

THE EFFECTS OF COOPERATIVE LEARNING STRATEGY ON PEER ATTACHMENT[#]

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The present study aimed at investigating the effects of cooperative learning strategy on peer attachment among students from different ethnic backgrounds in Malaysia. The study was also intended to identify the problems faced by the students during the implementation of cooperative learning strategy. The subscale for peers from the Inventory of Parent and Peer Attachment (Armsden & Greenberg, 1987) was used to measure peer attachment. There were non significant differences in the peer attachment mean scores between the cooperative learning and traditional method groups. However, several students reported that their social relations with group members improved in the cooperative learning environment. The results also suggested that students needed time to build good relationships with group members from different ethnic backgrounds.

Social relation exists among individuals as a result of interaction with one another. It can be seen through behavioural aspects such as the way of communication, social skills, and emotional aspects or feelings such as affection, tolerance, and caring. According to Piaget (1932) children at the early stage are egocentric because they assume that other individuals have the same view as them. Egocentricity continues to exist at the adolescent stage, causing some students to have difficulties understanding their peers' views.

Social learning theorists state that students learn by observing and imitating what their peers do (Bandura, 1977). Students, therefore, should be encouraged to develop positive social relations, so that what they learn among themselves are behaviours that can promote personality development. In terms of cognitive aspect, social relation provides the opportunity for students to help each other in their learning. This is supported by Vygotsky (as cited in Tudge, 1990), who stated that once students receive guidance from more competent

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peers, the students' cognitive processes could increase to a higher level. According to ethologists, social relation among students is important because it gives them the opportunity to learn specific social skills and appropriate reactions that can be accepted by norms (Perry & Bussey, 1984). Consequently, social relation among peers can help in improving student's social and cognitive developments.

Furthermore, researchers found that there is a different level of social relation among students who are considered as close friends as compared to the ordinary friends. As close friends, students are more tolerant, able to exchange opinions, and have more interactions with one another. According to Oden (1988) many researches have shown that social relation which exists among close friends can also benefit them in the long run. Hartup (1989) stated that to what extent an individual can develop social relation with other individuals depends very much on the early experience in social relation with people who are close to that particular person. Therefore, in the context of social relation among students, they should be encouraged to have more friends as their close friends in the classroom for the sake of their future social development.

Social relation among close friends can be viewed in terms of the attachment aspect based on the Attachment theory that was proposed by Bowlby and Ainsworth (as cited in Bretherton, 1992). According to this theory, attachment or bonded affection is a person's feelings towards another individual who acts as a shield and protection from an external threat. An individual will always try to be close to another person whom he/she can love. Early attachment exists between a baby and the mother. As the person grows, the attachment extends to include the father and others who are close to that individual.

In the peer context, attachment also exists which is known as friendship (Blustein, Prezioso, & Schultheiss, 1995). Affection bonding exists among close friends because they share their problems and difficulties with one another. The close friend also becomes the supporter in any action that is taken by the individual (Ainsworth, 1989). Peer attachment at school plays an important role as it is one of the components of school attachment. Mounton, Hawkins, McPherson, and Copley (1996) found out that students with low school attachment were those who received low encouragement and support from their friends. They also feel alienated from others at school.

Cooperative learning strategy is a learning process that occurs in groups while the students try to grasp and comprehend the learning materials given by the teacher (Slavin, 1990). According to Coelho

(1994), besides emphasizing academic achievement, this strategy also focused on the social skills development. This approach is based on the humanistic view, which assumes that education should be student-centered and under student control. In the cooperative learning environment, the teacher becomes the guide and facilitator in the classroom. In explaining the effects of cooperative learning on student's social relations, specifically in ethnic relations, Slavin and Hansell (1983) associated it with the contact theory, which was proposed by Allport (1954). They assumed that through a small group in cooperative learning, students gain the opportunity to interact more among themselves compared to when they are in the conventional classroom. Students also help each other in their learning and this will enable them to know more about each other.

