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Terbit dua kali setahun pada bulan Maret dan Oktober. Jurnal ini berisi tulisan yang diangkat dari hasil penelitian dan kajian analisis kritis dari bidang pendidikan dan pengajaran.

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Magister Scientiae menerima sumbangan tulisan yang belum pernah diterbitkan dalam media lain. Naskah diketik di atas kertas HVS kuarto spasi ganda sepanjang lebih kurang 20 halaman dengan format seperti yang tertera pada halaman Pedoman Penulisan. Naskah yang masuk dievaluasi dan disunting untuk keseragaman format dan tata cara lainnya.

DAFTAR ISI

Teacher's Enforcing Positive Interdependence: Students' Perceptions

Siti Mina Tamah

Abstract. As there is a tendency to regard that a classroom without the label of „cooperative learning" is not a good one, recent instructional practices then often utilize group work to encourage students to gain knowledge from one another – to assist and to seek assistance from their peers in addition to from the classroom teacher. Classrooms have the typical characteristics of small groups. The lock-step mode of instruction has been implicitly discouraged.
Group seating in classrooms requires a teacher to keep into consideration the essential components of cooperative learning. One of the two critical components most widely reviewed is Positive Interdependence. With the trend to incorporate cooperative learning in the classroom practices, this Positive Interdependence is undoubtedly to be imposed to obtain the beneficial outcomes of cooperative efforts. Simply put, how can a teacher actively engage their students in their group work? How can a teacher enforce Positive Interdependence when implementing group work? This paper provides a model of enforcing students who are accustomed to having a non-cooperative learning class. It is in fact an attempt of the writer to share her classroom practice – what she has done to make the students really work as a group. To be more particular, this paper is intended to reveal students" perceptions on the writer"s attempt to enforce the cooperative learning component – Positive Interdependence.

Key words: cooperative learning, positive interdependence, perceptions

Introduction

It is customary nowadays for teachers to incorporate cooperative learning paradigm in their classroom instructional practices. In fact, there is a tendency to consider that a classroom without the label of „cooperative learning" in which students are put into small groups is not a good one. The current instructional practices then often utilize group work to encourage students to learn from one another – to assist and to seek assistance from their peers in addition to from their classroom teacher.

In spite of research evidence supporting group work, many teachers still have worries with group work implementation. To this particular concern, Brown (2001) strengthens the need of careful planning and management. What matters is the lack of additional effort or essential conditions which might be related to the characteristics that make cooperative learning different from common group work.

Group seating in classrooms requires a teacher to keep into consideration the essential components of cooperative learning. They should not be ignored to support effective group working. One of the most widely reviewed components of cooperative learning is Positive Interdependence – claimed as the critical component in cooperative learning (Kagan & Kagan 1994; Tinzmann et al. 1990 who cite Davidson, 1985 and Johnson & Johnson 1989; Totten et al. 1991 who refer to Newmann & Thomson 1987, and Slavin 1989). Argued by Kagan & Kagan (1994) as "the most basic principle in cooperative learning", Positive Interdependence is created when students realize that they are positively interdependent from one another in the learning group – that everyone in the group sinks or swims together (Kagan & Kagan, 1994).

There are at least two ways to incorporate Positive Interdependence in classroom practices. As Lie (2002) argued, the lowest score of the student in the group can be considered. The other way is to average the group members" scores. Lie (2002) further points out the strength and the weakness of both ways. They can promote cooperation among the group members. They can also cause negative feeling as high-achieving students will feel disadvantaged meanwhile the low-achieving students will feel guilty.

With the trend to incorporate cooperative learning in the classroom practices, Positive Interdependence is undoubtedly to be imposed to obtain the beneficial outcomes of cooperative efforts. Simply stated, how can a teacher actively engage their students in their group work? How can a teacher enforce Positive Interdependence when implementing group work? This paper provides a model of enforcing students who are accustomed to having a non-cooperative learning class. It is in fact an attempt of the writer to share her classroom practice. To be more particular, this paper is intended to reveal students" perceptions on the writer"s attempt to enforce the cooperative learning component – Positive Interdependence.

