Friendship and Choosing Groupmates: Preferences for Teacher-Selected vs. Student-Selected Groupings in High School Science Classes

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This study represents a collaborative school university partnership. Using a mixed-method approach, the authors report on the motivational and psychological consequences of students choosing their groupmates in cooperative learning triads. 139 students in five science classes participated in this study. Classes were randomly assigned to condition: Teacher-selected or student-selected. In teacher-selected classes, the teacher chose the members of each group; in student-selected classes, the students chose their groupmates. Results revealed a decrease in willingness to choose one's groupmates. Focus group data indicated that students felt obligated to choose friends as groupmates, and low-achieving students questioned the value of working with similar others. Teachers should be aware that when permitting students to choose their groupmates that friendships and status hierarchies exert strong influences on choice of partner.

Grouping students has become a standard instructional approach for many classroom teachers at all levels (Cohen, Manion, & Morrison, 1996; Cooper, 1999; Orlich, Harder, Callahan, & Gibson, 1998). By encouraging children and adolescents to learn and work together, cooperative learning attempts to create a shift from the paradigm of knowledge transfer from an active teacher to passive pupils, to one of social constructivism, where knowledge is actively created by students through social interaction on academic tasks (Johnson, Johnson, & Holubec, 1992).

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Most cooperative learning models call for teachers to create groups and select members according to criteria that maximize diversity of learning styles, gender, race, culture, achievement, and other relevant qualities (Cohen, 1984, 1994; Cohen & Lotan, 1995; Johnson at al., 1993; Kagan & Kagan, 1994; Slavin, 1995). Heterogeneous groupings are recommended since they encourage the acceptance of diverse styles and points of view, promote achievement in mixed ability classes, and produce benefits in socio-emotional domains (Abrami et al., 1995; Slavin, 1990, 1993, 1995).

Heterogeneous cooperative grouping is also seen as the antidote to the systematic alienation of women and students of color in math and science courses. Oakes, Ormseth, and Camp (1994) emphasized the importance of forming groups with mixed abilities that statistically reflect the overall gender and racial mix in a classroom, so that the majority may understand minority approaches. Slavin (1990) cautioned that too thin a distribution of minority students might actually be harmful, especially in nontraditional areas, since this may, in effect, be isolating for the minority students (i.e., the

only one in the group). Other research highlights the effects of alienation on achievement scores some groupings may produce (Johnson, 1997; Rosser, 1997), as groups may not demonstrate the underlying assumption of cooperative learning, i.e. that students' voices are heard and valued simply because they are members of the group (Evans, 1996). Women, for example, are more likely to drop out of a group if they are the only female, especially in non-traditional settings (Light, 1990). Etzkowitz, Kemelgov, Newschatty, Uzzi, and Alonzo (1994) argued for groupings of several women or people of color within cooperative learning groups in order to decrease isolation and "spotlighting" of their differentness.

Selecting Cooperative Partners

Once a teacher has decided to employ group work, he or she is faced with a number of practical questions concerning cooperative groupings. These questions include the issue of group composition, appropriate tasks and roles, and the methods of formation. One especially problematic question many teachers face is "Should students be allowed to choose their own groupmates?" Students can place a great deal of pressure on teachers to form their own groups. This pressure stems from the notion common in childhood and adolescence that one works with friends, rather than the reality of adult life in which one is not necessarily friends with coworkers (Cohen, 1994). Teachers may even feel that secondary students will be rebellious if they are forced to work in groups that are not of their own choosing (Cohen, 1994). When teachers grapple with this question, they confront a decisive and determining factor of successful cooperative learning and the complications that may arise in classroom settings. In a recent casebook for teachers about group work in the classroom, 38% of the cases concerned difficulties teachers face creating groups (Shulman, Lotan, & Whitcomb, 1998).

Some research does support the student perspective that previous positive social relationships enhance the effectiveness of group work. Students who know and like each other tend to benefit most from cooperative learning groups (Kagan & Kagan, 1994), and tend to display more autonomy in subsequent work (Abrami et al., 1995). The Group Investigation format of cooperative learning is based on this trend (Sharan & Sharan, 1992a, 1992b). Within this model, students select groups based on similar interests and compatibility. This format advocates student formation of groups based on Deweyian principles of learners as active participants and decision-makers.

