

Applicability of Cooperative Learning Techniques in Different Classroom Contexts

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Abstract

This paper is based on the results of pre-test post-test, feedback questionnaire and observation during a community service program entitled “Training on English Teaching using Cooperative Learning Techniques for Elementary and Junior High School Teachers of Sekolah Alam Arridho Semarang”. It was an English teaching training program intended to equip the teachers with the knowledge and skills of using the different cooperative learning techniques such as *jigsaw*, *think-pair-share*, *three-step interview*, *roundrobin braistorming*, *three-minute review*, *numbered heads together*, *team-pair-solo*, *circle the sage*, dan *partners*. This program was participated by 8 teachers of different subjects (not only English), but most of them had good mastery of English. The objectives of this program was to improve teachers’ skills in using the different cooperative learning techniques to vary their teaching, so that students would be more motivated to learn and improve their English skill. Besides, the training also gave the teachers the knowledge and skills to adjust their techniques with the basic competence and learning objectives to be achieved as well as with the teaching materials to be used. This was also done through workshops using cooperative learning techniques, so that the participants had real experiences of using cooperative learning techniques (learning by doing). The participants were also encouraged to explore the applicability of the techniques in their classroom contexts, in different areas of their teaching. This community service program showed very positive results. The pre-test and post-test results showed that before the training program all the participants did not know the nine cooperative techniques to be trained, but after the program they mastered the techniques as shown from the teaching-learning scenarios they developed following the test instructions. In addition, the anonymous questionnaires showed that all the participants perceived that they gained a lot from the program, and all admitted that they were motivated to use the techniques in their real classrooms. The usefulness of this training program was also reflected from their expectations, as stated in their answers in the questionnaires, expecting that other teachers of other schools should also benefit from this kind of program.

Keywords: applicability, cooperative learning techniques

Introduction

Nowadays Indonesian school teachers, those of English or teachers of other subjects, have been aware of the need for student-centered teaching-learning process. However, in practice, many of them do not apply student-centered learning, or they apply it but with limited variety of techniques.

In English teaching-learning process teachers should be able to create a student-centered atmosphere with different teaching-learning techniques so that the learning is fun and interesting. One of the student-centered learning methods is cooperative learning, with its different techniques, offering group/team learning with the teacher acting as the facilitator.

The purpose of the program in general was to improve the teachers' competence in teaching English, with the following specific objectives: (1) to enable them to apply 8 different cooperative learning techniques (1) to enable them to adjust the cooperative learning techniques with different learning objectives and materials.

Theoretical Review

Language Competence

There have been different language competence models developed, and one of them is one developed by Celce-Murcia et al (1995), which sees the language competence from different perspectives motivated by pedagogic considerations. In this view, language is a means of communication rather than a set of rules. Thus, the language competence allows people to communicate using a language and to participate in the community of the language users.

Language education develops concrete skills through the learning process, and the communicative competence model developed as mentioned above helps formulate what competences should be catered by language education. When people communicate in writing or speaking they do not merely produce sentences; they actually organize and create logical connections among sentences or ideas. Thus, the role of a teacher is to develop the competencies that support the attainment of the communicative competence or discourse competence at the concrete level.

There are five communicative competencies as developed by Celce-Murcia et al (1995). First is the language actional competence, which refers to the ability to select the appropriate speech acts (in spoken language) or the rhetoric development (in written language) in every stage of communication, for example how to open a conversation, to interrupt, to suggest, etc. Second is the linguistic competence, which covers the ability of using the grammar, vocabulary, pronunciation, intonation, punctuation, etc. Third is the socio-cultural competence, which refers to the ability of using the language in an acceptable manner in view of the language cultural context. For example, the English words *thank you*, *sorry*, and *please* have equivalent words in Indonesian, but the frequency of use and the contexts of usage could be different. Fourth is the strategic competence, which is needed to overcome problems during communication, for example asking for repetition, asking for rephrasing, etc. Fifth is the discourse competence, which refers to the linguistic elements ideas so that united text is achieved, with cohesion and coherence, for example with the use of connectors, repeated words, prepositions, etc. (Depdiknas, 2003).

