

Original Research Paper

Education

Group Dynamics: All's Well That Blends Well

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ABSTRACT Attitude is a state of mind which determines one's actions and hence the course of life. On the educational landscape, it has come to be recognized as the forerunner of student achievement. This study attempted to compare the likely impact of two grouping strategies on the attitude of students towards co-operative learning. The sample comprised of 492 students of the secondary section of a private-aided S.S.C. school in Mumbai. Students were first assigned to mixed ability groups by the teacher and later allowed to form groups based on their personal preferences. Comparison of the post-test attitude scores of both types of groups indicated that attitude in the student formed groups was considerably higher than that obtained by mixed ability grouping. This could be advocated to the possibility that students are more comfortable to learn when given the freedom to work within groups with which they are more compatible.

KEYWORDS: Mixed Ability Group, Student Formed Group, Attitude

Introduction:

A considerable amount of research has been done in the area of cooperative learning and its associated benefits. Its academic and social advantages are globally recognized (Ding et al., 2007). Cooperative learning according to Jacobs et al (2000) is a set of principles and strategies for enhancing learner to learner communication for a common cause. In a cooperative learning environment, learners are encouraged to be at the center of learning and learn together. Learners will not enjoy learning if it happens in isolation. (Bruner, 1996). George (2000) adds that there are five important value added principles of cooperative learning. Firstly, interdependency among the learners wherein they learn together, work in a small group and plan to finish a product together. This kind of learning bears great value to all (McArdle et al., 2005). In other words they benefit from each other's knowledge. Secondly, each member of the group is accountable for sharing his/her knowledge with the rest of the group. Thirdly, they use their collaborative skills to help each other to learn and encourage each other to participate in problem solving and cooperative learning. As such they strive to increase overall achievements of the group (Negangard and Sue, 1991). Fourthly, it provides equal opportunities for all. As a team, each member is responsible in taking part in the group building activity and strives for its collective success. Fifthly, they all learn together, interact together and transfer knowledge together. In cooperative learning, all work to achieve one single purpose, that is to benefit one another by sharing their personal knowledge and skills (Webb, 2002).

Within-class grouping is known to provide manifold academic and social benefits for students. It offers a number of distinct advantages like fostering team spirit, social skills, peer teaching, leadership qualities, self-confidence and healthy competition. Individual academic productivity on the other hand, is limited by time, knowledge, physical capabilities, and other resources. Group work greatly reduces these limitations through teamwork and collaboration. Within-class grouping has social benefits important for student development as well. A student's individual social benefits are realized by achieving psychological intimacy and integrated involvement (Nelson, 2008). Psychological intimacy is psychological closeness to other group members. It is important to a student's overall emotional health because it results in positive feelings of affection and warmth. Achieving psychological intimacy will also reduce feelings of emotional isolation and loneliness. Integrated involvement is closeness achieved through the involvement of students in group tasks and activities. It is beneficial to students because it provides them with opportunities to define themselves, support their beliefs and values, and be appreciated for their skills and abilities while greatly reducing instances of social isolation.

student achievement and development. Yet, when it comes to forming groups for academic activities a classroom teacher is faced with the challenge of selecting an appropriate strategy of grouping which would serve a dual purpose i.e. maximum student output without compromising on their personal satisfaction.

There are various strategies that instructors commonly use to group students, namely,

- Random assignment
- Seat Proximity
- Ability
- Roll order
- Personal likes and interests

Mixed ability groups are known to have advantages in terms of developing the competence of the above average learner; at the same time leading to mastery learning by clarification of concepts to the slow learner. Groups formed on the basis of roll order/seat proximity are most commonly resorted to and known to be time saving for a teacher. Random assignment is used as an ice-breaker and ensures thorough mixing of the students helping them get to know each other better. The most preferred grouping strategy from point of view of students however, is that based on their personal preferences. It is a common observation of teachers that children grouped in this manner enjoy any activity, making learning a funfiled and interactive experience. Mutual acceptance is better, performance is faster, individual participation and contribution are higher and mastery learning is achieved.

