The Effectiveness of Cooperative Learning towards Low- Achieving Students in Class: A Concept Paper

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Abstract

This concept paper aims to discuss the effectiveness of cooperative learning on low proficiency students in the classroom. Cooperative learning is a teaching strategy based on cooperation and mutual assistance in groups to achieve an academic goal. This concept paper exposes cooperative learning issues to provide a clear picture of the problems that students face in mastering their learning. The characteristics and principles of cooperative learning are discussed to assist teachers to implement cooperative learning in the classroom. In addition, past studies related to this approach are also discussed and the relationship between the cooperative learning approach and Vygotsky's theory of social constructivism is also explained. The implications of the implementation of cooperative learning approach on poor student achievement are examined and explained based on previous relevant studies. This concept paper is expected to inform teachers in improving their teaching methods in creating a meaningful learning environment and assist students in improving their achievement.
Keywords: Cooperative Learning, Student's Achievement, Vygotsky's Theory Of Social Constructivism, 21st Century Learning

Introduction

Education is an important element for a country in developing a quality society in terms of personality and academics. Along with the objectives of the National Education Philosophy (FPK) which is an effort to produce a knowledgeable, skilled and holistic society that contributes to the harmony and prosperity of the community (Moe, 2021). The implementation of the teaching and learning process in schools is a fundamental matter in the education system in Malaysia by applying various approaches that are appropriate according to the topic of teaching, the level of understanding of students and the learning environment. The diversity of teaching methods or approaches is an important aspect in helping and motivating the involvement of each student and good techniques can encourage and increase the student's interest in learning sessions.

However, today's students showed less interest in studies and are increasingly less focused in attending teaching and learning (PdP) sessions (Aziz et al., 2014). According to Wiles and Bondi (1998), the focus in the classroom is very important and meaningful to

increase the intelligence of students in order to stimulate thinking, produce competent individuals and willing to be in the community in the future that is increasingly challenging.

Therefore, one of the approaches that is based on the 21st century learning style (PAK21) is the cooperative learning method. PAK21 emphasizes on student-centered learning which requires students to be active and teachers as facilitators in the classroom. Cooperative learning is an approach of teaching that helps students to interact with each other in groups to share ideas, solve problems and ensure that other group members master and understand the content of the learning. According to Tristiantari & Sumantri (2016) supporting cooperative learning is able to encourage students to work together in completing tasks given by teachers and aims to develop their social skills. Choy (1999) in a study by Alias (2013) stated that an effective cooperative learning process has several basic principles, namely positive dependence among group members who need to achieve common goals, individual accountability, which is responsible for their own achievements, interaction in groups and the use of social skills such as leadership, decision making or building trust. Therefore, cooperative learning not only promotes communication and social skills among students but the knowledge and achievement is also absorbed by the tasks given by the teacher.

Hence, the role of the teacher is central in applying this learning in order to improve the knowledge and understanding of students in their learning process. A teacher must be responsible in improving the performance of each of their students who need strategies and teaching methods that are strong, creative and fun during the learning and facilitation sessions (PdPc) implemented. The teaching method that is able to attract the attention of students is the teacher's own initiative in diversifying and customizing their teaching methods that are in accordance with the content of the lesson as well as following the abilities and needs of the students (Johdi, 2007). Cooperative learning is an appropriate method to be applied in the classroom to help underachieving students in improving the ability of students to understand each of their lesson content effectively.

Cooperative Learning Issues for Low-Achieving Students in The Classroom

Cooperative learning is a good teaching method and fosters a positive attitude of students working together in their learning process. In line with the Malaysian Education Development Plan (2013-2025) in emphasizing 21st century learning to be applied in PdPc, various responses and performance in the effectiveness of cooperative learning are discussed. However, this cooperative learning approach is still rarely applied in the classroom (Kadir et al., 2016).

Teachers are a key pillar in ensuring that the teaching and learning process is aligned with 21st century learning goals. Teachers are also a great and major contributor to student's achievement and motivation in their learning. Therefore, Ahmad et al (2009) stated that if teachers do not implement or conduct an effective teaching and learning (PdP) sessions, student's performance does not show improvement as teachers are the initial focus in the student's learning process.

