



The benefits of cooperative learning: an overview

MA. Dang Ngoc Trung¹

Ph.D Do Xuan Truong²

¹ Director, Thai Duong Education Company, Ho Chi Minh City, Vietnam

² General Director, Global Data. SJC, Ho Chi Minh City, Vietnam

Abstract

In the current trend, the trend of international cooperation, global integration, equipping students with skills such as: critical thinking, communication, cooperation, social awareness, creative thinking is an urgent problem. This requires an alternative teaching approach to promote active learning among students of which “cooperative learning” is one method that can meet this requirement. To better understand the benefits of cooperative learning, We performed a review of 84 published papers related to cooperative learning worldwide. Research results show the benefits of cooperative learning in motivating students, improving learning outcomes and developing skills for students. In addition, we also noticed a number of barriers affecting the organization of cooperative learning. These research results play an important role to build an active teaching strategy and also serve as a reference base for further research.

Keywords: Collaborative learning; benefits of cooperative learning; collaborative learning overview; content of cooperative learning

1. Introduction

Teaching and learning have evolved over the years, although the use of lectures remains the dominant mode of instruction in educational institutions (Felder & Brent, 2005). However, there is much consensus that students need to be more actively involved in the learning process but traditional teaching methods may not be appropriate (Biggs & Tang, 2011). This requires an alternative teaching approach to promote active learning among students of which “cooperative learning” is one method that can meet this requirement (Loh & Ang, 2020). Previous studies such as: Hattie, (2008); Johnson & Johnson, (2009) a review of the benefits of cooperative learning showed more positive learning outcomes in students who participated in cooperative learning programs. Cooperative learning is one of the important teaching and learning strategies to meet the requirement of active learning (Loh & Teo, 2017).



Although cooperative learning has been proven to bring many benefits, its implementation is not easy (Buchs et al., 2017), barriers that teachers may encounter include: Difficulty in properly implementing the principle of cooperative learning (Sharan, 2010); Difficulty when teachers act as facilitators (Baines, Rubie-Davies & Blatchford, 2009); Difficulties related to the curriculum (Gillies, 2008). Therefore, to get an overview of issues related to cooperative learning, we conducted a literature review. In order to conduct this study, we answer the following questions:

What is cooperative learning?

What are the benefits of cooperative learning?

What are the barriers to implementing collaborative teaching?

2. Literature overview

Cooperative learning involves small groups working together to support the learning of all members, it provides teachers with principles to stimulate constructive interaction among students (Johnson, Johnson, and Holubec 2008; Slavin, 2015). In addition, cooperative learning is more clearly defined as a form of structured learning in which teachers need to be task-setters by creating a highly structured learning environment and well-organized, requires the active participation of each student (Barkley, Cross & Major, 2014). The primary task of the teacher is to set goals, plan, and structure tasks, and assign students to roles in groups to work together toward a common goal (Johnson & Johnson, 2009; Slavin, 2012).

Several studies have demonstrated that cooperative learning has a positive effect on student achievement and skills (Gillies, 2016; Munir et al., 2018); Van Ryzin, Roseth & Espelage, 2022). Cooperative learning is one of the important teaching and learning strategies to meet the goals of knowledge and social skills for learners (Loh & Teo, 2017; Loh & Ang, 2020). In research Johnson (2003) suggested that cooperative learning is an approach that builds skills and knowledge through interaction between learners in groups.

3. Data and methods

The study uses data from 84 articles published in the world up to the present time, the articles are selected through the search engine of Google Scholar. The selection of articles was randomly selected 4 articles of 1 page window and used the first 21 search pages. The study used the method of document analysis and systematic review (Bryman & Bell, 2011) and combined with mathematical statistical analysis.

4. Results and discussion

4.1 Description of the study sample

Figure 1 details the proportion of research papers on collaborative learning over time periods. With a dataset of 84 research articles, the analysis results show that the problem of cooperative learning was mentioned by scholars before the 2000s, specifically Slavin, (1987); Davidson & Kroll, (1991), these are prerequisite studies that have built the theoretical basis for cooperative teaching. However, at this stage, the number of studies in this field is still small (9.8%). The research trend in the field of cooperative teaching has really been strongly developed starting from the period after 2010, until today this issue is interested by many scholars (42.7% in the period 2017 to present)

