

Unravelling Cooperative Learning in Higher Education: A Review of Research

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Abstract

Teaching and learning have evolved over the years. While the use of lecture is still the dominant mode of teaching in educational institutions, there has been consensus that students need to be active in learning, for which traditional styles of teaching may not be well suited. This calls for an alternative instructional mode: cooperative learning to promote active learning among students. In higher education, interest in cooperative learning has gained momentum since the early 1980s, and this kind of teaching and learning can be conducted in many ways. The purpose of this study is to provide an overview of existing evidence pertinent to cooperative learning. In this review, cooperative learning is defined and elements inherent in this pedagogy are discussed. Theoretical perspectives relating to cooperative learning are also outlined. The outcomes pertaining to cooperative learning are then presented, followed by the influence of context on cooperative learning. This review is organized and structured as such to serve as a basis of reference for further research in the field.

Keywords: Cooperative learning, higher education, learning, teaching

Introduction

Teaching and learning have evolved over the years. While the use of lecture is still the dominant mode of teaching in educational institutions (Felder & Brent, 2005), there has been consensus that students need to be active in learning, for which traditional styles of teaching may not be well suited (Biggs & Tang, 2011; Ramsden, 2003). This calls for an alternative instructional mode: cooperative learning (CL) to promote active learning among students. Why is CL of such interest? In this globally and digitally interconnected world, there is a growing need to equip students with 21st century competencies such as critical thinking, interpersonal communication, collaborative skills, and global awareness in order to develop the next

generation of innovators and creative thinkers (Johnson, Johnson, Roseth, & Shin, 2014). To develop those skills, educational institutions would need to consider using innovative teaching methods to ignite passion for learning and provide students with the opportunity for active learning (OECD, 2005; Saavedra & Opfer, 2017). Previous studies have suggested that CL is one of the key teaching and learning strategies to meet the said purpose (Felder & Brent, 2007; Loh & Teoh, 2017; Shimazoe & Aldrich, 2010).

Although CL is especially valued in current teaching pedagogy and contemporary scholarship, far less has been written to provide a literature overview of CL in higher education. Essentially, there is a need to draw together what research has been done on CL in higher education to provide a historical overview of this particular field of research. Hence, the purpose of this article is to review prior research addressing the following questions: (1) What is CL and its importance? (2) How does CL evolve in higher education? (3) What contextual factors support or constrain the implementation of CL? The review begins with a discussion of the definition of CL as well as its theoretical underpinnings and associated elements. The paper then provides different drivers and motivations for adopting a CL approach. Additionally, this paper will review empirical research on CL in higher education and identify contextual factors strengthening or constraining CL. The review concludes with a discussion of the methodological issues in investigating CL from previous research.

Definition, Theoretical Underpinnings, Elements Underlying CL

Definition

Although cooperative learning is sometimes used interchangeably with collaborative learning (Millis & Cottell, 1998; Patesan, Balagiu, & Zechia, 2016; Márque et al., 2018), the terms mean different things. Collaborative learning is completely self-forming in purpose and structure, where students take full responsibility for their learning (Barkley, Cross, & Major, 2005). In simple terms, students have a greater sense of autonomy and teachers give only minimal instruction. CL, on the other hand, is a more defined, structured form of learning in which the teacher needs to be a “task-setter” by carefully creating a highly structured and well-organized learning environment that requires the active participation of each student. The teacher’s fundamental task is to set goals, plan and structure the tasks, and assign students into group roles to work together toward a common end (Johnson & Johnson, 2009; Slavin, 2012). When groups work on tasks, the teacher should act as a coach or facilitator, moving from group to group to monitor the learning process. The teacher also needs to provide students with ongoing feedback and assessment of group progress. Overall, CL differs from collaborative learning in that teachers still assist the students in active learning instead of being completely “hands-off” in their classrooms.