The conventional approach or "chalk & talk " method is a popular and preferred teaching method among teachers in schools that is still used today in teaching and learning sessions. This approach is the learning process dominated by teachers in providing learning input while students are more passive in receiving knowledge. Therefore, this one-way teaching and learning leads to boredom and passivity in the classroom (Fadzillah, 2017).

Every teacher should have the initiative in planning and designing their teaching strategies to be more creative in conveying as well as delivering information to increase the active engagement of students in the classroom. According to Hamid et al (2015), students will have difficulty in understanding their learning when the teacher's delivery is weak on the subject being taught and knowledge is limited. The variety of teaching strategies and ideas to attract students' interest and encourage their motivation in mastering the subject depends on the design and quality of the teacher. To overcome the problems that arise, cooperative learning should be applied and implemented in the classroom to help and improve students' achievement in their learning.

Furthermore, the attitude of students in the classroom makes it difficult to implement this learning approach. According to Bhavani and Zamri (2017), learning in the classroom which is often been interrupted by students who have discipline problems will make it difficult for cooperative learning to be carried out and the lack of awareness of values such as respect is the root of this problem. Through the cooperative teaching method, Hadi and Abdul Wahab (2021) said it can improve the quality of student learning because it has basis and principles related to the application of good values such as respect, responsibility and practicing social skills that are useful and effective for students.

Purpose
Cooperative learning is an important element of 21st century learning to make learning interactive, meaningful and should be applied in the classroom. The purpose of this paper is to discuss
1. Characteristics and principles of cooperative learning to be implemented in teaching and learning sessions.
2. Cooperative learning models that can be applied by teachers as their teaching strategies during PdP Sessions.
3. Implications of implementing cooperative learning for low-achieving students.

Cooperative Learning Methods
Cooperative learning is one of the modern teaching techniques that can enhance students ' understanding, promote creative and critical thinking skills as well as increase students' achievement and motivation (Bhavani & Zamri, 2017). Cooperative learning is also a process that helps students communicate with each other in order to complete the tasks given by the teacher to understand the learning material. Slavin (1982) defined cooperative learning as a teaching method that requires students of different abilities to work together in small groups to achieve a common goal.

Characteristics of Cooperative Learning
Cooperative learning can be used as a solid method to form and unite groups in a social environment for a more effective educational experience. Cooperative learning sessions can build leadership skills and provide opportunities for each student to expand and develop their ideas with discussion activities. According to Johnson & Johnson (1994) in the study of Yahaya and Bahuri (2010) not all forms of learning are cooperative learning and to achieve effective results, there are five characteristics of this learning that must be applied. Isjoni (2009) in the study of Hafizah (2017) states that the five characteristics are

1. Group Goals
   The goal of the group is the goal that each group wants to achieve in mastering a concept taught in the PdP session. This goal can be achieved through the cooperation and efforts of all members of the group. Each members of the group has a specific and clear role in completing the assigned tasks and achieving the set goals.

2. Member Roles
   Each member of the group must have a specific role and responsibility so that the equality of tasks assigned is transparent. Irresponsible and selfish group members make the group goals difficult to achieve if they do not carry out their respective roles well.

3. Teaching and learning resources or materials
   The teaching resources and materials obtained need to be shared within each of group members. Sharing in groups is highly encouraged to foster the practice of helping each other to help group members in need.

4. Interactions
   Communication and interaction in the group is an important aspect of cooperative learning. Each group member should interact with the group members to discuss in solving the tasks and issues presented by the teacher. Interaction also provides a way for each student to recognize and assist weaker classmates in their learning achievements.

5. Individual Responsibility
   Each member of the group is responsible for the success and goals of their group. Each group member should play a role in guiding and mentoring each other to ensure that all group members understand their duties and are ready to sit for any assessment that the teacher will give at the end of the teaching and learning session.

Principles of Cooperative Learning
Effective cooperative learning can improve students' performance in learning and foster the nature of group responsibility. Therefore, in order for this cooperative learning method to be successful, five basic principles outlined by Johnson & Johnson (2009) that can be used as a reference and considered for implementing cooperative learning in teaching and learning. The four principles are

1. Positive Interdependence
   Students cooperate and work with each other to achieve success. Interdependence exists when each student requires the efforts of others and communicates to complete the tasks and achieve common goals. Although a student can be independent but with joint efforts in the group they can achieve a higher level of excellence in learning.