Learning English in EFL Context

In Indonesia, English as a foreign language has an important role in international communication, especially for the nation's competitive position. Thus, the English education should be targeted to equip the learners with spoken and written communicative competence.

There are several factors to be considered in undertaking English learning, among other is curriculum. Curriculum is the reference in undertaking English education; curriculum, according to Nunan as quoted in Tarigan (1989:85) consists of the principles and procedures for planning, implementation, evaluation, and management of an education program. Thus, it is crucial that curriculum is well designed for the teachers to refer to. In addition, the learning has to be done with the methods and strategies suitable with the needs and characteristics of the students. Learning English as a foreign language has to be done continuously and contextually with continuous exposure to the language in the contexts of their everyday life, so that the learning is meaningful and is expected to gain optimum outcomes.

Cooperative Learning Techniques

One definition of cooperative learning is given by Slavin as quoted in Jacobs, et al (1997), which put emphases on three aspects, namely team rewards, individual accountability, and equal opportunities for success:

All cooperative learning methods share the idea that students work together to learn and are responsible for their teammates' learning as well as their own. In addition to the idea of cooperative work, Student Team Learning methods [overall name used for those methods developed by Slavin and his colleagues] emphasize the use of team goals and team success, which can be achieved only if all members of the team learn the objectives being taught. That is, in Student Team Learning the students' tasks are not to do something as a team, but to learn something as a team. (p. 16)

Other definitions of cooperative learning are given by Davidson and Kagan & Kagan. Jacobs, et al (1997) summarizes that most experts on cooperative learning would agree on four points: (1) a task for group completion, discussion, and (if possible) resolution, (2) face-to-face interaction in small groups, (3) an atmosphere of cooperation and mutual helpfulness within each group, and (4) Individual accountability (everyone does their share), while others would include some or all of the following points: (1) heterogeneous grouping, (2) explicit teaching of collaborative skills, (3) structured mutual interdependence.

As cited from <http://edtech.kennesaw.edu/intech/cooperativelearning.htm>, research has shown some strengths of cooperative learning techniques as follows:

- promote student learning and academic achievement
- increase student retention
- enhance student satisfaction with their learning experience
- help students develop skills in oral communication
- develop students' social skills
- promote student self-esteem
- help to promote positive race relations

Some Cooperative Learning Techniques

There are a lot of cooperative learning techniques developed by the scholars in the area, but only 9 are presented here as examples (taken and directly quoted from <http://edtech.kennesaw.edu/intech/cooperativelearning.htm>), as they were used in the community service program. Teachers can always modify these techniques to suit their teaching needs.