Theoretical Underpinnings

Since the initial advocacy of social constructivism by Vygotsky in 1978, CL has been a topic much discussed by educational psychologists and practitioners. Vygotsky (1978) believed that

social interaction with others plays a huge role in the acquisition of knowledge and information that individuals would not be able to achieve independently. Knowledge acquisition is allegedly used to construct socially through cooperative efforts to learn, understand, and engage in the process of problem solving. Furthermore, the zone of proximal development (ZPD), as highlighted in the theory, facilitates one to understand how scaffolding support will enable learners move from an actual development level to a potential level of development (Taber, 2011). With adequate guidance or support from a knowledgeable adult or in cooperation with more capable peers, it is expected that learners will achieve higher potentials (Jacobs, McCafferty, & Iddings, 2006).

More recent works on CL make clear that interdependence must be present in order for CL to take place. In his Social Interdependence Theory (SIT), Johnson (2003) defined CL as an approach of construction of skills and knowledge through the interactions among learners. He suggested that positive interdependence results in “promotive interaction” between learners, where they can encourage and facilitate each other to attain shared goals. Slavin (2012) also expounded the idea that learners help each other learn. To facilitate positive interdependence, teachers need to structure goals and interactive tasks so that students work together to achieve desired goals. Students are assigned rotating roles including leader, recorder, checker, and time-keeper. While there are more benefits related to positive interdependence, it requires cooperation and contribution from every member of a group; otherwise, it could lead to negative interdependence, in which students discourage and obstruct one another to achieve a shared goal (Johnson & Johnson, 2009).

Elements Underlying CL

Students are not born to cooperate; instead, they need to learn the skills of cooperating. For CL to take place, the teacher must establish the will and the skill of working cooperatively among students. According to Johnson, Johnson, and Holubec (2013), five elements are essential to implement genuine CL: positive interdependence, face-to-face interaction, interpersonal and small group skills, individual and group accountability, and group processing.

Positive interdependence refers to students needing each other to complete shared tasks (Johnson et al., 2013). This can be accomplished when students realize that one’s performance is mutually caused by oneself and one’s team members, as well as that all gain from each other’s efforts (Herrmann, 2014). This results in “promotive interaction” among students in small groups to facilitate and encourage each other to reap gains. To help students contribute their share in group goals, a task needs to be structured so that students are aware that all group members share a common fate. Second, CL should always be held in person. At its most basic level, face-to-face interaction is the best tool for knowledge sharing, as it affords opportunities for students to interact, establish personal communication, and observe other team members’ expressions when they explain, elaborate, clarify misconceptions, or discuss perspectives (Ifeoma, Ngozi, & Nkem, 2015). Students in a group also act in trusting and trustworthy ways such as sharing resources, providing constructive feedback, challenging reasoning, encouraging one another, and participating in joint-celebration success (Felder &

Brent, 2007). In the process of such engagement, new ideas and knowledge are formed and information is reorganized and reconstructed, which enables learners to develop better cognitive abilities (Gillies, 2016). Besides this, face-to-face interactions can reduce unnecessary miscommunications that result from not being able to see body language and nonverbal cues.

Third, CL requires students to work in a group, where interpersonal and small-group skills are absolutely important to facilitate social interaction among one another. In classrooms where CL is used, teachers must teach students interpersonal skills such as communication, leadership, trust, decision making, and conflict resolution (Johnson et al., 2013). This is because students in the group are exposed to other group members' divergent views that may differ from their own. By having good socialization skills, it is easier for them to build trust and relationship bonding. Fourth, individual and group accountability means that every member in a group is responsible for their contributions in group tasks (Johnson et al., 2013). There is no doubt that each student needs to do his or her part so that the group is accountable for meeting its goals. While group goals are necessary to motivate learners to assist one another by providing them with a stake in one another's success, it is important that individual contribution must be assessed. Lastly, group processing requires group members to periodically reflect on their actions, obtain feedback from group members to facilitate improvements in team members' participation, sharpen social skills, and practice cooperative skills (Ifeoma et al., 2015). Group processing provides time for group reflection of progress to ensure that if there are areas that do not work, they can be rectified promptly so that the group morale will not affect the functioning of the group.