Cooperative Learning

Felder & Brent (2006) classify cooperative learning as an approach of student-centered learning. Here are what they assert as three approaches of student-centered learning:

1. Active learning. In this sort of learning approach, students are involved in doing something like talking and listening to one another, or writing, reading, and reflecting individually besides listening to a lecture and taking notes in class.
2. Collaborative learning. This subset of active learning gives students the opportunity to interact with one another while they learn and apply course material.
3. Cooperative learning. It is a form of collaborative learning in which students work together on structured assignments that assure positive interdependence, individual accountability, periodic face-

to-face interaction, appropriate development and use of interpersonal skills, and regular self-assessment of group functioning.

It is then implied from Felder & Brent"s learning approach classification that cooperative learning is a form of collaborative learning which is a part of active learning.

Without differentiating cooperative learning from collaborative learning, Coelho (1992) as cited in Tamah (2011) points out that cooperative learning is an approach to education which is based on the viewpoint that education should be learner centered and learner directed; that learners can be teachers; and that teachers are guides and facilitators rather than the source of all knowledge and direction. Referring to Slavin (1990), Jacobs, Lee and Ball (1996) cited in Tamah (2007) put forward that in a cooperative learning class, students are required to work together to learn and to be responsible for their fellow students" learning as well as their own. This particular nature of cooperation necessitates a new learning paradigm. The students have the right to ask for assistance from the other group members. Moreover, they have the duty to assist the other group members who ask for help (Cohen et al., 1994). Defined further with regard to the end result, cooperative learning is a learning approach which emphasizes the use of small groups of students working together so that learning condition is maximized (Nurhadi 2004) and academic and social learning goals are achieved (Peregoy & Boyle, 2005).

Kessler (1992) referring to Olsen (1984) correspondingly claims that cooperative learning offers ways to organize group work to enhance learning and increase academic achievement. It is structured and organized in such a way so that each learner interacts with others. Cooperative learning is therefore more than working together. Nagel (2008) referring to Slavin (1990) and Kagan (1990) asserts that cooperative learning has been described as "structuring positive interdependence" in pursuit of a specific shared group goal.

Essential Components of Cooperative Learning

Persistently claimed in cooperative learning literature is the five essential components of cooperative learning. They should be cautiously considered to obtain the beneficial outcomes of cooperative efforts. Those five essential components are (1) Face-to-face Interaction, (2) Interpersonal & Small-Group Skills, (3) Group Processing, (4) Individual Accountability, and (5) Positive Interdependence. The last two components, i.e. Individual Accountability and Positive Interdependence, are the most widely reviewed. As only one of the five components – Positive Interdependence – is strongly allied to this paper, it will be elaborated while the other four components are not (interested readers can refer to, among others, Cohen, 1994; Kagan & Kagan, 1994; Johnson & Johnson, 1994, 1999).

Argued by Kagan & Kagan (1994) as “the most basic principle in cooperative learning”, Positive Interdependence comes about whenever the achievement of one group member is allied to the one of other group members while a failure of one group member means a failure of all other group members. This particular cooperative learning principle being enforced, the students realize that they are positively interdependent from one another in the learning group – that everyone in the group sinks or swims together (Kagan & Kagan 1994), and that “no one is successful unless everyone is successful” (Male, 1994:270). In brief, every student must see himself or herself as positively dependent one another to enable him or her to take a personal responsibility for working to achieve group goals.

When students see that their work benefits group members and their group members' work benefits them, Positive Interdependence is promoted. When students work together in small groups to maximize the learning of all members by sharing their resources to provide mutual support and encouragement and to celebrate their joint success, Positive Interdependence is also promoted (Johnson & Johnson, 1994).

Positive Interdependence can be achieved through mutual goals, division of labor, dividing materials, roles, and by making part of each student"s grade dependent on the performance of the other group members. Group members must believe that each student"s efforts are beneficial not only for himself or herself, but for all group members as well.

Positive Interdependence Enforced

In the class where 32 students were enrolled for English course offered to students of semester 1 in the odd semester of 2010/2011 academic year at the Faculty of Engineering of a university in Surabaya, I implemented cooperative learning. As the main concern is related to Positive Interdependence, the discussion in this section focuses on how it was enforced in the class. Prior to this discussion, brief description on the grouping and the general class instruction precedes.