In reality, when choosing their own groups, students often create groupings that promote or reinforce status hierarchies (Kagan & Kagan, 1994; Slavin, 1990, 1993; Webb, Baxter, & Thompson, 1997). In secondary school, these hierarchies are usually based on social success and current conventions of beauty for girls (Eder, 1985, 1995; Pipher, 1994; Schofield, 1981) and athletic prowess and physical toughness for boys (Eder, 1995; Schofield, 1981; Pollack, 1998; Weisfeld, Omark, & Cronin, 1980), all of which have little to do with academic achievement. These rigid pecking orders become pitfalls whose hindrances far outweigh the benefits of group self-selection. As well, high achievers often dominate and assume control in learning groups (King, 1989; Mulyran, 1995). Slavin (1990) found that when students were allowed to choose their own teams, they tended to choose others whom they knew and who were like themselves. This resulted in the creation of homogeneous groups; low-achieving students were left to fend for themselves. This places these students at a distinct disadvantage given that low-achieving students tend to have lower rates of interaction and do not take advantage of leadership opportunities, thereby undermining the benefits of coop-

erative group work (Evans, 1996; Kagan & Kagan, 1994). In addition, social isolates, shy students, or newcomers may not be chosen or are actively rejected (Abrami et al., 1995; Cohen, 1994). As well, studies that examined time on task found that students displayed less on task behavior when they were in student-selected groups (Johnson, Johnson, & Holubec, 1993).

The present research project emerged from the dilemma facing one teacher-researcher in how to compose learning groups with high school students. The teacher is active in researching his own practice and employs group work in all his classes. His students exerted pressure on him to form their own groups. He was primarily interested in determining if students who selected their own groups would improve their attitudes toward group work. The university researchers were further interested in examining the social and psychological implications of student-selected groups on attitudes toward group work. In a collaborative effort, the first author and the teacher designed the present study to a) address the teacher's questions and concerns, and b) address issues of interest to the first author.

Teacher's Theoretical Framework

The teacher had been teaching high school science for approximately 30 years and over 20 years at this high school. He was a member of an action research group with five other teachers and two special educators at the high school. The university researchers from McGill were members of this action research group, functioning as critical friends.

The research project for the teacher was guided by action research principles (Elliott, 1988; Kemmis, 1988; Stringer, 1996) in the framing of the research question, which emerged from the self-reflective inquiry of the teacher-researcher; in the implementation of the study, which employed a recursive spiral of cycles that focused on planning, acting, observing, and reflecting; and in the framing of the results, which were stated as practical outcomes related to the work life of the teacher-researcher. Therefore, the essential motive for using action research was to improve the quality of teaching and learning, as well as the conditions under which this teacher worked with the science students in his class. This method was also selected as it places the teacher and his practice at the center of the research process (McNiff, Lomax, & Whitehead, 1996). This method of reflective practice has been shown to be successful in getting teachers to reflect on their teaching, and can achieve remarkable results when given opportunities and institutional support (Altrichter, Posch, & Somekh, 1993).

To summarize, this study represents a school-university partnership in its approach to addressing the issues of mutual concern. Specifically, the purpose of this study was twofold: First, the teacher was interested in the best grouping practice for his students, and second, the researchers from McGill University were primarily interested in the social and psychological implications of allowing high school students to choose their own groupmates. The hypotheses that guided this investigation were:

1. We predicted that choosing one's groupmates would have a negative effect on subsequent attitudes toward choice.
2. We predicted that students would be forced to choose their friends when given the chance to choose their groupmates.

Methods

Participants: Participants were 139 grade 10 and 11 students (54 females and 85 males, ranging in age from 14 to 18 years M = 15.78) from a small high school (400 students) located just outside Montreal, Canada. Students represented varied achievement levels, SES, cultures and ethnicities. Parental permission was required in order to

participate in this study.

Classes: The teacher had five science classes streamed according to achievement: low-achieving (LA; N=2), normal-achieving (NA; N=2), and high-achieving honors (HO; N=1). With the exception of the honors class, these courses were required for graduation. The honors course was required for students who wanted to pursue pure and applied sciences at the post-secondary level.