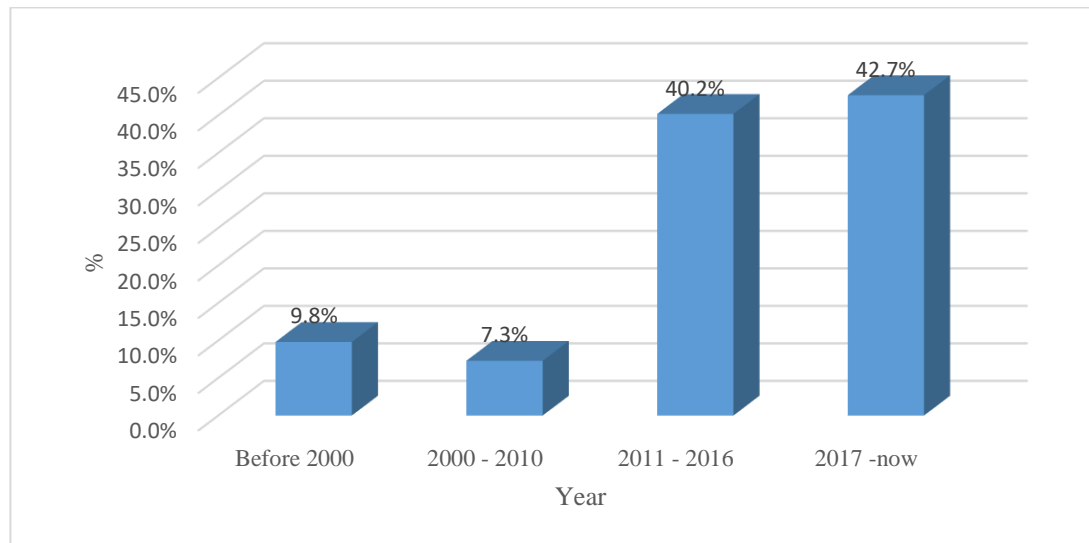


Figure 1: Research history on cooperative learning

To look at more details about the research sample as well as research trends, We performed a historical analysis of research on cooperative learning by regions around the world, the results are shown in Figure 4.2:

The analysis results show that the Americas and Europe have the most research in the period before 2010, specifically, up to 50% of the studies conducted in the period before 2000 are scientists from universities. of the US and Canada; in the period from 2000 to 2010, this field was the most interested by scientists in Europe (66.7%); Currently, the research trend on this issue is of special interest to scientists in Asia (57.1% in the period from 2017 to present).

Thus, research on cooperative teaching has been mentioned by scientists around the world since the 80s of the last century, but it was not until the period after 2010 that this research field had strong and current developments. It is currently an area of special scientific interest.

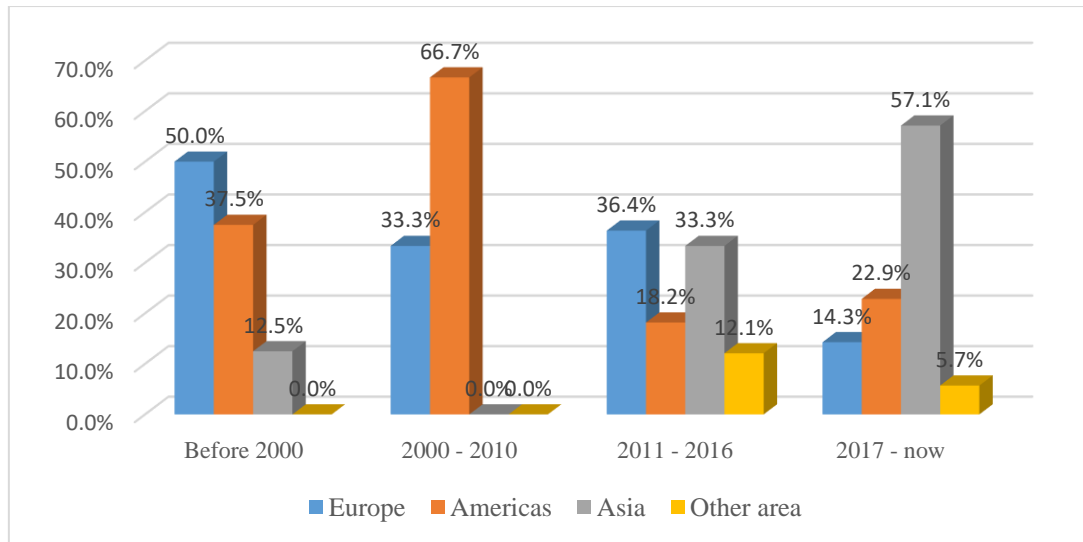


Figure 2: Research history of collaborative learning by region

4.2 Benefits of cooperative learning

In this study, the benefits of cooperative learning will be classified into three main benefit groups: Benefits for improving learning outcomes, benefits for developing skills and benefits in promoting motivation.