The grouping was formed at the very beginning of the semester. The students chose their own group members forming eight 4-student groups; no structured group formation was employed. The students stayed in their groups till the end of the semester; cooperative base group lasting a semester was applied.

Typically, after mini lecturing, I assigned the students to work in their groups they themselves formed. They did the assignment in the course book which consisted of reading texts of various topics related to engineering and grammatical items covering: Noun phrase, Verb phrase, Basic Sentence Structure, Passive Sentences, or Complex Sentences. In general, the students worked in their group to do the task of identifying and analyzing the grammatical items in the reading texts and in other additional grammar exercises, and discussing the reading texts for

comprehension. They were expected to help one another – to get and give assistance to achieve group goal. In other words, Positive Goal Interdependence was emphasized by requiring the students to learn the assigned material and to ensure that all members of the group learned the assigned material so that eventually the group members could do well on the quizzes.

During the 13-meeting semester course (6 meetings on the first half of the semester, and 7 on the second), two types of assessing group work to enforce Positive Interdependence were implemented. They were quizzes done in class after the students worked in their group, and group assignments done outside the class. Three quizzes were administered on meetings 3 and 6 of the first half of the semester and on meeting 6 of second half of the semester. Three group assignments were required. They were asked to find a text related to engineering. Further task as a form of formative assessment followed. When the students had learnt the topic of noun phrases, for instance, the task for outside classroom group work was finding some noun phrases in the text and identify the head of each noun phrase. The group assignments were collected before the quizzes were administered. The assignment was given feedback and scored. On meeting 3 of the first half of the semester and on the last meeting, i.e. meeting 7 of the second half of the semester, the students were given a simple questionnaire.

The quiz was a form of formative assessment. The quiz expected to be individually taken consisted of 20-25 items and it was allocated for about 25 minutes. For Quiz 1, it was taken by one student in each group. For Quizzes 2 and 3, it was taken by two students in each group (the students requested so). The quiz takers were randomly assigned. If number 1 was, for instance, chosen, all students numbered 1 in the groups were opted for Quiz 1 takers. The score obtained by Quiz 1 taker became the one for each member in the group. For Quizzes 2 and 3, the average of the scores of the two quiz takers became the group score hence the average score became the only score for every member in the group.

The students were reminded to put their utmost effort in group work. They were made to realize that they could achieve their learning goals if, and only if, all the members of their group also achieved their goals so that at last the chosen group members could do well on the quizzes. The students in the group were told to work together to help group members experiencing difficulty and to ask for help if they were in need of others" help. I came to the group if they asked for help – assisting the group difficulty. I reduced my label as conventional, presentational teacher.

When the chosen quiz taker(s) did the quiz individually, the other members in the group were provided with the same quiz problem to discuss silently. Before the quiz result was collected, the takers were given chance to ask for assistance up to 20% quiz items that they were uncertain of or that they needed help to check. The other members – the

non-quiz takers could provide help. It was for the quiz takers to make the last decision – to take their friends" answers or keep theirs.

The group work assignment was also intended to be a formative type of assessment. They did the group task outside the class. The students were assigned to find a text related to pharmacy and asked to do some more exercises related to the grammar topics discussed in class. The score of the group assignment became the score for each member. Known as reward interdependence, this group score for the overall production of the group was meant to encourage students to realize that each group member's efforts are required and indispensable for group success. They were encouraged not to write the name(s) of the member(s) who was or were not involved in the group work.

Students' Perceptions

To know the students" perceptions on the idea of taking the average of the individual members" quiz scores as the score of each group member, I asked the students to respond to the following statements by writing 1, 2, 3, or 4 which corresponds to „Strongly disagree", „Disagree", „Agree", or „Strongly agree" respectively:

1) *Group work evaluation is based on the average of the individual members "quiz scores.*
2) *The lecturer is successful in making the students work in group discussion.*

As previously mentioned in section [4], the students were given a questionnaire – a simple one – sometime at the beginning of the semester and at the end of the semester. On meeting 3 of the first half of the semester, Quiz 1 was administered. On the first half of the semester – to be exact at the beginning of meeting 3 before the students worked in their group or before the quiz administration, the students were asked to provide their opinion on items #1 and #2. Right after the quiz administration, the students were asked similarly. On the last meeting of the semester course, i.e., one session after Quiz 3 was administered, the students were again asked to provide their opinion on items #1 and #2. Another item *"The group assignment done outside is to be maintained"* was added to know the students" perceptions on the idea of outside class group assignment.