Design: A mixed method quantitative/qualitative (QUAN/qual) design was employed in this study (Tashakkori and Teddlie, 1998). Three separate research approaches were embedded in this design: 1) teacher-as-researcher - with the teacher researching his own practice in the course of teaching two labs in science to his five science classes; 2) a pretest-posttest non-equivalent control group design (Campbell & Stanley, 1963/1966) - this design permitted researchers to investigate their interests as well as it permitting a manipulation by which researchers could address the research hypotheses posed in this study; 3) embedded focus group methodology - this was employed to probe more deeply student responses on the questionnaire.

Measures: The Classroom Life Scale (CLS; Johnson & Johnson, 1991) short form was used to measure attitudes toward group work. The CLS is a 5-point scale ranging from 1 = Completely False to 5 = Completely True. The CLS consists of several subscales measuring students' attitudes on cooperativeness, feelings of alienation, academic self-esteem, academic support, goal and resource interdependence, external motivation, cohesion, grading practices, independent learning, competitive learning, controversy, valuing homogeneity and heterogeneity. Two additional questions were included; these dealt with preferences for choosing group members (e.g., "I prefer to choose the students I work with" or "I prefer the teacher choose the students I work with").

Procedure: The study was conducted in January and February and ran for six weeks. Allocation of classes to student-selected (S-s) or teacher-selected (T-s) groups was done purposively, to ensure that at least one LA and one NA class was S-s and their cohorts were T-s; the honors class experienced both conditions (T-s/S-s). T-s classes acted as controls as this was the standard instructional approach employed by the teacher. To ensure fairness, at the conclusion of the study, students in the T-s classes were allowed to choose their groupmates for one unit of instruction.

Students were told that the teacher was interested in learning about their preferences about group work and how these attitudes affected their learning and grades. He wanted this information to design instruction for future classes. In January, when students showed up for their respective classes, the teacher sent them to another room where the university researchers administered the CLS. As the teacher did not have all five classes on one day the allocation to groups took two days to complete. Before administration of the survey, the students were assured that their responses would be kept confidential and their teacher would only be shown aggregated data. Students were required to put their name on a cover sheet, which was removed after a code was assigned. Once students completed the CLS they returned to their classroom and were either assigned to a group by the teacher or were permitted to choose their own groupmates depending on their class.

The duration of the study was approximately six weeks, divided into two labs. Each lab was approximately three weeks in length, with three one-week units in each lab. Groups were composed of three students and each was assigned specific task role: experimenter, recorder, and materials coordinator. Students were in these groups for three units of instruction (i.e., one lab), and after each unit was completed they had to change roles within the group (normally

one week). This ensured that all students had the opportunity to work in all roles. At the end of the first lab students were required to change groups. In S-s groups the only criteria was at least one person had to change to a new group or all three could change. Even though only one person was required to change groups, all members were still required to choose (e.g., who stays and who goes?). In the T-s groups the teacher assigned students to new groupings and all three members changed. After all students were in new groups they followed the same procedure for groupwork concerning task roles. At the end of the second lab, the CLS was administered again. Interdependence and individual accountability were built into the structure of the labs by providing group marks for each unit and students were marked on individual quizzes at the end of the second lab.

After the second administration of the survey, the researchers from McGill began analysis. Preliminary aggregated results were first shared with the teacher. These results led to additional questions and the decision was made to conduct focus groups with students who had selected their own groups in the hopes that their insights could shed some light on the data and supplement the quantitative results.

Results

The results are presented in two sections. The questionnaire results tested the first hypothesis and the focus groups explored the second hypothesis. The first section reports the findings from the CLS on preferences for choosing groupmates and feelings toward cooperative learning. The second section reports the findings from the focus group discussions.

