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Culturally Diverse Students' Conflict Experiences and Management Strategies: A Mixed-Method Study of Intercultural Collaborative Learning

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As educational practice has been shifting more collaborative and intercultural, the need for facilitating culturally diverse learners becomes more evident. This study aims to get a better understanding of conflict situations among culturally diverse learners during collaborative learning. The participants were students in international Master's degree programs in the Faculty of Education at the University of Oulu (N=55). The data were collected through an online survey including Likert scale questions to examine the relationships between cultural aspects and conflict management styles, and open-ended questions to investigate the participants' conflict experiences and management strategies. The quantitative results only confirmed the correlation between the individualism index and dominating conflict management style (p=.011) when excluding a certain group (Finland) that showed divergent results. In the qualitative analysis, many participants reported conflict factors associated with a lack of respect for other members, especially a member's dominating behavior. The results also show that the participants from individualistic cultures valued more active discussion. They frequently used direct approaches such as explaining own point and asking others to express themselves to resolve conflicts. In contrast, the participants from collectivistic cultures, especially Asian participants, valued more organized work and equal participation. They frequently used indirect approaches such as considering others and not expressing own feelings to avoid conflicts. In conclusion, the findings of the study provide some insights into the research field of intercultural collaborative learning, which is required for future education to support culturally diverse learners.

Keywords: collaborative learning, culturally diverse learners, conflict management styles, direct/indirect approach, substantive/relationship goal orientation

Contents

1 Introduction

Collaborative learning has been taking the place of traditional teacher-centered education, where the teacher displayed the authority and acted as a knowledge conveyor (Economides, 2008; Smith & MacGregor, 1993). The classroom no longer exhibits solo lecturer and student audience but becomes a more interactional learning community; thus, teachers are required to shift their mindset and profession from a knowledge conveyor to a facilitator and designer of learning experiences for their pupils (Smith & MacGregor, 1993). This paradigm stemmed from the advocacy for the facilitation of lifelong learning in collaboration rather than individual learning because collaborative learning process is expected to foster deeper information processing and more meaningful learning (Kirschner, Paas, & Kirschner, 2009). However, free collaboration does not automatically produce meaningful learning (Dillenbourg, 2002; Kirschner et al., 2009). For a successful knowledge co-construction, learners are required to not only engage in high-level information processing, but also sustain their emotional conditions (Isohätälä, Näykki, Järvelä, & Baker, 2018). While learners are exposed to a complex learning situation, various external aspects such as group size, composition, communication tool, and nature of the task also influence the effectiveness of group learning (Dillenbourg, Baker, Blaye, & O'Malley, 1995; Kirschner et al., 2009). Hence, it is inevitable for educators to support a complex learning environment than ever, and an educator's role as a facilitator and designer impacts student's learning experiences.

In addition to such a paradigm shift, global growth has been boosting the world economy and accelerating human mobility, altering education to be more international than ever. The internationalization of education encourages the acquisition of universally applicable knowledge, skills, and values, and suggests the curriculum to be intercultural in nature (Varghese, 2008). Accordingly, the multicultural classroom situation has increasingly become common (Zhang, 2001), and the development of information and communication technology brings to computer-supported learning scenarios around the world (Weinberger, Clark, Häkkinen, Tamura, & Fischer, 2007). To adapt to changing times, academic institutions are exploring the potential for intercultural education supported by recent

information technology, aiming students to cultivate knowledge and skills needed for this global society (Chen, Hsu, & Caropreso, 2006).

This situation might bring new challenges to both educators and learners. In a collaborative learning context, culturally diverse groups potentially have more opportunities to exchange different perspectives on account of diversity; however, they also often face challenges in coming to a consensus when working on the task together (Anderson & Hiltz, 2001; Popov, Biemans, Brinkman, Kuznetsov, & Mulder, 2013; Weinberger et al., 2007). Culturally diverse learners need more careful considerations for their collaborative interactions to maintain a discussion. Therefore, educators need to pay attention to learners' cultural differences and take them into account in collaboration scripts to foster interactions or mediate conflicts among multicultural learners (Kim & Bonk, 2002). Previous studies also claimed that sensitive consideration of the cultural aspects is essential to design the learning environment fostering multicultural collaboration (Chen et al., 2006; Rogers, Graham, & Mayes, 2007; Weinberger, Marttunen, Laurinen, & Stegmann, 2013). In the current educational paradigm, acknowledging and respecting the diversity found in today's learners is a prerequisite to successfully incorporate cultural pluralism into instruction (Zhang, 2001).

Despite the requirements for educators, the field of collaborative learning among culturally diverse learners (i.e. intercultural collaborative learning) has been scarcely studied. The number of found studies relating to either this specific context or potential challenges such as 'conflict' was very limited. To shed light on this unexplored field, this study aims to investigate what happens during an intercultural collaborative learning situation with a focus on students' conflict experiences. First, the relationships between the participants' cultural aspects and conflict management styles will be examined using a quantitative approach. Second, the factors that triggered conflicts among culturally diverse learners and their management strategies will be investigated through qualitative analysis. The findings of the study are expected to provide insights into the research field of intercultural collaborative learning, and eventually, the study contributes to future global education to support culturally diverse learners.