1. **Jigsaw** - Groups of several students (depending on the material) are set up (home group). Each group member is assigned some unique material to learn. Students learning on the same material then get together and form a new group (expert group) to decide what is important and how to teach it to the other home group members. After practicing in these "expert" groups, they get back to the home groups and students teach each other.
2. **Think-Pair-Share** – This involves a three step cooperative structure. The first step allows individuals to think silently about a question/task posed by the instructor. The second step suggests individuals to pair up and exchange thoughts. In the third step, the pairs share their responses/ideas with other pairs, other teams, or the entire group.
3. **Three-Step Interview (Kagan)** - Each member of a team chooses another member to be a partner. In the first step individuals are supposed to interview their partners; in the second step they reverse the roles (interviewers become interviewees); in the final step, members of the team share their partners' responses.
4. **Round Robin Brainstorming (Kagan)**- Class is divided into small groups (4 to 6) with one person appointed as the recorder. The teacher asks a question that allows a lot of possible answers and students are given time to think about the answers. After the "think time," members of the team share their responses in the group round robin style. The recorder writes down the answers of the group members, starting from the person next to the recorder. This is done until time is called.
5. **Three-minute review** – In this technique, the teacher stops at any time during a lecture or discussion and give the teams three minutes to review what has been said, to ask clarifying questions or to answer questions.
6. **Numbered Heads Together (Kagan)** – The teacher divides the class into groups of four. Each member in each group is given a number, so in every group there is a member number 1, a member number 2, a member number 3, and a member number 4. The teacher asks questions. The group members work together to answer the question so that all can verbally answer the question. The teacher calls out a number (for example, number two) and the member number two in each group is asked to give the answer.
7. **Team Pair Solo (Kagan)**- Students solve problems that the teacher poses, first by doing it in a team, then with a partner (in pair), and finally on their own (solo). It is designed to motivate students to overcome difficult problems which initially are beyond their ability. It is based on the notion of mediated learning, suggesting that students can do more things with help (mediation) than they can do alone.
8. **Circle the Sage (Kagan)**- First the teacher polls the class to see which students have a special knowledge to share. Those students are then assigned as the sages. The sages stand and spread out in the classroom. The teacher then asks the rest of the classmates (in teams) each surround a sage. Each member of a team goes to a different sage; no two members of the same team go to the same sage. The sage explains what they know about the subject matter/tasks the teacher poses, while the classmates listen, ask questions, and take notes. All students surrounding the sages then return to their teams. Each, in turn, explains what he/she has learned from the sage.

9. Partners (Kagan) - The class is divided into teams of four. Half of of each team is given an assignment to master to be able to teach the other half (as tutors), while the other half act as the tutees. Partners (tutors) go to one side of the room to work to learn and can consult with other partners working on the same material. Teams go back together with each set of partners (2 students) teaching the other set. Partners quiz and tutor teammates. Team then reviews how well they have learned and taught and how they might improve the process.

Training Procedure

To get the picture of the teachers' understanding and mastery of cooperative learning before the training, pre-test was given, consisting of 2 items. First, the teachers (training participants) was asked to give check marks on the techniques they know and or master among the 9 cooperative learning techniques provided. Second, they were asked to make 6 teaching-learning scenarios (for vocabulary, grammar, listening, speaking, reading and writing) using 6 of the 9 cooperative learning techniques in the training.

It was found out that 7 out of the 8 teachers claimed that they did not know all the 9 techniques and so they could not make the sceanrios required in item 2 of the test. Another teacher claimed that he knew *think-pair-share* technique. However, the scenario that he made did not demonstrate understanding of the technique. It was concluded, then, that none of the participants understood the 9 techniques. The training was then designed to make them understand and able to apply the techniques.

The training was designed to give participants the experience of using cooperative learning techniques to learn english grammar, vocabulary, listening, reading, speaking, and writing. As the real practice of using cooperative learning techniques was done on 6 of the 9 techniques, in the reading learning session (with jigsaw technique), the participants are exposed with reading material on 9 cooperative learning techniques. The subjects and methods of training are given in the table below.

Table 1: *Training Subjects and Methods*

No.	Subject	Method of Delivery
1.	Reading	Workshop with Jigsaw technique
2.	Vocabulary	Workshop with Round Robin Brainstorming technique
3.	Grammar	Workshop with Numbered Heads Together technique
4.	Writing	Workshop with Team Pair Solo technique
5.	Speaking	Workshop with Three-step Interview technique
6.	Listening	Workshop with Think-Pair-Share technique

To find out the outcomes of the training and the participants' response on the training, post-test and questionnaire were given to all participants, and the questionnaire was filled anonymously. The test items were the same as the pre-test, and the questionnaire consisted of 8 open-ended and closed questions.

Findings

Pre-test dan Post-Test

As mentioned previously, none of the participants understood the 9 techniques and none could make the teachin-learning scenarios using the techniques before the training. After the training, 5 participants claimed that they understood/mastered all the 9 techniques. 1 participant claimed

she understood/mastered 7 techniques and 2 participants claimed that they understood/mastered 6 techniques. This shows that majority of the participants gained a lot from the training. However, it is worth identifying the techniques that participants claimed they did not master, namely: three-minute review, circle the sage, and partners. The 3 techniques were those learned from the reading (during the jigsaw technique workshop) only instead of the real experience workshop. This gives feedback and conclusion that learning cooperative learning techniques is more effective when it is done through workshop (learning by doing).