Benefits of CL

Much has already been learned from research about the benefits of CL. In this study, the benefits of CL will be categorized and summarized into three aspects: academic, affective, and social competence. The academic benefits involve knowledge acquisitions and growth in intellectual and academic skills. In essence, CL moves students from a passive to a more active role in the learning process. Numerous studies have shown that active learning is more effective than passive learning to encourage deep comprehension of the materials (Biggs, 1999; Cavanagh, 2011; Gokhale, 1995; Shimazoe & Aldrich, 2010; Wyk, 2012). Millis & Cottell (1998) also highlighted that CL is an approach to instruction in which students have greater use of higher-level thinking skills. This improves student attitudes toward learning and, in turn, increases retention of their subject area knowledge (Johnson et al., 2014; Porter, 2006; Shimazoe & Aldrich, 2010; Thanh, Gillies, & Renshaw, 2008; Webb, 2009). It also appears that CL allows students to analyze problems via multiple perspectives, and this helps them to think in more complex ways. For students who are too shy to ask teachers questions, CL provides them a platform to seek clarification from their peers. Some studies found that students learn better through peer explanation, as they can translate teachers' language into peer conversation (Johnson, Johnson, & Stanne, 2000). During the sharing process, more competent students improve their thought articulation by making connections and synthesizing information from various sources. All these can promote their understanding through active reasoning and explanation (Johnson et al., 2014). This helps to expand their existing ZPD to the

higher potential level. Furthermore, as students mutually share their ideas, opinions, and viewpoints to each other, it pushes students to think critically in an academic context (Gillies, 2003; Slavin, 2012) and in turn, widen their perspectives (Barkley et al., 2005; Cavanagh, 2011; Colak, 2015; Shimazoe & Aldrich, 2010). Not surprisingly, there was a strong positive connection in the literature between CL and academic performance (Colak, 2015; Du, 2015; Porter, 2006; Slavin, 2014).

In addition to academic benefits, the affective benefits include the emotional aspects of learning, such as appreciation, enthusiasm, motivation, and values, in which one becomes more involved, committed, and self-reliant in one's own learning (Du, 2016). When students work cooperatively in classroom activities, it helps to create a pleasant social ambience. As students interact with one another, the affinity and support they receive from peers facilitate students to feel like they are part of the group. This leads them to be committed not only to their own learning goals but to group goals as well (Carcolini, 2017; Gillies, 2003; Gokhale, 1995; James, 2018; Seng, 2014). In the long run, students are more likely to feel empowerment and higher self-efficacy, self-esteem, and satisfaction (Barkley et al., 2005; Cavanagh, 2011; Porter, 2006; Slavin, 2014). CL also helps to enrich autonomous learning experiences, which provides greater choice and flexibility in learning (Johnson et al., 2013, 2014; Millis & Cottell, 1998; Seng, 2014). For most students, autonomous learning can be a driving force to help them persevere in the face of challenges. Further studies have documented that students are highly motivated and will naturally enjoy learning more if they can learn autonomously (Thanh, Gillies, & Renshaw, 2008). As time goes by, they prefer to learn new things and find motivation to keep learning (Du, 2016; Johnson et al., 2014). This may explain why students find that their personal ego-strength, self-confidence, and autonomy levels are all enhanced after they have been involved in CL.

The social competence benefits include the ability to get along with others in acceptable and appropriate ways. While learning is a complex individual process, it is also a social one (Felder & Brent, 2007). CL enables students to interact with others in a variety of ways. To complete a group task, students need to constructively navigate group interaction in order to respect each other as separate and unique individuals. These social interactions require strong interpersonal social skills and cooperative skills (Cavanagh, 2011; Johnson & Johnson, 2009; Shimazoe & Aldrich, 2010; Thanh, Gillies, & Renshaw, 2008). With these skills, students can positively depend on each other in a team to solve problems collectively. CL could also provide the context for students to use social language, read social cues, and exchange ideas. Moreover, CL provides learners with the increased ability to view things from another's perspective (Gokhale, 1995; Lim, 2004; Yager, 2000). In the process of working with other members in a group, students are able to picture what others are feeling and thinking and appreciate others' views. From there, they can learn a set of interpersonal negotiation strategies for use with peers in order to resolve disagreements in constructive ways. As a result, empirical studies reported that CL is critical for students to develop social skills and competence (Cavanagh, 2011; Johnson & Johnson, 2009, 2014; Seng, 2014; Slavin, 2014). Eventually, students who feel good about themselves and their social skills are more likely to build a wide variety of mutually beneficial relationships.