Previous research studies have recognized possible disadvantages to mixed ability grouping. The same stigmas that may be associated with high and low-ability students, as a result of homogenous grouping, may only be reinforced by heterogeneous grouping. This may cause dysfunction in a group and severely hinder academic achievement. It has also been found that average-ability students do not typically show achievement gains as significant as those with high or low-abilities if any (Lou, Abrami, Spence, Poulsen, Chambers, and d'Apollonia, 1996). One inherent disadvantage affecting all mixed ability groups is the increased potential for intragroup stigmatization (Poole, 2008). While mixed-ability grouping reduces the possibility of the larger student body labeling a group of students, within a group, stigmas may still exist. A disadvantage of mixed-ability grouping specific to low-ability students is the decreased opportunity to participate in groups dominated by highability students. Mixed-ability grouping also presents disadvantages specific to high-ability students. One example is the students' perception that their progress is being slowed by the lowability students (Saleh and De Jong, 2005). The group most frequently affected negatively by mixed-ability grouping is the average-ability students. Average-ability students have been found

It is certain that within-class grouping is important to enhance

VOLUME-6, ISSUE-6, JUNE-2017 • ISSN No 2277 - 8160

to benefit least from heterogeneous ability grouping. Some studies have shown that heterogeneous ability groups can have a negative impact on a student's achievement, participation, motivation and self-esteem when applied to particular disciplines such as reading. Poole (2008) conducted a study of fifth grade students placed in two mixed-ability groups in which students took turns reading aloud and discussing the text. This study found that low-ability students suffered from lowered academic achievement as a result of being in a mixed-ability reading group. The three low-ability students that were studied during the group meetings were found to have read less than the other students. The teacher's tendency was to give them smaller passages to read than their group members. These three students being studied were also interrupted by the teacher much more than their peers. These behaviors can hinder the progress and decrease the self-esteem of low-ability students. The study concluded that these three students did not reach the academic achievement they would have if they had been placed in groups with students of the same reading level and had been given an equal opportunity to read and learn from the read aloud sessions. This type of interaction within a mixed-ability group will have negative effects on self esteem, leading to a loss of motivation for learning. Chaudhury et al (2003) found that homogenous withinclass ability grouping was the arrangement most prevalent in subjects such as Mathematics and English, while mixed-ability grouping was more common in all other subjects. Occurrence of mixed ability grouping such as this also increases the likelihood that low-ability students will be stigmatized. Studies have shown that high-ability students progress slower and do not reach their full potential as a result of interacting with lower ability students (Rogers, 1998). High-ability students can experience a further decrease in motivation to learn if they develop the belief that working with lower-ability peers will hinder their progress (Saleh and De Jong, 2005; Poole, 2008). Some researchers have even found that average-ability students actually suffer from lowered achievement as a result of mixed-ability grouping because they tend not to participate (Saleh and De Jong, 2005). They are frequently excluded from the teacher-learner relationships that exist between low and high-ability students (Lou, Abrami, Spence, Poulsen, Chambers, and d'Apollonia, 1996). Research also indicates that these students are not reaping the benefits associated with working in groups because they are missing out on the dialogue that promotes student achievement. The study by Saleh and De Jong (2005) showed that in heterogeneous groups, low-ability students asked eight times as many questions as average ability students. High-ability students asked no questions at all, but provided about 75% of the explanations. This research indicates average ability students lack the opportunity for engagement while in mixed-ability groups. This is a result of the high-ability students providing explanations at a extremely high rate depriving, in most cases, the average-ability students opportunity for critical thought. On the other hand, homogenous ability grouping is more conducive to achieving group cohesiveness in students of all ability levels. Group cohesion is an important element in increasing academic achievement within a group because students share the same standards, goals and expectations (Robinson, 2008). Nelson (2008) observed the importance of group cohesion as groups with low levels of cohesion have greater difficulty exercising control over their members and enforcing standards of behavior. Tension and anxiety were lower in highly cohesive teams. The increased comfort level students feel as a result of group cohesion has a positive effect on academic achievement (Saleh and De Jong, 2005; Poole, 2008). Nelson's (2008) research also found that group productivity was more predictable in cohesive groups. This research also showed that a groups'"member satisfaction, commitment, and communication are better in highly cohesive groups". Benefits of group cohesion also include a reduction in social loafing or, "the failure of a group member to contribute personal time, effort, thoughts, or other resources to the group". There was found to exist a curvilinear relationship between group cohesion and group functionality.