As opposed to the pre-test, during the post-test all the participants were able to write 6 teaching-learning scenarios with the cooperative learning techniques of their choices. Interestingly, all the participants were able to write scenarios for purposes different from the models in the training. This shows teachers' creativity in exploring the different applications of the techniques, which also shows the applicability of the techniques in different classroom contexts. The teaching-learning scenarios were even extended not only for the teaching of English, but also for the teaching of other subjects such as Mathematics, Science, and Religion (Quran Reading/ *Qiro'ati*). Additionally, some of the participants demonstrated high creativity by modifying the *think-pair-share* technique into *observe-pair-share* and *explore-pair-share*. This shows that the training was successful in convincing the participants that cooperative learning techniques can be applicable in different classroom contexts, and allow exploration of different techniques, each for different purposes. List of the 48 teaching-learning scenarios with cooperative learning written by the participants is given in the following table:

Table 2: List of Teaching-learning Scenarios Developed by Participants

No.	Technique	Application/Subject
1.	Numbered Heads Together (10 scenarios)	<ul style="list-style-type: none"> • Grammar (5 scenarios) • Listening (1 scenario) • Writing (1 scenario) • Science (2 scenarios) • Maths (1 scenario)
2.	Round Robin Brainstorming (9 scenarios)	<ul style="list-style-type: none"> • Vocabulary (6 scenarios) • Reading (1 scenario) • Science (1 scenario) • Writing (1 scenario)
3.	Jigsaw (7 scenarios)	<ul style="list-style-type: none"> • Writing (1 scenario) • Reading (2 scenarios) • Science (2 scenarios) • Maths (1 scenario) • Listening (1 scenario)
4a.	Think-pair-share (5 scenarios)	<ul style="list-style-type: none"> • Reading (1 scenario) • Listening (2 scenarios) • Religion/ Islam (1 scenario) • Maths (1 scenario)
4b.	Explore-pair-share (1 scenario)	<ul style="list-style-type: none"> • Science
4c.	Observe-pair-share (1 scenario)	<ul style="list-style-type: none"> • Science

5.	Three-step Interview (6 scenarios)	<ul style="list-style-type: none"> • Speaking (4 scenarios) • Science (2 scenarios)
6.	Team Pair Solo (6 scenarios)	<ul style="list-style-type: none"> • Writing (1 scenario) • Speaking (2 scenarios) • Maths (1 scenario) • Social Science (1 scenario)
7.	Three-minute Review (2 scenarios)	<ul style="list-style-type: none"> • Listening & vocabulary (1scenario) • Religion/Islam (1 scenario)
8.	Circle the Sage (1)	<ul style="list-style-type: none"> • Quran Reading (1 scenario)

Among the 48 teaching-learning scenarios developed by the participants, *numbered heads together* was the most dominant technique used (10 scenarios), followed by *round Robin brainstorming* (9 scenarios), *jigsaw* (7 scenarios), *think-pair-share* (5 scenarios) plus its modification into *observe-pair-share* (1 scenario) and *explore-pair-share* (1 scenario), *three-step-interview* and *team-pair-solo* (6 scenarios each), *three-minute review* (2 scenarios), and *circle the sage* (1scenario).

The scenarios also show applicability of the cooperative learning techniques for different learning contexts. They are used for the learning of English, such as grammar, vocabulary, listening, speaking, reading, and writing, as well as for the learning of Science, Mathematics, Religion/Islam, Quran Reading, and Social Science.