CL in Higher Education

In a higher education context, CL was examined across countries. Although there have been numerous studies demonstrating that CL is an effective learning strategy, most of the studies were conducted in Western countries, particularly the United States, Europe, and Australia (Cavanagh, 2011; Herrmann, 2014; Roseth, Johnson, & Johnson, 2008). Attracted by the claimed positive outcomes from Western studies, CL was soon adopted in other parts of the world, including Asia (e.g., Vietnam, Malaysia, Singapore, and China), the Middle East, and Africa. Tadesse and Gillies (2015) examined Ethiopian university students' and teachers' satisfaction and opinions regarding CL; Neo (2005) incorporated CL in a multimedia project to determine its impact on student learning in Malaysia; Loh and Teo (2017) investigated the effectiveness of CL to engage Singaporean students; Singh (2013) and Malatji (2016) investigated CL benefits to students' cognitive abilities in South Africa; Tombak and Altun (2016) examined Turkish university students' motivation toward CL; and Thanh et al. (2008) and Tran (2014) explored teachers' and students' perception of the use of CL in universities in Vietnam. These studies provide concrete evidence that CL is being used in higher education in other parts of the world in addition to Western countries.

With more universities and colleges incorporating CL, Johnson and Johnson (2014) argued that higher education should challenge students not only in mastery of knowledge content but encourage students to analyze, accept multiple opinions shared by fellow students, and cooperate in diverse groups. This is especially important when CL implemented in higher education shows promising outcomes (Cavanagh, 2011; Colak, 2015; Hammond, Bithell, Jones, & Bidgood, 2010; Herrmann, 2014; Ho, Watkins, & Kelly, 2001; Kelly & Fetherston, 2008; Malatji, 2016; Tadesse & Gillies, 2015; Thanh, Gillies, & Renshaw, 2008; Tran, 2014). Researchers have suggested that students are more mature and possess higher cognitive thinking skills; however, entrenched learning styles pose barriers for some students to respond well to CL. Perhaps there are a variety of reasons for the less promising outcomes, including teachers and students not receiving proper training in CL, varying understanding and conception of CL, barriers imposed by institutions, and even cultural differences that make teaching and learning distinct.

Contextual Factors Strengthening or Constraining CL in Higher Education

Based on prior studies, our paper attempts to identify five main factors that strengthen or constrain the implementation of CL in the university context: the teachers, the students, group formation, university environment and disciplines, and cultures.

The Teachers

In the context of CL, the role of the teacher remains that of a helper, facilitator, mentor, and a guide, whereas the student's role remains central in the whole process as active participant in the learning and constructing of knowledge (Baloche & Brody, 2017). The power shift from teacher to students could be a problem when students do not know how to take charge of their learning. Therefore, teachers play a key role in establishing CL experiences in classrooms. However, not all teachers are familiar with CL since didactic (teacher-focused) teaching has been the dominant teaching strategy in higher education for centuries. Some teachers may struggle to relinquish control in classes, especially when it comes to the delegation of authority to students (Kember, 2003). This explains why Gillies (2016), Thanh et al. (2008), and Tadesse & Gillies (2015) argued that "letting go" of power represents a key barrier to implementing CL.