Group cohesion, as a result of homogenous ability grouping, also provides average and high-ability students opportunities to work at a faster pace than they would if they were in mixed-ability groups. According to a study done by Lou, Abrami, Spence, Poulen, Chambers, and d'Apollonia (1996), learning in homogenous ability groups greatly increases the chances of average ability students to achieve higher academic standards. Saleh and De Jong (2005) explained that in homogenous groups, average-ability students play a more active role in learning discourse and learn more when compared with average-ability students in heterogeneous groups. They ask more questions and receive more explanations than when they are a part of a heterogeneous group.

However, very few studies have been carried out to test whether this strategy of grouping is favourable as compared to the others mentioned at the start. The present research endeavours to identify if the strategy used to group students for any co-operative learning activity has a bearing on their attitude towards learning in a group. The results would serve to fill existing lacunae and provide direction to teachers in the area of group dynamics. A mixed ability group in the present study refers to a group of five students selected by the teacher and placed together on the basis of their prior test scores in the given subject. A student formed group was comprised of maximum five students formed by the students themselves on the basis of their personal preferences. Attitude in this research is defined as the predisposition or willingness of the students to participate in any co-operative learning activity.

Subjects and Methods:

Subjects: The present investigation is an experimental research. The sample comprised of 492 students of the secondary section (standards V to IX) of a private-aided school in Mumbai, affiliated to the S.S.C Board of Education selected by the convenience sampling technique.

Methods: The study comprised of two phases. In the first, the students were assigned to groups of five by the teacher based on mixed ability and in the latter they were permitted to form groups of five based on their own preferences. The instructional modules included 4 sessions, each of half hour duration (one teaching period). They comprised of different co-operative learning activities ranging from numbered heads together, think-pair-share, round robin brainstorming to tea party as well as innovative strategies and diverse activities like composing jingles, crosswords, jigsaws, word-searches, role-plays and other presentations. Each session was based on a topic/concept which students commonly find difficult to understand in the different subjects of the curriculum, namely, English, History, Mathematics and Science. Two sessions were conducted in the first phase of the study and two in the second. An attitude scale was administered to the students at the end of each of the phases. The difference in students' attitude resulting from the grouping strategy was assessed using the Posttest only design.

Statistical Analysis: The scores were tabulated and then analyzed using descriptive and inferential analysis. Descriptive analysis dealt with the description of the magnitude of attitude to show the extent for both grouping strategies. The values of the same are depicted in Table 1. Inferential statistics was carried out using the Student's t-test to compute the differences in the attitude scores for both the grouping strategies. Table 2 shows the data summary of the same. When P value was less than 0.05, the difference was considered statistically significant and highly significant when P-value was less than 0.01 or 0.001.

Results:

Table 1 shows the magnitude of attitude of the total number of students for both the grouping strategies. The findings indicate that the magnitude of attitude was substantial for the mixed ability group and very high for the student formed group.

VOLUME-6, ISSUE-6, JUNE-2017 • ISSN No 2277 - 8160

Table 1: Magnitude of the Attitude Scores for Both Grouping Strategies

GROUPING STRATEGY	MEAN	% MEAN	MAGNITUDE
MIXED ABILITY	44.87	62.18	SUBSTANTIAL
STUDENT FORMED	53.26	83.15	VERY HIGH

Table 2 shows the data summary of the post-test attitude scores for both the grouping strategies.