The results of the post-test above indicate that the teachers had good mastery of 6 techniques, i.e. *jigsaw*, *think-pair-share*, *three-step interview*, *round robin brainstorming*, *numbered heads together*, and *team pair solo*, as shown from the variety and high frequency of application in their teaching-learning scenarios. These 6 techniques were trained by direct experience through workshop. Among the other 3 techniques, which were trained through reading material during the jigsaw workshop, only 2 of them were then applied by the participants in the teaching-learning scenarios, i.e. *three-minute review* and *circle the sage*. The other technique, *partners*, was not used at all in the teaching-learning scenario. This technique was not the one of the techniques that the (majority of) teachers claimed to master. This has proven and give feedback that the workshop method works better that the reading method in training teachers cooperative learning techniques.

Questionnaire

In addition to doing the post-test, the participants also answered all the 8 questions in the questionnaire. In response to question number 1, whether they benefited from the training, all the participants said they gained a lot, with the following reasons: (1) got good teaching methods applicable to subjects other than English, (2) inspiring for more variety of teaching methods, (3) inspiring for more fun and interesting learning, (4) could apply the 9 cooperative learning techniques, from knowing nothing about them, (5) cooperative learning techniques could well be applied in their school context, (6) got the up-to-date teaching techniques they need, (7) the different techniques are applicable for students' better understanding of the subjects taught, and (8) got knowledge and mastery of new methods. The answers show the teachers' appreciation to the training program and their recognition that it has inspired them to apply the techniques for better quality teaching.

In response to question number 2, whether the training was interesting, all the teachers said "yes". Similarly, when they were asked the third question, whether they were motivated to use the cooperative learning techniques in their future classroom teaching, they all said "yes".

This shows that the training was considered interesting and was successful in motivating 100% of the participants to use the techniques in their classrooms.

The participants' response to question number 4, asking which techniques among the 9 techniques learned were interesting for their classroom application, indicated that they had different preferences. However, the most favorite techniques and not excluded from every participants' choices were *numbered heads together*, *round robin brainstorming*, and *jigsaw*. This was in line with their choices in their teaching-learning scenarios, with the three techniques being the most dominantly used. Thus, conclusion can be drawn that the three techniques are the most suitable for application in their classroom contexts.

The rest of the questionnaire asked the participants whether they needed similar training on teaching English, asked them what training they needed for their further professional development, asked them to give comments on the training, asked them to write their expectations in the future training. The answers indicated that they needed further training on English teaching, specifically on teaching techniques, on teaching media, on assessment, and on the English. Other training courses that they needed are public speaking, student motivating, classroom management, training for trainers of English, and curriculum development. These show that there are variety of needs among different teachers and that the participants are eager to learn and give the best to education.

When asked to give short comments with descriptive words to describe the training, they gave positive comments such as "(very) inspiring" (4), "(very) interesting" (2), "incredible" (2), "great", "perfect", "valuable (very beneficial for teachers)", "thanks a lot for your spirit; hope Allah bless you", "very very good", "excellent", and "unforgettable". This shows how teachers highly valued training program for their better teaching.

Writing their expectations for future training, they mentioned the need for such training to be given to all teachers elsewhere, especially English teachers, the need for similar training targeted specifically to the basic competence in the curriculum, and similar training with longer period. In conclusions teachers generally need training courses for their professional development, and they are aware of the importance to give the best to the students.

Conclusion

Training on teaching English using cooperative learning techniques was well appreciated by teachers as the participants. Out of the 9 techniques trained, the most popular technique that teachers used most dominantly in their teaching-learning scenarios and which they mastered the best was *numbered heads together*, followed by *round Robin brainstorming*, *jigsaw*, *think-pair-share*, *three-step-interview*, and *team-pair-solo*. *Three-minute review* and *circle the sage* did not gain as much popularity. However, as stated in their response to the questionnaire, they were all motivated to apply all the 9 techniques. The teaching-learning scenarios with cooperative learning techniques that the teachers developed for different teaching contexts, including those for teaching subjects other than English, have proved the applicability of cooperative learning techniques in different classroom contexts.

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