Teachers' roles include designing tasks for students in groups and structuring groups and tasks so that students understand how and what to do. Moreover, teachers who facilitate student learning in CL require certain coaching skills such as encouraging students to work in small groups and assume accountability in learning, and providing constructive feedback (Felder & Brent, 2007; Jacob et al., 2006). Johnson et al. (2013) suggested that teachers in CL should provide facilitation, behavioral modelling, and guidance. It is important for teachers to provide learners with clear directions and guidelines in order to help them in the journey of learning. They should delegate the responsibility and the role for a group so that students in groups have the chance to equally contribute to achieving mutual goals as well as constructing their own knowledge. While students are working on a task, teachers should observe and monitor their progress to evaluate their learning pace. In addition, teachers should ensure that active learning takes place by allowing closer interactions and bonding among students (Shimazoe & Aldrich, 2010). Helping students to interact and work together not only enables students to learn from each other but also to nurture a sense of holding task responsibility. With encouragement and mentoring received from teachers, it creates enjoyment in their learning, and they better achieve desired objectives of learning (Gillies, 2003; Jacobs et al., 2006; Johnson et al., 2014). However, teachers need to adapt their approach to manage diverse classroom contexts and acknowledge cultural and institutional barriers.

Professional development (PD) is proposed to provide teachers with content knowledge, practical skills, and self-confidence before they adopt CL (Chalmers & Gariner, 2015; Coffey & Gibbs, 2002; de Vries, van de Grift, & Jansen, 2014; Garet et al., 2001). PD is the processes and activities designed to improve teachers' knowledge, instructional approaches, and goal setting for student learning outcomes. In addition, PD also seeks to provide practical and situational wisdom to equip teachers with the necessary competency and professional capacity to deal with uncertainty since teaching and learning take place within certain contexts (Garet et al., 2001). Apart from considering PD as a narrow perspective to improve professionalism and expertise in teachers, it can be taken on a wider dimension that includes student development, curriculum design, or cooperation with peers that could result in transformation of educational practice that best reflects the needs of students.

In order for PD to have effective outcomes in changing teachers' practice, Opfer and Pedder (2011) suggested that three conditions need to meet. First, PD should be introduced in a

setting with which teachers are familiar. When other teachers in the same work setting also receive PD and put new knowledge into practice, they will have a greater connectedness in terms of pooling their collective wisdom, sharing their experience, and psychological support (Garet et al., 2001; Jacobs et al., 2006). By doing so, it is much easier for teachers to seek input and improvements from their existing network systems in schools (Gillies & Boyle, 2010). Furthermore, collaboration with fellow teachers can change pedagogic perceptions and lead to improvement in teaching methods and improved relationships (Shagrir, 2017). PD can take place either in formal or informal learning contexts. In a formal learning context, activities are consciously undertaken by teachers with the intention to learn. Teachers may discuss learning goals or evaluate their own teaching practice with a peer. In the process, teachers might learn unconsciously; for example, they might unconsciously develop beliefs about collaboration with other teachers. On the other hand, for informal learning, both conscious and unconscious levels may occur. Teachers, for example, might consciously experiment with new instructional formats to change their teaching practice while unconsciously developing, through a combination of unpleasant experiences, an aversion to certain methods of instruction.

Second, PD should run progressively by focusing on a limited number of goals at a time. Some teachers might feel overwhelmed if they are exposed to too many goals in a short period of time. Since teaching is a complex activity, Ramsden (2003) suggested that it be a developmental process where one progresses from less to more sophisticated ideas. Teachers' experiential learning, knowledge, and practice all need time to develop. The idea is further supported by Chong and Kong (2012), arguing that training needs to be sustained in order for change to be entrenched. It will also help to avoid diverting their focus and lowering their commitment levels (Postholm, 2012). Hence, PD needs to go beyond supporting teachers at the initial stage of CL and be extended for a longer period.

Third, educational institutions and school administrators must support teachers in PD by allowing them to have time to meet to share and reduce structural obstacles that may impede the change processes (Yost, 2006). As teachers put their knowledge into practice, they may encounter difficulty with unpredictable outcomes (Benegas, 2019; Clarke & Collins, 2007). Continuous support is necessary to help teachers navigate the challenges. In addition, it facilitates teachers to internalize their knowledge into practice by having considerable time to digest what they learn, think about how it might be relevant to their teaching, and make sense of dilemmas and challenges through a process of critical appraisal. Postholm (2012) posited that critical appraisal is an important process for teachers' learning and development of good teaching practice. Opportunities can be created by schools where teachers can engage in active reflection on their teaching, either through joint work with fellow teachers or working with instructional experts to support adoption of new instructional practices.

