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# Teachers' attitude and perception towards cooperative learning implementation: Influence of continuing training



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## HIGHLIGHTS

• Teachers show a positive attitude towards cooperative learning implementation after a continuing training program.

• Teacher training is a more powerful predictor than their educational stage or their branch of knowledge.

• There is an inverse correlation between the teachers' age and their perception towards cooperative learning.

• The number of techniques used is determinant in the teacher's perception towards cooperative learning.

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# ABSTRACT

The aim was to assess the influence of a training program on teachers' attitudes and perceptions related to the implementation of cooperative learning in educational contexts. This influence was assessed based on the teachers' knowledge area, educational stage, age, gender and years of teaching experience. 990 teachers from 60 schools participated. Results indicated a positive attitude from the teachers, regardless of their subject area or educational stage. However, significant differences were found regarding age and teaching experience. Training has proven to be a powerful predictor of success for the implementation of cooperative learning in educational settings.

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# 1. Introduction

Cooperative learning can be considered a pedagogical model based on small work group and student interaction, where students build their own learning searching for a common objective (Johnson & Johnson, 2009). Despite being a teaching practice which began in the 80 s, it is considered one of the most innovative approaches in the current educational landscape (Surian & Damini, 2014), providing benefits to both students and teachers alike (Shimazoe & Aldrich, 2010) and applicable at the various educational stages (Johnson & Johnson, 2002; Serrano & Pons, 2007; Sharan, 2010).

The benefits and advantages of this methodology have been

\* Corresponding author. E-mail address: josea@facultadpadreosso.es (J.A.P. Saborit). widely researched. A recent meta-analysis pointed to the benefits of cooperative over competitive work and shows the positive impact of the former on performance and attitudes of students and teachers, in comparison to more formal or traditional methodologies such as direct instruction (Kyndt et al., 2013). Nevertheless, cooperative work has not always been correctly interpreted and/or implemented in schools. In a study developed in the United Kingdom, it was found that elementary school children hardly worked in cooperative groups, in spite of being sat in class in reduced groups (Baines, Blatchford, & Kutnick, 2003). This situation is more common when the whole group shares the same task, that is to say, a group activity without individual responsibility. Johnson and Johnson (1999, 2009) cannot conceive this lack of responsibility in cooperative learning, and therefore suggested that this methodology should be based on five essential elements: individual responsibility, positive interdependence, promotive interaction, social skills and group processing. Scientific literature



presents these and others as different basic elements of cooperative learning. Nevertheless, there is total consensus on the need to search for students' individual responsibility, positive interdependence and promotive interaction in any task to be considered a true cooperative learning activity (Kagan & Kagan, 2009; Slavin, 2012).

In recent years, many educational experiences have been carried out with cooperative learning as it central focus. However, many times the lack of appropriate planning has hindered its proper implementation (Garfield, 2013; Nunnery, Chappell, & Arnold, 2013). Unfortunately, it has been well documented that teachers sometimes incorporate cooperative learning in their classes spontaneously, without any previous preparation, which always obstructs its successful implementation at any educational level (Oortwijn, Boekaerts, Vedder, & Strijbos, 2008; Thanh, 2011). Additionally, it has been reported that if teachers participate passively in group tasks, these are not effective (Gillies, 2004; Johnson & Johnson, 1999). A study on secondary education teachers revealed that the lack of interest and organization were the reason why 60% of teachers did not consider cooperative learning more efficient than traditional approaches (Thanh, 2011). This perception could be related to the teachers' scarce or ineffective teacher training in novel methodologies in their initial or in their professional training.

Previous studies have called into question teachers' knowledge on cooperative learning (Nguyen, Terlouw, & Pilot, 2006), and the necessity to research on initial teacher training to incorporate it has gathered pace. Bakkenes, Vermunt, and Wubbels (2010) noted that organized training may have a decisive influence on the proper implementation of this methodology in schools. Unfortunately, previous studies have used different assessment instruments and criteria to evaluate several variables, which have not allowed scholars to know the real influence of this process on schools' perception on cooperative learning. Consequently, it seems necessary to organize new action programmes which could promote the implementation of this methodology and to investigate the effects of teacher attitude and the different variables involved in this process, in order to make further progress in educational innovation.