2. Individual Accountability
Each member of the group must play their respective roles in the group in completing the tasks given by the teacher and have a responsibility in helping and ensuring each of them should be helped, guided or encouraged in learning.

3. Group Interaction
Each student in the group should interact and discuss with each other in the assigned tasks. Reduzan (2012) explained that to achieve a proud achievement, each member needs to provide support, help, share and give encouragement in the learning process carried out.

4. Social Skills
The more effective the social skills implemented by students, the higher the quality of their learning. According to Yahaya and Bahuri (2010) to make cooperative learning effective, teachers must teach and introduce social skills to the students. These skills include leadership, decision making skill, building trust, communication and good conflict management.

Cooperative Teaching and Learning Model
According to Slavin (1982) in his writing Cooperative Learning: Student Teams has listed seven cooperative learning models to help teachers to apply it during PdP sessions to improve students' achievement. The seven models are

1. Student Teams-Achievement Divisions (STAD)
STAD learning is a form of cooperative group learning that includes various levels of student achievement and performance, gender, ethnicity and race that encourages them to help each other, motivate, and master the tasks given by teachers. An important aspect of this learning technique is the cooperation between group members in mastering the lesson.

2. Teams-Games-Tournament (TGT)
TGT learning is cooperative learning that is easily applied and implemented in the classroom that promotes an active involvement of students as mentors and creates a relaxed learning environment in fostering responsibility as well as healthy competition in the group.

3. Team Assisted Individualization (TAI)
TAI learning is a type of cooperative learning that trains students to think creatively, critically and positively impact on their learning. Group learning is an important component of TAI to strengthen the students' responsibility in helping each other between group members to solve problems and encourage each other. Interaction and discussion within groups are the main focus in improving student achievement in understanding the subject matter taught by teachers.

4. Jigsaw
The Jigsaw Model is a learning method that can stimulate team spirit in students. This model provides opportunities for students to actively assist in building understanding of

one another. Each student must have the equal responsibility in the assignment given to achieve the target goal. Each group member is responsible for being an 'expert' on one part of the material given and then' teach' the other group members in understanding the problem solving and tasks given

5. Learning Together
Learning Together Model has similarities with the STAD and TAI models which focus on efficient and effective learning between heterogeneous group members in completing assigned tasks. The nature of openness in communicating between group members can encourage support and reduce the fear of giving ideas and arguments. Because of this, students understand better and master their learning through explanations from their peers because of their level of knowledge and thinking is more compatible and equivalent.

6. Group Investigation
Learning and discussion in small groups in making plans and collaborative projects. Students form their own groups of two to six members and choose the subtopics that have been studied. Discussion and interaction between groups is an important aspect of this model to carry out the activities required to provide group reports. Each group will present the results of the discussion or findings to the whole class.

7. Think-Pair Share
Think-Pair-Share is a technique to activate students ' thoughts and thinking on a given topic or problem. This model is also promotes and encourage maximum engagement as well as maintaining the students' focus on the learning session. Think Pair Share encourages discussion in pairs in sharing ideas and information they have acquired and helping each other to complete the given tasks.

Related Studies on Cooperative Learning and Students Achievement
Studies on the effectiveness of cooperative learning on student achievement have been widely conducted in Malaysia and abroad. However, each study conducted is unique and different from the aspects of subjects, respondents and methodologies that can be used as a guide for this study.

A study by Abdul Kadir et al (2006) found that accounting class students can improve their academic achievement through the use of cooperative learning methods in their classes. Suhaida et al (2006) also revealed the students' achievement and performance is higher in this method in teaching compared to using conventional learning methods. In the study by Cheah et al (2008), cooperative learning is an effective method in improving students' comprehension in reading Chinese and Tamil texts. Active involvement of students in interacting and discussing in the groups can help each other in boosting understanding and facilitating their learning. In addition, the results of a study by Aziz and Bustam (2011) also showed the effectiveness of cooperative learning on students' academic achievement in geography subjects. Group learning, mutual assistance in problem solving and individual responsibility in assigned tasks are factors in improving student interaction and achievement. This is also emphasized in the study of Amman. Rahim et al (2017) entitled 'Cooperative Learning Method STAD Model Improves Student Achievement in the Production of Watercolor Paints' which focuses on the effectiveness of cooperative learning for Form 4 students in Visual Arts Education subjects. The study found that weak students in producing

painting work can improve their performances and active involvement in solving problems by the implementation of this method in the classroom.