Benefits for learning ability

In essence, cooperative learning is to move students from a passive role to a more active role in the learning process. Millis & Cottell (1998) also emphasize that cooperative learning is an approach to teaching in which students make greater use of higher-level thinking skills. Pedagogical experimental studies such as: Gillies (2016); Hogenkamp(2019); Hunanyan, & Unanyan(2020), demonstrated higher learning outcomes in groups using cooperative learning methods than in groups using conventional methods. In addition, Johnson, Johnson, & Stanne (2000) suggest that learners learn better through peer explanations, as they can translate the teacher's language into peer-to-peer conversation. Thus, based on the above analysis, the study found that cooperative learning has a strong positive impact on learning outcomes.

Benefits in skill development

In addition to learning benefits, cooperative learning has benefits to develop skills such as the ability to connect, think and be more autonomous in one's own learning (Du, 2015). As students interact with each other, the relationships and support they receive from other students make students feel part of the group this keeps them motivated not only with their own learning goals but also with those of the group (Gokhale, 1995; James, 2018). In the long term, students will feel interested, happy and satisfied, thereby helping students to be more motivated in learning as well as in group activities (Slavin, 2014;



Yang, Zhou & Hu, 2022). Cooperative learning also enriches the experience of teamwork and decision-making (Johnson et al., 2013; Millis & Cottell, 1998). Furthermore, cooperative learning provides learners with the ability to see problems from the perspective of others (Lim, 2004). In the process of working with other members of the group, students are able to visualize what others are feeling and thinking as well as their point of view, thereby helping them to develop negotiation skills between the members. individuals to resolve disagreements within the group (Lim, 2004). Empirical studies have reported that cooperative learning is important for students to develop social competencies and skills (Johnson & Johnson, 2009, 2014; Slavin, 2014; Buchs et al., 2017).

Benefits for boosting motivation

Further studies have noted that students are highly motivated and enjoy learning more if they can learn autonomously (Thanh, Gillies, & Renshaw, 2008). This may explain why students find that their confidence and self-control, problem-solving and decision-making abilities are enhanced after they participate in study groups. Over time, they enjoy learning new things and find the motivation to keep learning (Du, 2016; Johnson et al., 2014).

4.3 Challenges/difficulties of cooperative learning

Although cooperative learning has been proven to bring many benefits, its implementation is not easy (Buchs et al., 2017). Through the evaluation of previous studies, the author summarizes some of the following difficulties and challenges:

Difficulty in properly implementing cooperative learning principles

As mentioned before, cooperative learning involves the core principle of structuring groups to prepare students to cooperate. However, studies have shown that it is not easy for teachers to implement these principles (Sharan, 2010). In the study of Garcha & Kumar (2015), one of the barriers to successful implementation of cooperative learning is that teachers do not use appropriate cooperative learning methods. In addition, cooperative learning also requires teachers' trust in their students, and this is not easy for some teachers who do not think their students can work effectively in groups (Baines, Rubie-Davies & Blatchford, 2009).

The teacher's role as moderator, in cooperative learning

Teachers' roles change, they become moderators overseeing active groups (Johnson, Johnson & Holubec, 2008; Sharan, 2010; Topping et al., 2017). However, cooperative learning poses a challenge to teachers' control in schools, classrooms, and teachers reported fear of discipline problems (Baines, Rubie-Davies & Blatchford, 2009).

Curriculum fit

Teachers may have difficulty deciding how to incorporate cooperative learning into a predefined curriculum (Gillies, 2008), especially when material found in textbooks and other sources is not suitable



for teachers to structure collaborative activities (Sharan, 2010). In addition, cooperative learning activities are perceived by teachers as difficult to implement because the established rules are no longer appropriate (Abrami, Poulsen & Chambers, 2004).

Classes and preparation time,

While the time required to implement cooperative learning is considered time-consuming (Abrami, Poulsen & Chambers, 2004), teachers have difficulty managing time effectively (Gillies & Boyle, 2010), because outside of class time teachers also need a considerable amount of time to prepare and plan for other activities.

In addition, the study of Garcha & Kumar (2015) also mentioned some additional barriers to the successful implementation of cooperative learning such as learners' attitudes, knowledge and social skills.