#### 1.1. Attitudes and teacher training in cooperative learning

It has been suggested that teachers' attitude is a key factor for a proper implementation of cooperative learning and one of the main reasons to differentiate whether cooperative learning is efficient or not (Hijzen, Boekaerts, & Vedder, 2007; Webb, 2009), since only teachers who adopt a positive attitude can promote and use it in their classes (Dweck, 2012). There have been numerous studies which describe teachers' negative attitude towards cooperative learning as an important barrier for its implementation in schools (Gillies, 2014; Roseth, Johnson, & Johnson, 2008; Slavin et al., 2013).

Teachers' objections to the use of cooperative learning in their classes may be partly due to the demands imposed by curricular organization, as well as their lack of knowledge (Gillies & Boyle, 2010; Kohn, 1992). Thus, it seems important for teachers to know how to implement cooperative learning in their subjects. Previous research concluded that teachers who implemented cooperative methodology in their classes lacked previous knowledge and proper language patterns to fulfil its essential elements (formerly introduced in this section). On the contrary, teachers who had previous training and knowledge, managed to steer their student's objections towards a more positive attitude on cooperative learning than teachers who lacked this training and/or knowledge (Hennessey & Dionigi, 2013). Gillies and Khan (2008) also found that the schools whose teachers had already been trained to implement cooperative learning into their curricula, obtained

better results than those teachers had not been trained in this methodology. Therefore, teacher training seems to play a key role in cooperative learning implementation, but it is not often considered for different reasons such as lack of interest, limited resources or tight timetables (Baines, Blatchford, & Kutnick, 2008). Teachers are concerned with management and organization in their jobs at school (Gillies & Boyle, 2010), and demand training and continuous monitoring to ensure the implementation of new pedagogical models. It has been suggested that the techniques or the structures may become ineffective at any time during the process of cooperative learning. Accordingly, it is necessary that the proper intervention tools are available for educators (Hsiung, Luo, & Chung, 2014), since these readjustments in the methodology that teachers use are likely to vary, according to factors such as the stage of education or the knowledge areas.

#### 1.2. Cooperative learning in the different knowledge areas

Cooperative learning has proven to be efficient in various branches of learning such as Social Science, Maths and Arts (Cheung & Slavin, 2013; Hossain & Tarmizi, 2013; Lehrer & Lesh, 2013). However, a recent meta-analysis on 65 studies found different results between subjects (Kyndt et al., 2013). Qin, Johnson and Johnson (1995) concluded that subjects with non linguistic exercises such as Maths show more positive effects than linguistic subjects such as Literature or Social Science. Lou, Abrami, Spence, Poulsen, and Chambers (1996) explained that Math tasks are usually more hierarchical, and the help from other students may favour a faster progress. In peer learning activities, students learn faster when some start from superior stages of knowledge, which is beneficial for the less brilliant students (Van Blankenstein, Dolmans, Van der Vleuten, & Schmidt, 2013). This seems to work better in disciplines linked to hierarchical tasks, such as Maths (Pons, Prieto, Lomeli, Bermejo, & Bulut, 2014). However, more research is still needed.

The differences observed between different disciplines may also involve a different attitude among teachers, thereby leading to divergences in the degree of perception of cooperative learning according to each subject. As far as we know, there is no published research on the teachers' attitude towards cooperative learning according to the different branches of knowledge. In the present study, the sample has been divided to assess the attitude of teachers towards cooperative learning after having received the same training program and having carried out the experience during a whole school year.

## 1.3. Cooperative learning in the different stages of education

Cooperative learning has been researched in the different stages of education, from university (Prichard, Stratford, & Bizo, 2006) to primary school (Hennessey & Dionigi, 2013) and secondary education (Gillies & Khan, 2008). Although benefits have been described in all of them, each one presents specific factors which might interfere in the proper implementation of this methodology. Hattie (2013) pointed out significant differences based on the educational stage in which it is implemented. Previous studies have showed that the cooperative approach produces better results in primary levels (6–12 years) than secondary (12–18 years) (Kyndt et al., 2013). The lower number of hours taught by the secondary teacher to the same group of students might represent a handicap for the proper implementation of cooperative learning. Primary school teachers are often generalists, dedicating an average of 10-15 h a week to their students. On the contrary, secondary school teachers are specialists and only dedicate 2–4 h per week to the same group of students. Additionally, maturity and students'

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