The following are studies on the effectiveness of cooperative learning on student achievement. Hooper and Hannafin (1988) found that weak students of Grade 8 achievement in America showed improvement in their achievement with the implementation of cooperative learning in learning sessions. The formation of heterogeneous groups between high-achieving and low-achieving students showed an increase of 50% by applying collaboration and discussion with group members with assigned tasks. Next, a study by Mavrotheris et al (2004) in Cypriot secondary schools found that students were weak in Science and Mathematics subjects due to teaching methods that were less attractive to students in mastering the learning. Cooperative learning is an effective method in improving student achievement in understanding and mastering skills.

The findings of the studies have shown that the application of cooperative learning methods in teaching and learning in several subjects produces a positive impact on improving student achievement, especially students with poor achievement.

Vygotsky's Social Constructivism Theory

Muhibbin and Hidayatullah (2016) conclude that Constructivism theory is a process of building or shaping knowledge by students themselves. This theory-based learning involves the active involvement of students in the classroom to interact and discuss with each other in groups to build new information and expand one's knowledge and thinking. According to Huang (2002), Constructivism emphasizes on the development of students ' ability to solve problems in real life. Vygotsky also emphasized the importance of relationships between individuals in the social environment that develop their cognitive. Vygotsky believed that the learning process would be more effective if students used a cooperative approach because they received more guidance from other students who were more capable and help from teachers.

Vygotsky's theory of Social Constructivism emphasizes the Zone of Proximal Development (ZPD) in student learning. ZPD reveals the potential of the students and is realized by interacting with others who are more knowledgeable (Rishabh, 2013). According to Vygotsky, the ZPD displays the level of a person's real development in solving problems by the level of development of a person's potential in solving problems with the help of other people. This is in line to the cooperative learning method approach, skilled peers assume the responsibility to guide problem solving in discussions and this responsibility will gradually change hands to weak students. In addition, teachers need to take steps in making changes to their teaching strategies towards active learning. Teachers should focus on the fact that strengthens and reinforce the acquisition of new knowledge for students by providing open ended questions to activate and encourage students to carry out comprehensive discussions and improve each student's thinking skills in building new knowledge (Hadi & Abdul Wahab, 2021).

Vygotsky's theory of Constructivism advocates in applying cooperative learning in the classroom that creates a collaborative and interactive environment (Suci, 2018). Cognitive and intellectual development of students will improve with the existence of social interaction with each other in contributing ideas as well as the help from peers in the assigned tasks. Karim et al (2010) support that the social interaction plays an important role in the learning process. This is parallel to the cooperative learning approach that encourages passive or less confident students in freely giving opinions and ideas. In conclusion, Vygotsky's theory of

Social Constructivism is aligned with the concept of cooperative learning which prioritizes group learning and social interaction to facilitate meaningful learning and help in improving student achievement.

Implications in Implementing Cooperative Learning for Low- Achieving Students

The cooperative learning method has many positive impacts on low-achieving students in class. This method can encourage students to interact and cooperate to gain knowledge and master a skill. This is in line with cooperative learning principle which is group interaction. The implementation of this approach fosters divergent thinking to generate a variety of ideas and opinions to complete an assignment in order to obtain meaningful learning. Rahim et al (2021) support the cooperative learning can increase understanding of the topics taught in forming new knowledge to solve problems with more confidence. Then it can be seen the importance of social interaction component in cooperative learning methods that can help students with underachieving students in improving their communication skills in discussions and exchanging opinions in groups. This statement is in line with the study of Selvarajah et al (2021) emphasizes on cooperative learning methods can improve achievement and communication among students in solving problems as well as understanding of the topics taught by teachers. It can be concluded that this learning approach is a suitable alternative in learning for weak students in understanding and solving the problems given by interacting in groups.