5 Conclusion

By analyzing and evaluating the content of research related to collaborative learning around the world, this review has identified cooperative learning as a trend that many scholars around the world are interested in in the current period. Along with it, research finds that cooperative learning has a very important role in improving learning outcomes as well as developing skills and motivating learners. In addition we have identified a number of factors that represent the difficulties in organizing the implementation of cooperative learning for students.

We believe that this result plays a significant role in building and developing a new learning method to meet the requirements of modern education in Vietnam. However, to do this, teachers need to be equipped with the necessary knowledge and skills.

References

- [1] Abrami, P. C., Poulsen, C., & Chambers, B. (2004). Teacher motivation to implement an educational innovation: Factors differentiating users and non-users of cooperative learning. *Educational Psychology*, 24(2), 201-216. <https://doi.org/10.1080/0144341032000160146>
- [2] Baines, E., Rubie-Davies, C., & Blatchford, P. (2009). Improving pupil group work interaction and dialogue in primary classrooms: results from a year-long intervention study. *Cambridge Journal of Education*, 39(1), 95-117. <https://doi.org/10.1080/03057640802701960>
- [3] Barkley, E. F., Cross, K. P., & Major, C. H. (2014). Collaborative learning techniques: A handbook for college faculty. John Wiley & Sons.
- [4] Biggs, J., & Tang, C. (2011). *Teaching for quality learning at university*. McGraw-hill education (UK).
- [5] Bryman, A., & Burgess, E. (2011). *Business research methods* (3rd edition ed.). Oxford, UK: Oxford University Press.
- [6] Buchs, C., Filippou, D., Pulfrey, C., & Volpé, Y. (2017). Challenges for cooperative learning implementation: Reports from elementary school teachers. *Journal of education for teaching*, 43(3), 296-306. <https://doi.org/10.1080/02607476.2017.1321673>



- [7] Davidson, N., & Kroll, D. L. (1991). An overview of research on cooperative learning related to mathematics. *Journal for Research in Mathematics Education*, 22(5), 362-365. <https://doi.org/10.5951/jresmetheduc.22.5.0362>
- [8] Du, C. (2015). The effect of cooperative learning on students' attitude in first-year principles of accounting course. *Business Education Innovation Journal*, 7(2), 107-116.
- [9] Felder, R. M., & Brent, R. (2005). Understanding student differences. *Journal of engineering education*, 94(1), 57-72. <https://doi.org/10.1002/j.2168-9830.2005.tb00829.x>
- [10] Garcha, P. S., & Kumar, K. (2015). Effectiveness of cooperative learning on critical thinking dispositions of secondary school students. *Issues and ideas in education*, 3(1), 55-62. <https://doi.org/10.15415/iiie.2015.31005>
- [11] Gillies, R. M. (2016). Cooperative learning: Review of research and practice. *Australian Journal of Teacher Education (Online)*, 41(3), 39-54. <https://search.informit.org/doi/abs/10.3316/informit.977489802155242>
- [12] Gillies, R. M., & Boyle, M. (2010). Teachers' reflections on cooperative learning: Issues of implementation. *Teaching and teacher Education*, 26(4), 933-940. <https://doi.org/10.1016/j.tate.2009.10.034>
- [13] Hattie, J. (2008). *Visible learning: A synthesis of over 800 meta-analyses relating to achievement*. routledge.
- [14] Hogenkamp, L. (2019). *Social inclusion among high-ability children: Measuring the social benefits of cooperative learning in heterogeneous groups* (Bachelor's thesis, University of Twente).
- [15] Hunanyan, A. S., & Unanyan, A. S. (2020). The Effectiveness and Benefits of Cooperative Learning in Elementary Grades. *Научные вестн*, (2), 151-156.
- [16] James, G. (2018). A narrative inquiry perspective into coping mechanisms of international postgraduate students' transition experiences. *American Journal of Qualitative Research*.
- [17] Johnson, D. W. (2003). Social interdependence: interrelationships among theory, research, and practice. *American psychologist*, 58(11), 934. <https://psycnet.apa.org/doi/10.1037/0003-066X.58.11.934>
- [18] Johnson, D. W., & Johnson, F. P. (1991). *Joining together: Group theory and group skills*. Prentice-Hall, Inc.
- [19] Johnson, D. W., & Johnson, R. T. (2009). An educational psychology success story: Social interdependence theory and cooperative learning. *Educational researcher*, 38(5), 365-379. <https://doi.org/10.3102/0013189X09339057>
- [20] Johnson, D. W., & Johnson, R. T. (2013). Cooperative, competitive, and individualistic learning environments. *International guide to student achievement*, 372-374.
- [21] Johnson, D. W., & Johnson, R. T. (2018). Cooperative learning: The foundation for active learning. *Active learning—Beyond the future*.
- [22] Johnson, D. W., Johnson, R., & Holubec, E. (2008). Cooperation in the classroom (ed.). *Edina, MN: Interaction Book*.
- [23] Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). Cooperative learning methods: A meta-analysis.
- [24] Johnson, D. W., Johnson, R. T., Roseth, C., & Shin, T. S. (2014). The relationship between motivation and achievement in interdependent situations. *Journal of Applied Social Psychology*, 44(9), 622-633. <https://doi.org/10.1111/jasp.12280>
- [25] Johnson, W. L. (1994, August). Agents that Learn to Explain Themselves. In *AAAI* (pp. 1257-1263).