Table 2: Data Summary of Attitude Scores for Both Grouping Strategies

Grouping Strategy	Ν	Mean	SD	t-ratio	Level of significance
Mixed Ability	492	44.87	5.55	26.55	0.01
Student Formed	492	53.26	4.45		0.01

The tabulated values for 't' are as follows (Garett, 1985):

for df = 490, tat 0.05 level = 1.96

Similarly, for df = 490, tat 0.01 level = 2.59

Thus, 't' is highly significant at the 0.01 level. The null hypothesis is therefore rejected.

Discussion:

An analysis of the results pertaining to the null hypothesis, indicates that there is a significant difference in the post-test attitude scores of both the grouping strategies. This signifies that the attitude of student formed groups is distinctly better than those based on mixed ability. This finding can be attributed to the fact that students exhibited a positive interdependence, enjoyed working together and were more comfortable and compatible when given the freedom to form groups based on their own personal preferences. Previous research studies too, have proved that there are many reasons for the beneficial outcomes of student formed groups. In cooperative settings, small groups of students have been known to work on a specified mission to overcome their collective weaknesses, build on their strengths and share their experiences with one another to gain knowledge. A cooperative environment is a non-threatening learning environment where students freely mix with each other without any racial discrimination and share and exchange useful thoughts. This condition is based on a mutual support, respect for one another and a goal to benefit from each other in a friendly and professional manner (Millis, 2002). "The first premise underlying cooperative learning is respect for students regardless of their ethnic, intellectual, educational, or social backgrounds and a belief in their potential for academic success. All students need to learn and work in environments where their individual strengths are recognized and individual needs are addressed. All students need to learn within a supportive community in order to feel safe enough to take risks." Millis (2002) further explains that "Cooperative learning promotes a shared sense of community. Learning, like living, is inherently social. This approach offers students support and encouragement through systematic classroom interactions. An intellectual synergy develops, and positive relationships typically emerge". Cooperative learning is promising. The promise is to encourage students to learn actively and constructively.

As they interact with each other, they learn more in the process. They soon discover the significance of student-student communication. Research has indicated that cooperative learning reduces misbehavior in the classroom leaving more time for academic instructions and student growth (Baldes et al., 2000). As such learners soon discover themselves in a highly motivated and friendly community. Kim-Eng Lee et al. (1997) studied affective outcomes of cooperative learning in social studies. This study was experimental involving the use of cooperative learning in a social studies classroom. The outcome variables discussed in the study are pupil self-esteem and classroom climate. Pupils in the experimental

group who were taught through the cooperative learning approach perceived class work to be less difficult than the control pupils who worked individually. The control pupils also reported a decline in satisfaction with class work and perceived more friction in their class. Vaughan (2002) studied "Effects of Cooperative Learning on Achievement and Attitude". The investigator examined the effects of cooperative learning on the achievement and attitudes toward mathematics of a group of 5th-grade students. Results suggest that there were positive gains in attitudes and achievement. Social and emotional development, improved self-esteem, and a safe and comfortable learning environment are known to be a few of the contributing factors in achieving proper levels of resources and motivation (Gadbois and Thomas, 2007).

Conclusion:

The qualitative and quantitative data provided in this study as well as in the reviewed literary works has given a peek into the potential advantages of grouping students based on their own personal preferences. The positive attitude exhibited by students in this type of grouping strategy could help enhance their academic achievement in the long run by achieving the ultimate goal of mastery learning. Teachers too can use such study groups to their advantage to assist students to achieve mastery of concepts, aid in exam preparation, and perform better on tests. The improvement of academic achievement in most students can be realized by creating the right mix of material resources and the motivation to learn.

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