Implicitly the items in the questionnaire are primarily related to the way Positive Interdependence was enforced. The questionnaire items are expected to depict whether the students are encouraged to work together. Simply, the responses to the questionnaire items will reveal to a certain extent if each group member's efforts to achieve group goal are established in group work.

The rest of this section presents the result of the questionnaire completion showing students" perceptions on the writer"s attempt to enforce Positive Interdependence.

Table 1 indicates that both before and after Quiz 1 was administered at the beginning of the semester more students chose „strongly disagree" and „disagree" than „agree" and „strongly agree". Surprisingly, the other way around is revealed at the end of the semester. No students (0%) strongly disagreed and only about 13% disagreed to the idea of averaging quiz scores for individual members. A summarized version of Table 1 (presented as Table 2) clearly reveals that more than two-thirds of the students in general disagreed to the teacher"s idea of taking the average scores for each group member. Meanwhile at the end of the semester, the two-thirds became 13.3% indicating that the majority of the students had liked the idea of group work evaluation basing on the average of the individual members" quiz scores.

Table 1
Four-scale Perception on the Idea of Averaging Quiz Scores

Average quiz score for individual members	At the beginning of the semester (n=30)		At the end of the semester (n=30)
	Before Quiz 1	Right after Quiz 1	After the last quiz (after Quiz 3)
Strongly disagree	46.7%	26.7%	0.0%
Disagree	46.7%	43.3%	13.3%
Agree	6.7%	30.0%	50.0%
Strongly agree	0.0%	0.0%	36.7%
Total	100%	100%	100%

Table 2
Two-scale Perception on the Idea of Averaging Quiz Scores for Individual Members

Average quiz score for individual members	At the beginning of the semester (n=30)		At the end of the semester (n=30)
	Before Quiz 1	Right after Quiz 1	After the last quiz (Quiz 3)
Disagree	93.3%	70.0%	13.3%
Agree	6.7%	30.0%	86.7%
Total	100%	100%	100%

Here are the comments provided by students at the end of the semester with regard to averaging quiz scores:
Comments from those disagreeing (amounting to about 13%):

1. Teman yang terpilih malu bila dapat [nilai] jelek. *[The chosen friend feels ashamed if the score is bad.]*

2. Kalau nilai jelek akan merasa bersalah kepada teman lain. Perbanyak tugas saja. *[The feeling of guilt to other friends. Just give more assignments.]*
3. Merasa terbebani jika terpilih. *[The feeling of burden if chosen.]*

Comments from those agreeing (amounting to about 87%):

1. Ide bagus untuk memotivasi siswa karena siswa lain dalam kelompok tergantung pada anak yang dipilih. *[A good idea to motivate students as students in the group depend on the chosen student.]*
2. Cukup adil dan cukup memotivasi untuk mengerjakan bersama sebaik-baiknya. *[Quite fair and quite motivating to do the best.]*
3. Bisa bantu anak yang belum bisa dan saling mengingatkan. *[It can assist weak students and we remind one another.]*
4. Membuat semua anggota kelompok mau berusaha. *[All group members are encouraged to try their best.]*
5. Membuat semua terlibat dalam kelompok. *[Group members are involved.]*
6. Dapat saling memotivasi dalam belajar. *[Group members are motivating one another.]*
7. Lanjutkan/teruskan, mam. *[Continue it, maam.]*
8. No comment. Lanjutkan! *[No comment. Go on!.]*
9. Use this way next time (a good idea).
10. Metode ini baik sekali. *[This method is excellent.]*
11. Jika salah satu jelek dapat ditolong. *[Weak member can be helped.]*
12. Melatih kerja sama. *[It trains us to be cooperative.]*
13. Yang tidak hadir nilainya lebih dipertimbangkan agar lebih adil dengan yang sah hadir. *[Those attending the class should be treated differently from those who were absent.]*
14. Yang maju tes tidak maju lagi. Gantian. *[The quiz taker should be different.]*
15. Cara mengundi anak yang maju kurang efektif, kurang adil. *[The way to opt the quiz taker is not effective.]*
16. Lebih baik jawaban bantuan diperbanyak, tidak hanya 2 nomor saja. *[Increase the number of quiz problem to get assisted.]*
17. Soal-soal dalam kuis lebih banyak dong. *[The quiz should consist of more items.]*
18. Adil. *[Fair.]*
19. Lebih kenal teman. *[Getting more acquainted with friends.]*
20. Kalau yang maju [terpilih] pas jago2, ndak apa-apa. *[If the chosen quiz taker is the good one, it"s OK.]*