Questionnaire results: To test the first hypothesis, that choosing one's groupmates would have a negative effect on subsequent attitudes toward choice, A 3 (group) x 2 (test) repeated measures multivariate analysis of variance revealed a significant multivariate main effect for test (pretest/posttest) Wilkes $\Lambda = .685$ $F(2, 118) = 54.20$, $p < .001$, $\eta^2 = .32$ and a significant interaction for group (T-s, S-s, & T-s/S-s) x test (pretest/posttest) Wilkes $\Lambda = .827$ $F(2, 118) = 12.31$, $p < .001$, $\eta^2 = .17$. As predicted, students in the S-s and T-s/S-s groups experienced a negative shift in their overall preferences for choosing groupmates from pretest to posttest. Table one reports the means and standard deviations by group. Figure one highlights the interaction and the shift from pretest to posttest by group. The T-s only group did not experience a similar shift in preferences (pretest $M = 4.09$ $SD = 1.06$, posttest $M = 4.00$ SD 1.02).

Table 1
Group Means on Preference for Choosing Groupmates

	Group	Mean	Std. Deviation	N
Pretest	TS	4.09	1.062	45
	SS	3.90	1.176	52
	TS/SS	4.17	.868	24
	Total	4.02	1.076	121
Posttest	TS	4.00	1.022	45
	SS	2.73	1.173	52
	TS/SS	2.83	1.049	24
	Total	3.22	1.242	121

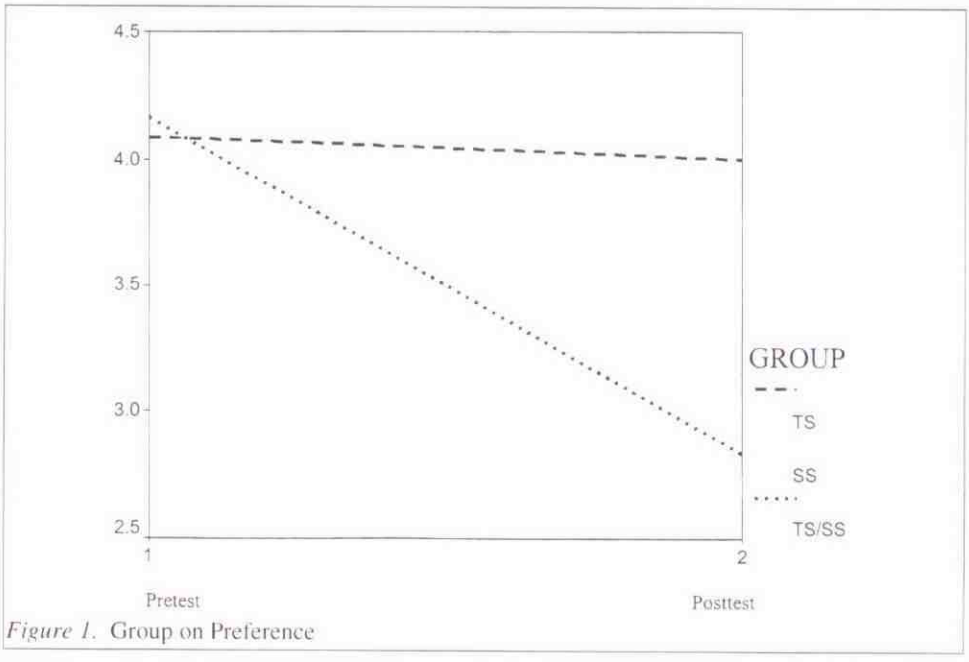

Figure 1. Group on Preference

To explore these differences further, a 2 x 3 gender by group ANOVA was conducted on posttest preferences for choosing groupmates. There was a main effect for gender F (1, 115) = 16.53, $p < .001$, $\eta^2 = .126$, and group F (2, 115) = 19.62 $p < .001$, $\eta^2 = .254$. There was not a significant interaction between group and gender, F (2, 115)= .524 p. > .05, $\eta^2 = .009$. Table two reports the means and standard deviations for gender by group on posttest preference for choosing groupmates. Although there were large effect sizes for student preferences by group and moderate to large effect sizes for gender, these results should be interpreted with caution as only one group exceeded 50 participants (Group 1, $N = 45$; Group 2, $N = 52$; = Group 3, $N = 24$) see Stevens (1986) for further explanation.