- [26] Lim, D. H. (2004). Cross cultural differences in online learning motivation. *Educational Media International*, 41(2), 163-175. <https://doi.org/10.1080/09523980410001685784>
- [27] Loh, C. Y. R., & Teo, T. C. (2017). Understanding Asian students learning styles, cultural influence and learning strategies. *Journal of Education & Social Policy*, 7(1), 194-210.
- [28] Loh, R. C. Y., & Ang, C. S. (2020). Unravelling Cooperative Learning in Higher Education: A Review of Research. *Research in Social Sciences and Technology*, 5(2), 22-39.
- [29] Millis, B. J., & Cottell, P. G. (1998). Cooperative learning for higher education faculty. Series on Higher Education. *American Council on Education Oryx Press series on higher education*.
- [30] Munir, M., Siddiqui, S. A., Dengel, A., & Ahmed, S. (2018). DeepAnT: A deep learning approach for unsupervised anomaly detection in time series. *Ieee Access*, 7, 1991-2005. <https://doi.org/10.1109/ACCESS.2018.2886457>
- [31] Sharan, Y. (2010). Cooperative learning for academic and social gains: Valued pedagogy, problematic practice. *European Journal of Education*, 45(2), 300-313. <https://doi.org/10.1111/j.1465-3435.2010.01430.x>
- [32] Slavin, R. E. (1987). Ability grouping and student achievement in elementary schools: A best-evidence synthesis. *Review of educational research*, 57(3), 293-336. <https://doi.org/10.3102/00346543057003293>
- [33] Slavin, R. E. (1987). Cooperative learning and the cooperative school. *Educational leadership*, 45(3), 7-13. <https://files.eric.ed.gov/fulltext/ED342108.pdf#page=11>
- [34] Slavin, R. E. (2011). Instruction based on cooperative learning. *Handbook of research on learning and instruction*, 358-374.
- [35] Slavin, R. E. (2012). *Educational psychology: Theory and practice*.
- [36] Slavin, R. E. (2014). Cooperative Learning and Academic Achievement: Why Does Groupwork Work?. [Aprendizaje cooperativo y rendimiento académico: por que funciona el trabajo en grupo?]. *Anales de psicologia/annals of psychology*, 30(3), 785-791. <https://doi.org/10.6018/analesps.30.3.201201>
- [37] Slavin, R. E. (2015). Cooperative learning in elementary schools. *Education 3-13*, 43(1), 5-14. <https://doi.org/10.1080/03004279.2015.963370>
- [38] Topping, K., Buchs, C., Duran, D., & Van Keer, H. (2017). *Effective peer learning: From principles to practical implementation*. Routledge.
- [39] Thanh, P. T. H., Gillies, R., & Renshaw, P. (2008). Cooperative learning (CL) and academic achievement of Asian students: a true story. *International education studies*, 1(3), 82-88. <https://eric.ed.gov/?id=EJ1065440>
- [40] Van Ryzin, M. J., Low, S., Roseth, C. J., & Espelage, D. (2022). A longitudinal process model evaluating the effects of cooperative learning on victimization, stress, mental health, and academic engagement in middle school. *International journal of bullying prevention*, 1-12. <https://doi.org/10.1007/s42380-022-00140-y>
- [41] Yang, X., Zhou, X., & Hu, J. (2022). Students' preferences for seating arrangements and their engagement in cooperative learning activities in college English blended learning classrooms in higher education. *Higher Education Research & Development*, 41(4), 1356-1371. <https://doi.org/10.1080/07294360.2021.1901667>