The students" responses to "*The lecturer is successful in making the students work in group discussion* indicates that both at the beginning and the end of the semester the majority of the students (about 93% and 90% respectively) admit that the writer has been successful in implementing

the group work (see Table 3). It is likely that enforcing Positive Interdependence becomes the explanation of this finding.

Table 3
Perception on the Teacher's Success in Making the Students Work in Group Discussion

The lecturer is successful in making the students work in group discussion	At the beginning of the semester (n=30)	At the end of the semester (n=30)		At the beginning of the semester (n=30)	At the end of the semester (n=30)
Strongly disagree	0%	0%	Negative Perception	6.7%	10%
Disagree	6.7%	10%			
Agree	26.7%	46.7%	Positive Perception	93.3%	90%
Strongly agree	66.7%	43.3%			
Total	100%	100%		100%	100%

The students" last responses to the item *The group assignment done outside is to be maintained* indicate that slightly above three quarters (to be exact, 77.7%) students claim that it is essential for the teacher to keep outside class group assignment. Most probably, the students consider it beneficial.

Table 4
Perception on the Group Assignment Done Outside the Class

The group assignment done outside is to be maintained.	At the end of the semester (n=30)
Strongly disagree	2.3%
Disagree	20%
Agree	47.7%
Strongly agree	30%
Total	100%

Here are the comments provided by students at the end of the semester with regard to outside class group assignment:
Comments from those disagreeing (amounting to about 22%):

- Lebih baik tugas perorangan karena sulit berkumpul karena beda jurusan. *[It is better to have individual assignment as we are from different departments.]*

- Tidak semua anggota bekerja. Saran: tugasnya individu saja. *[Not every one works. Suggestion: individual assignment.]*

Comments from those agreeing (amounting to about 78%):

- Bisa buat latihan dengan bacaan yang lebih sulit atau kompleks - Lanjutkan! *[As an exercise using a more complex text.]*
- Bisa belajar sendiri dan menemukan masalah lain di luar kelas. *[Self-study and exercise for problem solving outside the class are made available.]*
- Buat latihan sebelum quiz. *[As an exercise prior to the quiz.]*
- Tambahan belajar bersama, membantu memahami [materi] perkuliahan. *[As an additional exercise.]*
- Mahasiswa lebih aktif. *[Students become more active.]*
- Membantu kita relajar, selain itu menambah nilai pula. *[Assisting us in learning; besides, adding scores.]*

Conclusion

As reminded by Johnson & Johnson (1994), putting students into groups does not necessarily add a cooperative relationship; it has to be structured and managed by the teacher. The teacher ought to find a way to make the group members maximize their effort to achieve group goal. One of them is averaging the quiz scores to be the only score of individual members. Overall, on the basis of the students" responses to the evaluative statements in the questionnaires, it appears that Positive Interdependence is to a certain extent enhanced by averaging individual students" quiz scores in the group.

Another essential component of Cooperative Learning is Face-to-face Promotive Interactions which is defined as individuals encouraging and facilitating each other's efforts to achieve, complete tasks in order to reach the group's goals – so that all group members are motivated to continue to work on the task at hand. The students" comments presented above ("… cukup memotivasi untuk mengerjakan bersama sebaik-baiknya" *[... quite motivating for us to do our best.]*, "Bisa bantu anak yang belum bisa dan saling mengingatkan" *[It can assist weak students and we remind one another.]*, "Membuat semua anggota kelompok mau berusaha" *[All group members are encouraged to try their best.]*) implicitly indicate that when Positive Interdependence is enhanced, Face-to-face promotive interactions are brought about indirectly. Averaging individual students" quiz scores in the group appears to entail two essential components of Cooperative Learning: Positive Interdependence and Face-to-face Promotive Interactions.

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