The Students

The effectiveness of CL may be affected by student factors, with researchers suggesting several aspects. For instance, Prosser and Trigwell (2014) suggested that students who adopt surface learning might not find CL beneficial, as they do not actively contribute to the group learning.

According to Colak (2015), only the deep learning approach results in effective learning where students are aware of their learning experience. Likewise, Biggs, Kember, and Leung (2001) argued that students' previous experience and prior knowledge, motivation to learn, self-confidence, learning styles, and personalities were associated with students' acceptance of CL. These could suggest that although teachers might use CL, if students do not participate with much enthusiasm, CL will not implement well. Kember and Kwan (2000) also emphasized the role of learner-learner interaction. To achieve better outcomes, learners need to engage in group or cooperative learning (e.g., sharing of materials, studying together). If they choose to remain passive in their learning, the quality of CL is deemed to be ineffective. Tadesse and Gillies (2015) further elucidated that CL takes more time compared to traditional learning methods because students need time to be familiar with CL and more time to execute. Students need time to develop, absorb, discuss, and practice new knowledge. CL activities require student initiative, so it is not surprising that CL occurs only occasionally; therefore, the benefits of CL are not maximized if students are not intrinsically motivated in CL.

Group Formation

Group formation can be a formidable task for teachers who implement CL in the classroom. It requires time, planning, and effort to create effective groups. There is much debate about whether homogenous or heterogeneous groupings help students learn or put them at a disadvantage. Most researchers agreed that heterogeneous grouping better supports the implementation of CL (Felder & Brent, 2007; Johnson et al., 2000; Slavin, 2014). Of these studies, students in CL groups need to be varied (heterogeneous) with different races, abilities, interests, etc. In agreement, Lou, Abrami, and d'Apollonia (2001) suggested that heterogeneous groups have the greatest potential for success in CL, allowing more capable peer interactions and peer tutoring; they further reported that in diverse groups, low-ability students tend to benefit most. The diverse group of students allows students to actively interact with diverse individuals while at the same time learning each other's differences. Jacobs et al. (2006) argued that both higher- and lower-ability students tend to gain from CL, as high-ability students feel a sense of care for others and build autonomy while low-ability students can learn from students who understand the concepts. However, Barkley et al. (2005) disagreed with the idea and argued that high-ability students may begin to feel some resentment toward being in the heterogeneous group and low-ability students may shy away from participating with the group.

Barkley et al. (2005) suggested that the efficient way is to allow students to form their own groups. This may lead students to form working groups with those who share similar backgrounds and interests. Arguments for friendship groups include: a) students feel uncomfortable working with those they have not worked with before, and (b) it takes time to know each other or ascertain group members' abilities, unlike in friendship groups where students readily get to know each other's strengths and weaknesses (Nguyen, 2008). In Hofstede and Hofstede's (2005) study, affective factors exceed cognitive factors, and group harmony is a decisive factor of a successful group among Asian students. This implies that the established bonding between members in a group is much more important for Asian students

to learn. Gillies (2016), however, warned that one of the shortcomings of a friendship group is that some students may feel left out or even be discriminated against. Moreover, friendship groups may be detrimental in terms of identifying and pinpointing errors in order to maintain group harmony (Gillies & Boyle, 2010). Although one of the characteristics of collectivist societies is the desire to cooperate and work in groups, not all students subscribe to this behavior. The desire to stay ahead of competition limits team work. The above discussions highlight the complexity of student group formation.

University Environment and Disciplines

The surrounding environment, the way that teachers manage their classrooms, and school disciplines are commonly considered central aspects in students' learning experiences. Johnson et al. (2000) concluded that whether a method is teacher-centered (transmission) or student-centered (conceptual change) depends on the type of subject. They suggested that in "hard" discipline subjects such as chemistry, medicine, and engineering, teacher-centered methods are widely used, and the student-centered approach is used for "soft" or humanities subjects such as history and social sciences. It has long been assumed that CL would be more suitable for humanities subjects and not suitable for "hard" subjects, which are seen as more academically rigorous.