Besides academic achievement, researchers are also concerned about the effects of cooperative learning on students' social relations. Among the social relation aspect that have been studied are students' attitudes toward peers in class (Slavin, 1978), ethnic relations (DeVries, Edwards & Slavin, 1978), social skills and the role of group members in improving student's misbehaviours (Smith & Karp, 1997), and relations with special students (Putnam, Markorchick, Johnson & Johnson, 1996). Student's attitude towards peers in class becomes more positive and their relationships are closer when they have group activities (Jules, 1991).

Smith and Karp (1997) agreed that cooperative learning which includes social skills training, is able to improve social behaviour for some problematic students. Johnson, Johnson and Anderson (1983) concluded that students who were involved more in cooperative learning had more positive perceptions toward supporting and helping one another. Their perceptions toward their friendship with peers and teachers were also more positive. Putnam et al. (1996) were interested in identifying the effects of cooperative learning towards the stability of peer acceptance for special students in the long term. They suggested that students' perceptions toward peers in traditional class are stereotyped and difficult to change.

Based on what have been discussed earlier about the effects of cooperative learning towards social relation, the findings of these studies suggested that cooperative learning has a positive effect in increasing peer attachment among individuals. The objectives of this study, therefore, are to determine the effects of a cooperative learning strategy on peer attachment as compared to traditional learning and to identify the problems faced by students during cooperative learning. Peer attachment is defined as bonded affection in terms of friendship that exists between peers (Ainsworth, 1989; Blustein et al., 1995).

METHOD

Sample

The study involved 213 students (girls = 133; boys = 80) who were enrolled in an accounting class in four secondary schools in Malaysia. Their age ranged from 16-20 years. The ethnicity of the samples consisted of 97 Malays and 116 non Malays (Chinese, Indian, Punjabi and Eurasian).

There were nine classes which were taught by four accounting teachers. The study used a quasi-experimental method because the classes involved were intact classes which had already been determined by the school at the start of the school session. The researcher assigned five classes ($n=123$) to use the cooperative learning method (treatment group) and the four remaining classes ($n=90$) maintained the traditional learning method (control group).

Instruments

Attachment was measured using the subscale for peers in the Inventory of Parent and Peer Attachment (IPPA; Armsden & Greenberg, 1987). The instrument used in this study has 24 items which consisted of three sub-domains (trust, communication, and alienation). The items were in Malay Language which were translated and modified from the original instrument (Ruhani, 1998). Social relations that were compared in present study were the affective and cognitive aspects which measure students' perceptions about bonded affection between themselves and their fellows. A double back translation was carried out by the researcher on the five-point (1- always not true, 2-often not true, 3-sometimes true, 4-often true, 5-always true) Likert scale items which was then compared to the original items. High scores show high peer attachment. Items for the sub domain of 'alienation' were negatively scored and higher score on 'alienation' implied that feeling of alienation was low. The test-retest reliability value for the peer attachment subscale was .86. The test-retest method was carried out in a time span of 3 weeks. The Cronbach alpha value for the improved version was .92. Overall, the value of Cronbach alpha for the peer attachment subscale for this study was .86. The answers to the open-ended questions were analyzed by using content analysis (Strauss & Corbin, 1995).

Procedure

A post test design was used in the present study which lasted for eight weeks. The cooperative learning technique that was used in the study was the Student Teams-Achievement Divisions (STAD) technique proposed by Slavin, (1990). According to Slavin, this

technique focuses on learning in a group where each group consists of four to five students with different learning ability levels. The activities under STAD are as follows:

1. Teacher presents the context;
2. Students do exercises in groups;
3. Individual quiz;
4. Counting individual and group scores;
5. Re-cognition for successful teams.

The traditional learning method that was used for the control group was teacher-centered in nature where students were assigned individual exercises. This method is usually practiced in most accounting classes in Malaysia. Traditional method consists of following activities:

1. Teacher presents the contents;
2. Students do exercise individually;
3. Counting individual scores.

At the end of the study, peer attachments were measured. In addition, students were asked to describe their experiences in the cooperative learning environment through an open ended series of questions.