As there were two low-achieving classes, two normally achieving, and one honors class we decided to explore if there were differences between the classes on the question of preference regardless of treatment condition. Results indicate that low-achieving students demonstrated a sharper decline in preference for choosing groupmates than the other students in the other classes. A 5 (class) x 2 (test) repeated measures multivariate analysis of variance revealed a significant multivariate main effect for test (pretest/posttest) Wilkes $\Lambda = .710$ F (2, 116) = 47.39, $p < .001$, $\eta^2 = .29$ and a significant interaction for class (1 LA [T-s], 2 LA [S-s], 3 NA [T-s], 4 NA [S-s], 5 HO [T-s/S-s]) x test (pretest/posttest) Wilkes $\Lambda = .817$ F (4, 116) = 6.51, $p < .001$, $\eta^2 = .183$. Table three reports the pretest and posttest means and standard deviations on preference for choosing groupmates.

Finally, as there was a shift in attitudes toward preference in the S-s groups we decided to explore if choice had an influence on overall liking for cooperative learning. We tested the subscale dealing with overall liking for and willingness to engage in cooperative learning. A 3 (group) x 2 (cooperative learning) repeated measures multivariate analysis of variance revealed that choice did not have a negative effect on liking cooperative learning. In fact, attitudes toward cooperative learning were more positive on posttest regardless of group, Wilkes $\Lambda = .968$ F (1, 118) = 3.94, $p < .05$, $\eta^2 = .032$.

Table 2
Posttest Group Means on Preferences for Choosing Groupmates by Gender

GENDER	GROUP	Mean	Std. Deviation	N
Female	TS	3.63	1.088	16
	SS	2.17	.834	23
	TS/SS	2.14	.900	7
	Total	2.67	1.156	46
Male	TS	4.21	.940	29
	SS	3.17	1.227	29
	TS/SS	3.12	.993	17
	Total	3.56	1.177	75
Total	TS	4.00	1.022	45
	SS	2.73	1.173	52
	TS/SS	2.83	1.049	24
	Total	3.22	1.242	121

Focus Groups: To illuminate grouping preferences, three questions were posed to the focus groups: 1) What were some of the reasons you wanted to choose your own group?; 2) What happened to change your preferences?; and 3) Why did females have a bigger shift in their opinion? Finally, students were also asked to provide recommendations for future groupings. This methodology was chosen to: 1) elicit perceptions, feelings, attitudes, and ideas concerning group selection; 2) gain the assistance of the students in interpreting the results; and 3) provide a versatile, dynamic source of data directly from participants, which is useful in action research (Morgan, 1997; Vaughn, Schumm, & Sinagub, 1996).

Focus group data were: 1) unitized in an ongoing manner by provisionally categorizing the responses on a flip chart that seemed to relate to the same content into propositional statements (Miles & Huberman, 1984); 2) rules for categorizing the data were developed and given a metaphoric title which captured the essence of the rule for inclusion; and 3) clusters of categories and their relationship to other clusters were made in order to facilitate the development of a practical theory.

One of the McGill researchers moderated the focus groups to insure confidentiality and encourage students to be open and honest about their experiences. Three focus groups were formed to explore their preferences to gain their interpretation of the questionnaire results. Participants were purposively sampled from a list of volunteers to guarantee an articulate yet representative range of each class. Focus groups had between 6 to 8 participants and were conducted using a structured but informal format in a regular classroom, and lasted approximately 50 minutes. Males and females were included in equal numbers. The focus groups were conducted in a separate room during class time and the teacher was not present. The following are the major emergent themes for each question.

Choosing your own group: Themes concerning control and responsibility

Emergent themes for wishing to choose groups were centered on the students' desire for control and responsibility. Students tended to see themselves as better judges than the teacher of a "good" group member since they knew each other outside of class. One female student observed, "Because we