In addition, cooperative learning methods are effective in improving students' learning motivation. This is similar to the findings of a study by Bhavani and Zamri (2017) which states that students who have high motivation will have the spirit to be involved in their learning process. Motivation and cooperative methods are closely interrelated when the student has motivation learning will generate and encourage the student to succeed. In the study Yunida (2011) also proves that through the implementation of cooperative learning methods, student motivation increases where students are actively involved during the learning process. This statement is in line with the study of Shaharuddin et al (2017) which explains students are motivated to learn by showing positive and active actions during the learning process. The role of teachers in providing positive reinforcement such as encouragement and praise will attract and increase the motivation and enthusiasm of students indirectly to actively engage in the assigned tasks. This opinion is supported by Ehsan et al (2019) which states that positive feedback and responses as well as good support from teachers and group members in their work can increase students ' self-confidence and motivation. Thus, cooperative learning methods can increase concentration and foster students' self-motivation in its implementation in the classroom.

At the same time, cooperative learning methods can help improve students achievement. Johnson and Johnson (2003) explained that appropriate teaching and learning methods will have a positive impact on student performance in a lesson. Cooperative learning methods allow students to work together in teams in situations where group members will be responsible for engaging specifically in activities. This is similar to the findings of Baharin et al (2006) found that peer influence is stronger in influencing the way they learn because students find it easier to talk to each other. This opinion is supported by Nadia et al (2021) that cooperative learning in teaching and learning activities can improve the achievement because effective communication in exchanging opinions and sharing knowledge in groups can help weak students increase their cognitive when studying certain topics. It can be

concluded that the implementation of cooperative learning methods can improve student achievement and provide focus during learning.

Cooperative learning methods can help and train students weak students in group or team activities. Cooperative learning is a group learning technique with structured activities to build learning skills and work in teams. Zakaria and Habib (2006) explained that through group discussions about solving a problem, giving students the opportunity to discuss to form a deep understanding of a matter. Students can also exchange opinions openly and feedback can be received quickly and weaker students can emulate the techniques and strategies used by their smarter peers. This shows that cooperative learning methods can help students to appreciate and collaborate with others in teams which is in line with Vygotsky's learning theory.

Overall, it can be concluded that the implementation of cooperative learning methods can make an effective contribution in increasing the active involvement of students in terms of interaction, cooperation in groups, achievement and motivation. Student-centered teaching methods such as cooperative learning should be the practice of teaching in the classroom (Zakaria & Habib, 2006).

Conclusion

Low-achieving students who have less concentration and interest will cause them to quickly get bored in what they learn. Aziz et al (2016) stated that peer influence and teachers' teaching style have an impact on students' passive engagement during learning process. Therefore, it is necessary to overcome and curbed this situation from continuing among students.

Cooperative learning is student-centered learning that gives students more autonomy to actively engage themselves in the classroom. Based on previous studies, cooperative learning methods have been found to have a positive impact compared to conventional learning methods. Through the implementation of this learning during teaching and learning process, it can help underachieving students in improving their excellence due to the existence of a conducive and non-competitive learning environment which allows students to collaborate with other students (Ehsan et al., 2019). Students are able to express their thoughts and ideas in a collaborative way. Cooperative learning manages to increase their interest and level of motivation in learning. At the same time, it can create an effective and interesting teaching and learning atmosphere. This shows that cooperative learning methods have a positive influence on the attitude, motivation and achievement of students to take more initiative in learning. Cooperative learning also requires the role of teachers in taking responsibility in providing appropriate and quality teaching strategies and guiding students in various activities that can attract students' interest in understanding a topic.

In conclusion, the cooperative learning approach clearly proves that it can help low-achieving students in building confidence, developing social skills and student involvement in learning activities. The implementation of cooperative learning methods can convince teachers in integrating 21st century teaching in the classroom and thus aims to ensure a quality of educational process in improving student achievement.
The foregoing discussion implies cooperative learning can strongly and indirectly enhance the students' engagement, critical thinking and social skills working in a group. Hence, this concept paper indicates there are positive changes taking place when the teacher implement this teaching method that affects the formation of positive attitudes towards students' performance. The other research presented in this paper are evidence corroborating the

concept of cooperative learning should be adopted as an effective learning strategies in order to improves low- achieving students in class. Therefore, it is a guidance to Ministry of Education (MOE) to maximise the implementation of cooperative learning in school. As a part of suggestion for the government to improve its education's policy that cooperative learning method is an effective daily instructional that can be implement in class regularly and effectively. For future research in the field of cooperative learning, it is recommended that the researchers may use it in the classes for other subjects where we are positive to foresee improvement in our education system towards educated and proper wellbeing people.

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