RESULTS AND DISCUSSION

To see the difference between cooperative (treatment group) and traditional learning (control group), *t*-test was applied. The Results are shown in Table 1.

Table 1

Differences between Cooperative Learning and Traditional Learning Groups

Variables	Cooperative learning (<i>n</i> =123)		Traditional learning (<i>n</i> =90)		<i>t</i>	<i>p</i>
	<i>M</i>	<i>S.D.</i>	<i>M</i>	<i>S.D.</i>		
Trust	3.59	.61	3.68	.58	.99	.324
Communication	3.28	.69	3.30	.69	.15	.885
Alienation	4.39	.45	4.53	.48	2.17	.031
Peer Attachment (Total)	3.75	.45	3.83	.47	1.23	.22

Table 1 shows non-significant differences between cooperative and traditional learning strategy on overall peer attachment scores. Three independent *t*-tests were also conducted separately to determine

the differences between the treatment and control groups in terms of the three sub-domains (trust, communication and alienation). The results showed that there were non significant differences in the sub-domains of 'trust' and 'communication'. However there were significant differences between cooperative learning strategies and traditional learning on the sub-domain of 'alienation'.

The communication sub-domain showed the lowest mean score for both groups while the mean score for alienation was highest for both groups. The higher mean score implied that the feeling of alienation was low. The finding showed that students in both groups did not feel alienated in the class.

The mean scores of all sub-domains for the traditional group, however, were slightly higher than those of the treatment group although the differences were non significant. The lower mean scores achieved by participants of the treatment group were most probably, due to the nature of cooperative learning strategy whereby students were grouped together with those who were not considered as their friends. The group members also comprised students from different ethnic backgrounds. These situations could have led the students to feel uncomfortable or alienated. They were less likely to trust each other and communicate with one another under such circumstances especially at the initial stages.

To see the difference between men who utilized cooperative learning and those who utilized traditional learning on peer attachment and the difference between women who utilized cooperative learning and traditional learning on peer attachment, *t*-test was applied (Table 2).

Table 2

Differences between Cooperative Learning Group (CL) and Traditional Learning Group (TL) according to Gender

Variables	Men				<i>t</i>	<i>p</i>
	CL		TL			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Trust	3.53	.64	3.59	.50	.45	.653
Communication	3.11	.77	3.15	.65	.18	.854
Alienation	4.43	.43	4.45	.54	.17	.863
Peer Attachment (Total)	3.69	.48	3.72	.43	.35	.731
Trust	3.63	.60	3.72	.62	.84	.405

df=78

Continued...

	Women				<i>t</i>	<i>p</i>
	CL		TL			
	<i>(n = 73)</i>		<i>(n = 60)</i>			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Communication	3.39	.61	3.37	.70	.18	.856
Alienation	4.37	.46	4.57	.44	2.57	.011
Peer Attachment (Total)	3.79	.43	3.88	.48	1.14	.255

df = 131

Results in Table 2 shows that there were non significant differences in the three sub-domains of peer attachment between the treatment and control groups for male groups. There were also non significant differences in trust and communication domains for female groups. However, women in traditional group scored significantly higher ($M=4.57$, $S.D=.44$) than cooperative groups ($M=4.37$, $S.D=.46$) on 'alienation domain' and women with traditional learning showed low feeling of alienation. However, previous researches (see, for example, Jules, 1991; Smith & Karp, 1997) showed that cooperative learning helped to improve students' social behaviour, so the findings of present research do not support previous researches.

For both male and female groups, the mean scores of the traditional learning method were slightly higher than the cooperative learning method. Both male and female students in the traditional groups trusted and communicated more with each other. They also showed more feelings of togetherness compared to the treatment group. This was probably because students worked in groups which comprised more than one ethnic race. It was likely that they felt uncomfortable when they were grouped together with students from different races as it is very common for students in Malaysian classrooms to work with members from the same ethnic group.

