as well as their knowledge of various grammar rules. Students from both ethnic groups evidenced a similar degree of progress over the 4-month course of the experiment, there were no interactions between ethnicity and achievement, or between students’ initial level of achievement and progress in learning English.

Students in the STAD and whole-class methods achieved higher literature test scores on low-level questions than did their peers from the GI method, while the latter excelled on the questions that assessed high level learning, more so than the students in classes taught with the STAD or the whole-class method. Again, there were no interactions between ethnicity and any other particular instructional method.

A second experiment was conducted on eighth-grade history and geography classes (Sharan & Shachar, 1988; Shachar & Sharan, 1995). Sixty-seven percent of the students in these classes came from Western middle class families, and many of the fathers in these families were college graduates. The remaining 33% of the student body were of Middle-Eastern background, and most of the fathers in these families had less than an eighth-grade education. Five classes were taught with the GI method, and four with the whole-class approach.

Achievement data, collected both before and after a given unit of study, showed that students taught with the GI method received much higher scores on both history and geography tests than did their whole-class method peers. This finding applied equally to students from both ethnic groups. In addition, the scores of Middle-Eastern students in the GI classes exceeded those of the Western students who studied in whole-class method classes.
Students' spoken language

Results for the second study about students' spoken language are of particular interest (Sharan & Shachar, 1988). Multi-ethnic groups of six students each were selected from 11 eighth-grade classrooms that had participated the entire academic year in an experiment to compare the effects of GI and whole-class instruction. Groups held two 15-min discussions, on topics selected from their current history and geography studies. According to videotape analyses, students in groups from both the lower- and middle-class groups used more words per turn of speech than their ethnic peers in the same school who were taught with the whole-class method. Moreover, the lower-class students who studied in the GI classes used as many words each time they spoke during discussions as did middle-class students from traditional classrooms. Finally, middle-class students generally dominated the discussions of groups selected from heterogeneous classes taught with the whole-class method (as in Cohen, 1984; Cohen & Sharan, 1980), where as in GI classes students from both ethnic groups participated with equal frequency.

Social interaction

Do students from different ethnic groups relate to one another more positively in the GI classes than in traditional classrooms? In particular how are the Middle-Eastern students affected in terms of social relations with members of the Western group? We again focus here on results from the two GI experiments performed in Israel. Measures of cross-ethnic interaction were taken after students participated for several months in the experimental and control classes. In the first study (Sharan et al., 1984), students from the GI classes demonstrated many more cooperative and far fewer competitive cross-ethnic acts during their work than did students from the traditional classrooms. The latter displayed the largest number of competitive acts of all groups in the study. Students from the GI classes displayed four or five times as many cross-ethnic cooperative acts than competitive ones. Overall the whole-class method (as well as STAD) left the asymmetrical social relationships found in the typical heterogeneous classroom virtually unchanged, while the GI method had a distinctly positive effect on these relationships.

In the second study, of eighth grade classes, more cooperative statements were addressed to Western than to Middle-Eastern students, regardless of teaching method. However, in discussion groups from GI classes, students from both ethnic groups addressed an equal number of cooperative statements to peers from the other ethnic group. The CL experience did not correct the Middle-Eastern group's inferior status in their own eyes typically found in heterogeneous classes, even though it did improve the Middle-Eastern group's position in the eyes of the Western classmates. Clearly, the traditional whole-class style of instruction stimulates considerable competition among classmates and leaves the lower-class Middle-Eastern students at a distinct disadvantage in terms of how they are treated by the Western group and how they relate to themselves. These latter patterns are inconsistent with the desired goals of teaching in the heterogeneous classroom.

Impediments to be Overcome

The impediments encountered in the attempt to disseminate the GI method in Israel's schools are indicative of the problems that affected school reforms in other parts of the
world. The focus of these problems is the fact that, even after many teachers received the training needed to acquire the requisite teaching skills, and change agents were sent to the schools, the school-level norms of staff organization, curricular requirements, teacher isolation, etc. did not change. Extensive research in recent years shows that change may occur in scattered classrooms as a function of particular teachers' or principals' personalities. However, more often than not, such change is an isolated episode that does not change the school as a whole. It is clear today that there is a close reciprocal relationship between changes that teachers are to implement in their classroom instructional behavior and the organizational patterns prevailing at the school-wide level (Sharan & Shachar, 1994; Sharan & Sharan, 1991). The recognition of this school/classroom interdependence is reaching a growing number of educators, so that programs for improving instruction in heterogeneous classrooms encompass school organizational features as well as appropriate training for administrators, alongside the required cultivation of teachers' instructional skills and repertoire.

References

Biographies

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Slomo Sharan is professor of Educational Psychology in the School of Education, Tel-Aviv University, Israel. Along with colleagues, he founded the International Society for the Study of Cooperation in Education (IASCE) in 1979. Following its first international conference, held in Israel, he served as IASCE president from 1982–1988. He edited Handbook of cooperative learning methods (1994), and co-authored with Yael Sharan Expanding cooperative learning through group investigation (1992).