Additionally, class size and level influence teaching approaches adopted by teachers. As class size and level increases, teachers tend to use a teacher-focused approach (Singer, 1996). Implementing CL with a bigger class size is not impossible, but it requires more effort since teachers need to ensure that students' behaviors are better managed. Therefore, Baloch and Brody (2017), Buchs et al. (2017), and Thanh et al. (2008) highlighted the importance of receiving institutional support to adopt CL in higher education. One of the common obstacles teachers face during CL is a tight timeline to complete broad curriculum coverage in a semester term, as CL takes time for implementation. Consequently, some teachers may either not adopt or casually adopt CL in the classroom. This may lead some students to feel dissatisfied with CL, with the perception that CL is a waste of time (Gillies & Boyle, 2010). Relatedly, it may affect teachers' confidence in using CL, and they may resort to familiar instructional strategies such as traditional lectures.

Culture

Culture refers to "patterns of thoughts ... systems of knowledge that inform us how we should interact and communicate with others as well as interpret other's behaviour" (Bulut, 2009, p. 112). Hofstede and Hofstede (2005) advocated that learning, teaching, and culture are strongly interrelated. Ignoring or devaluing cultural aspects will result in partial understanding or misunderstanding of how students learn and cooperate in CL. Cultural differences affect students' cooperation, learning (Economides, 2008), perceptions, interpretations of the learning environment (Nguyen, 2008), participation, motivation (Lim, 2004) and learning behavior (Valiente, 2008; Wong, 2004). While Johnson et al. (2000) reported that cultural diversity offers positive learning outcomes such as better interaction skills, sensitivity and

respect toward other cultures, some have argued that stereotypes, prejudices, and hostility may occur in CL groups due to misunderstanding and conflicts arising among students from different cultures (Economides, 2008; Lafer & Tarman, 2019; Johnson & Hinton, 2019). One of the potential reasons is that language barriers may hinder “promotive interaction” in a working group, leading to unnecessary communication conflicts.

Thanh et al. (2008) highlighted that Asian students tend to pay special attention to personal relationships as a crucial factor in determining group success. In addition, Tan (2017) argued that Asians’ perceptions and responses to critical thinking differ from those in the West, as Asians view critical thinking as collegial, communal, emphatic, and interpersonal instead. Loh and Teo (2017), on the other hand, advocated that Asian learners are open to active and innovative learning approaches. Wong (2004) suggested that Confucian heritage is an integrated part of Chinese culture that influences teaching and learning. Bray, Adamson, and Mason (2014) claimed that in Confucian heritage cultures, there is a high regard for education where teachers usually rank highest in the social hierarchy and students tend to show more respect to them. Biggs and Watkins (1996) added that in Chinese culture, teachers are well respected for their wisdom, and the wisdom of teachers is not to be questioned. Additionally, teachers retain much class control with students asking fewer questions to maintain harmony in class, and they speak only when asked to do so since doing so disrupt lessons. To some extent, asking questions is also considered to be a challenge to the authority of teachers, which may explain why some students display a passive attitude in class when they are not encouraged to speak out. Hence, Asian students may prefer a teacher-centered approach, expecting their teachers to be well prepared masters of knowledge delivering content in a coherent, systematic, and structural manner.

Conclusion

This review defines the meaning of CL and discusses theories relating to CL. Studies included in our review show that CL is an effective teaching and learning approach in higher education. Findings appear to be consistent with the notion that CL helps to enhance academic, affective, and social development of students. We identified some factors that strengthen or constrain the implementation of CL in higher education. Students, staff readiness, and group formation are considered as strengthening factors, whereas institutional factors are considered as constraining factors. The role of culture is considered as either strengthening or constraining, depending on how CL is valued in a particular cultural context. In terms of limitations, our choice to restrict our research to articles written in English might have led to an over-representation of studies from English-speaking countries, which may have influenced our summary. This study might provide some insight for future research to consider different contextual factors in determining the success of CL.

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