Table 3
Posttest Means and Standard Deviations by Class on Preference

	CLASS	Mean	Std. Deviation	N
Pretest	1 LA (T-s)	4.26	1.054	23
	2 LA (S-s)	3.78	1.368	27
	3 NA (T-s)	3.91	1.065	22
	4 NA (S-S)	4.04	.935	25
	5 HO (T-s/S-s)	4.17	.868	24
	Total	4.02	1.076	121
Posttest	1 LA (T-s)	4.22	.902	23
	2 LA (S-s)	2.41	.931	27
	3 NA (T-s)	3.77	1.110	22
	4 NA (S-S)	3.08	1.320	25
	5 HO (T-s/S-s)	2.83	1.049	24
	Total	3.22	1.242	121

have other classes with them [peers] we know who is a goof-off versus who works hard, who we like and who we don't like." Students in the honors science class also expressed a desire for control that would insure equal responsibility for grades, since these would be important for their future education. "Sometimes they [members who don't do their share] ride on the coat tails of the group." In addition, a developmental theme that reflected the adolescent's life stage (i.e., a desire for autonomy) was also expressed. Choosing their group meant being more adult. "I like having the responsibility of choosing my own group," one young woman claimed.

Students also tended to question an assumed link between academic ability and good group skills. One male student remarked, "Marks aren't always the best way to choose groups. Grades don't tell you how well people will work together." It appears that students, like teachers, were searching for those criteria and qualities that might insure group success.

Changing preferences: Themes about the potential for conflict

When asked about the shift in attitude toward choosing groups, many students pointed to the dawning realization of the potential conflict between a "good friend" and a "good team member". One young woman stated, "I realized that friends are not always good to work with. Not as much work gets done and it's frustrating when the work load is heavy." Part of this was the tendency to socialize rather than work. A young man admitted, "With friends there can be lots of talking. With people you don't know there is nothing else to do except work." As well, students also realized that group work is often a difficult or time-consuming process. "It's easier to have the teachers choose the groups. We don't waste so much class time."

A surprising and forceful perspective was the attitude that the emotional dynamics could undermine the group process and success, as well as inflict harm on others, by rejecting or hurting those who are not known. "I'm too shy to say to someone I don't know that they aren't working hard enough. Friends accept you. You can say stuff like that and they won't think you're mean," one female student remarked. This was echoed by a male student in another class. "It's easier to tell your friends when things are not working

out. They are more understanding of you. Others won't understand. They may misinterpret what you said. Friends know you."

In addition, the students expressed awareness that, in reality, they lacked the skill in judging effective team members. Several students repeated the following sentiment: "It's hard to tell who to choose. Who will put in the effort, and who won't? I don't know how to tell how well we'll work together." Members of the science classes also admitted that maybe the teacher did have more expertise in choosing groups. One male student observed, "I don't want to end up with a crappy group. He [the teacher] knows who'll work well together." When asked, "What happens if the group doesn't work out? One female student stated, "If I've chosen and it doesn't work out, then I have to take responsibility." Though only one student offered this view, other members of her focus group nodded in agreement. The focus group moderator asked if this then meant the teacher could be blamed if the group does not work when he assigns students to groups "Yeah," she responded with a smile.

Why did females have a bigger shift in their opinion?: Themes of achievement versus feelings

Trends in focus group responses for males and females differed, demonstrating the emergence of rigid gender-stereotyping common in small group activity in high school settings (Hurley, 1996; Lafrance, 1991; Rehling, 1996; Sommers, 1992). Male students tended to characterize themselves as more assertive and able to cope with the conflict in groups. One young man remarked, "Guys are totally honest. They don't care. They say what they think," while another stated "Girls are shyer. They're less likely to ask or approach someone to join their group. We like to choose, rather than be chosen." Female students also repeated these stereotypes, noting, "We're more complicated. We change our mind. Guys are more willing to speak up and tell off those who aren't willing to do their share. Not a lot of girls are assertive."

Young women in the honors science class tended to reflect the attitude that "Girls don't like to waste time. They want to be in a group that's going to work hard." Young women in the other science classes tended to focus on feelings and connections with others, mirroring the theory found in the literature on adolescent women's' development (Brown & Gilligan, 1992; Gilligan, 1990; Kaplan, Klein, & Gleason, 1991). Hurting friends was a major concern for one female student, "You can not take the chance of not choosing your friends." Another thought that future connections with their friends would be disrupted if they were put in a position of having to choose or not choose them. "You feel bad and guilty if you don't choose your friends. It's a given that you go with your friend. Otherwise, you've dissed [disrespected] them."