It must be noted that the cooperative learning environment in this research created opportunities for students from different ethnic backgrounds to work together. As a result, students from different races needed time to adjust themselves with one another. They also needed time to forge close friendship with one another.

Students' perception on using cooperative learning strategy

Based on the responses of the open ended questions, students reported several positive experiences related to social aspects. They shared that the cooperative learning strategy created an environment that promoted discussion among group members. Students had the opportunity to exchange ideas and to express their views when they were working in groups. Students were not reluctant to ask friends for

help and did not depend solely on their teachers. Students were motivated to cooperate and tended to help each other when they were in a small group. The weaker students claimed that they received help from peers who were more competent than them. Meanwhile, the more competent students were willing to guide those who needed help.

Students with differing levels of learning abilities and also from different races worked together under this cooperative learning environment. The students were also able to get to know one another as there were opportunities for them to discuss and interact among group members. They also felt that they could understand each other better. There were several students who tended to be selfish at the beginning because they did not know their group members. They were uncomfortable and were too shy to ask questions. Nevertheless, the students were able to adapt themselves into the cooperative learning environment towards the end of the experiment. They became more tolerant towards one another. Students also strived hard to improve their performance and tried to outdo other groups. It could be assumed that the cooperative learning strategy employed in this study enhanced the interactions among students during the learning process. Students got to know and understand one another.

In general, the responses from students in the cooperative learning group seemed to suggest that students were more willing to socialize and their relationships with their classroom peers from different races were closer towards the end of the treatment. It could be assumed that the cooperative learning strategy used in this study had a positive effect towards ethnic integration as it has the potential in increasing students' understanding of one another. It must be cautioned that sufficient time must be given to students to work together in a multi-ethnic learning environment.

Challenges Faced During Cooperative Learning Environment

The researchers identified several problems as indicated by students during the implementation of the cooperative learning strategy. Even though the cooperative learning strategy promotes cooperation among group members, there were team members who did not cooperate. This led to the problem of students feeling dissatisfied with their group members. Some of the students complained that their group members were not willing to discuss. Although students were given opportunities to have face to face discussions, there were still students who failed to build close

relationships with their group members. The students had difficulty in cooperating and discussing as they did not know each other very well at the initial stage. Students found it difficult to join in the group discussion with those from different ethnic backgrounds because they tended to use their own native language while discussing. This caused the rest to be left out. In addition, some of the students liked to do other things rather than completing the task during group work. They liked to play around or discussed about matters that were not related to learning.

It is likely that the problems mentioned above occurred because students were not trained to increase their social skills. This study used the STAD technique which was based on the learning behavior theory. Therefore, in Slavin's opinion, social skills would be learnt indirectly when students interact with one another. Meanwhile, Abrami et al. (1995) insisted those skills are important in ensuring effective and productive cooperation. The social skills that are meant in this context are listening, sharing and giving encouragement while interaction occurs which could be either verbal or non verbal. Abrami et al. suggested that students must be equipped with social skills because some students have limited communication experience due to their shyness. It could also be because the students are from different ethnic backgrounds. Therefore, based on the students' experiences throughout the study, it was found that not all students were ready to interact with anyone whom they were not familiar with. A few students actually felt isolated in the same group because they come from a different ethnic background. For this reason, students should be equipped with social skills before they are exposed to a cooperative learning environment. The social skills that they possessed can help students to adjust themselves in a group with students from different ethnic backgrounds. Such skills can also create a harmonious environment for discussions. It is imperative that students are given opportunities to know each other in a more planned environment. Suffice to say that teachers need to create more activities that can build good relationships among group members. When students know each other and develop a close relationship with one another in a group, they are able to create a group identity.

Limitations

The researcher used the pre-test- and post test design during the pilot study. However, it was found out that many students did not complete the questionnaire during the post test. For that reason, the researcher decided to use the post test design only for the actual study to ensure maximum responses from the participants.

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