Effects of tracking on students' attitudes

Differences in the responses were also observed across the tracked classes, which further supports the evidence for an interaction effect between achievement ability and the context of group work (Townsend & Hicks, 1995). HO students were surprised their friends worked as hard as they did, and that there was little conflict. However, LA students came to the realization that one's friends did not necessarily make effective groupmates. LA students recommended a shift from student-centered class to a more teacher-centered class with a stronger emphasis on lecturing. Although the questionnaire results did not yield significant findings on this point, discussion did reveal that several students in the low-achieving classes did not want to work in groups and this was independent of treatment condition (S-s or T-s). One young man captured the sentiment of many of the students when he stated,

"Why would I want to work with them [others in the class]? We're all in the same boat. They can't help me. The teacher should just teach." This statement is further indication that low-achieving students in tracked classrooms are placed at a disadvantage.

One of the primary arguments for employing heterogeneous groups is that it benefits low-achieving students who are able to learn from their more capable peers (Webb & Palinscar, 1996). Under these conditions, low-achieving students benefit from a form of scaffolded instruction from their more capable peers. While this may be a positive outcome in classrooms where students of all achievement levels co-exist. It is not the case when students are tracked according to achievement. In tracked classrooms the low-achieving students are forced to work with others of similar achievement. As a result, the benefits of working with more capable peers are lost in tracked classrooms.

Discussion

Findings from this study are inconsistent with some research, reported earlier on student preferences (e.g., Kagan & Kagan, 1994) and trends in group learning. These findings highlight the complex academic, social, and cultural environments of small groups in high school settings. Some groupings may produce alienation (Johnson, 1997; Rosser, 1997), since they do not demonstrate the underlying democratic and humanistic assumption of cooperative learning (Evans, 1996). Confounding factors on student preferences for group composition include: 1) these are required courses for graduation or further post-secondary study which may cause students to focus more on achievement and simply passing the course which they view as incompatible with maintaining friendships, 2) the streaming into homogeneous ability (achievement) classes which causes students, especially in low achievement classes, to doubt the value of group work, and 3) social dimensions of interaction which relate to students' ability to tolerate rejection from peers when choosing groupmates.

The focus group data indicate that students are facing similar quandaries as teachers in deciding who should choose groups. The issues of responsibility, work effectiveness, and task completion are also of issue to students. However, students are faced with the additional dilemmas of the impact of group work on their relationships outside of the classroom. Students do not become disconnected from their relational context when they enter a science classroom, and bring the concerns of their social relationships into the act of choosing groupmates. Teacher priorities are clear; their emphasis is on learning, understanding, and achievement. Students, though, are more ambivalent, or are less clear of their priorities when first faced with the challenge of choosing groups.

Implications for Practice

Implications for teaching practice include providing training to students in small group processes and effective member roles in order to maximize a group's success, creating appropriate ground rules, and developing students' skills in facilitating each other's learning (Gillies & Ashman, 1995; Guzzetti & Williams, 1996) and the impact of increased time working together on emotional responsiveness and helping behavior towards others (Gillies, 1997). Training for students must go beyond simple good group skills and should include the benefits of heterogeneity so that they can construct groups in a more equitable manner. In addition, allowing students increasing responsibility for choosing groups might be an important learning in and of itself. Experience in negotiating complex social and work relationships may be the best teacher. As one young woman pointedly observed, "Sometimes we just have to figure it our for ourselves. We think things will be one way, but it turns out to be the total opposite." This

learning may be a powerful by-product of self-selected grouping.

Another implication for teacher-researcher practice is to balance between teacher-selected groupings with student-selected groupings. The findings from this study partially addressed the teachers concerns, but did leave him with more questions than answers. His main concern was "So when should I let students choose their own groups?" The results from this study do not shed light on that question and the answer still seems to be "It depends." Though students' preferences did shift, the shift was toward the mid-point of the scale, which represented the attitude Sometimes True - Sometimes False. This indicates that students value choosing his or her own groups on occasion yet recognize at times it is more appropriate for the teacher to do so. High school students should be provided the opportunity to select the people they work with at times, but the teacher must also be aware of the social pressures on students of this age to choose friends and not to be seen working with low status individuals.

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