2 Theoretical Framework

2.1 Intercultural collaborative learning

2.1.1 What is the definition of *intercultural collaborative learning*?

Collaborative learning is a principal component of both theoretical and practical approaches of learning, which is assumed to lead to high-level cognitive processes and deep learning outcomes (Weinberger, Kollar, Dimitriadis, Mäkitalo-Siegl, & Fischer, 2009). Even though the term *collaborative learning* is widely known, it is difficult to agree on any definitions of the term due to the various applications in different ways and different academic fields (Dillenbourg, 1999). Collaborative learning environments can be varied in size, composition, goal, communication means, synchronicity, and task and knowledge distribution (Kirschner et al., 2009). Thus, each element of the definition such as scales (e.g. group size or duration), meanings for learning (e.g. taking a course or problem solving) and meanings for collaboration (e.g. interaction, situation or mechanism) can be interpreted differently depending on the case (Dillenbourg, 1999). For example, Smith and MacGregor (1993) define collaborative learning as follows:

> "Collaborative learning" is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually, students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most center on students' exploration or application of the course material, not simply the teacher's presentation or explication of it. (p.1)

This definition depicts a situation in which several learners are engaging in an exploratory and student-centered learning activity together. Dillenbourg (1999) stated more simply that "The broadest (but unsatisfactory) definition of 'collaborative learning' is that it is a *situation* in which *two or more* people *learn* or attempt to learn something *together*" (p.1). This definition can include broad situations such as a short classroom discussion or long-term team project as long as multiple people are attempting to learn something together.

However, the context of collaborative learning in this study is a culturally diverse environment; thus, a new definition is required to describe the situation. What definition would be the most suitable for collaborative learning among culturally diverse learners? Chen et al. (2006) referred to cross-, multi- and intercultural collaborative learning to emphasize the identifications for an instructional model. These three terms regarding culture have slightly different meanings and nuances and are sometimes not explicit. Thus, an appropriate definition of the study context needs to be decided by considering the different aspects of the terms. For instance, the characteristic aspect of *cross-cultural* is a comparison between different cultures. In many cross-cultural studies of collaborative learning (e.g. Chen et al., 2006; Kim & Bonk, 2002; Olesova, Yang, & Richardson, 2011; Weinberger et al., 2013), the participants are usually from two different countries or ethnic groups and the different aspects between both sides are analyzed. In the context of this study, the participants are international students who came from all over the world and their learning situations usually include more than two different cultures. Thus, the study context is not a cross-cultural and the term implying multiple cultures is more preferable for this study. In terms of *multicultural*, the meaning implies the existence of multiple cultures. Varghese (2008) used this term as follows: "Globalization implies higher education becoming a designed activity to introduce an international and multicultural outlook to suit the requirements of a global labor market centered on knowledge production" (p.10). In the statement, the term multicultural indicates a clear meaning of multiple cultures. However, the definition of this term is limited to describe a situation throughout the cultures. In the context of this study, students are required to interact across their different cultures and achieve their learning goals as a unified learning community during their collaboration. They exchange not only their thoughts and ideas but also behavioral values based on their perspectives that are cultivated through their past experiences. This situation describes a more complex environment, which is beyond the meaning of gathering multiple cultures. Therefore, in this study, the term *intercultural* collaborative learning is used as a definition of collaborative learning scenarios among culturally diverse learners.

2.1.2 Features of intercultural collaborative learning

How do students' cultural backgrounds influence their behaviors or perspectives during intercultural collaborative learning? According to Chen et al. (2006), in the context of (online) collaborative learning, culture influences a student's self-presentation in the following elements: perceptions of self and groups (e.g. prefer cooperative or collaborative work), a pattern of discourse (e.g. short and targeted discourse or detailed discourse), Communication context (high or low context culture) and perceptions of time (e.g. appreciate efficiency or more group interaction). More specifically, Economides (2008) suggested that the following aspects can be affected by students' cultural backgrounds.

> So, the different learners' cultural backgrounds affect their participation, their motivation, their satisfaction and their performance during collaborative learning activities. Learners with diverse cultural background may have divergent modes of communicating, interacting, and working. They may have different views of the world, different values, behaviors, and attitudes. They may also develop different feelings and thoughts during the collaborative learning activities. (p.244)

Several studies identified perceptual or behavioral differences among culturally diverse students during collaborative learning. For instance, Olesova, Yang, and Richardson (2011) investigated how students from Eastern and Northern Siberia (Russia) perceived barriers in online collaborative learning. According to the results, European-based students from Eastern Siberia mentioned that understanding a peer's message is sometimes difficult due to its unclearness and online collaboration decreased the quality of discussion. In contrast, Asian-based students from Northern Siberia found that working as a team, especially controlling equal workload distribution, is difficult. Kim and Bonk (2002) explored cross-cultural differences in online communication between undergraduate students in Finland and the United States. The results showed that Finnish students were more group-focused and showing a higher level of reflection and monitoring behaviors, while American students were more action-oriented and showing result seeking or solution providing behaviors. Those results suggest that members' cultural backgrounds variously impact on their collaboration.

In such a learning environment where multicultural learners bring different perceptions or behavioral norms, various challenges are existing besides its benefits. According to Stahl, Maznevski, Voigt, and Jonsen (2010), cultural diversity strongly influences collaborative team performance in three potential ways. Firstly, people tend to prefer to work with those who have similar values, beliefs, and attitudes. Secondly, people are likely to categorize themselves with specific traits (e.g. stereotyping) and treat members in their own category well. While people with the same culture are welcomed within a category, others may be judged as outsiders. From these two perspectives, group diversity could negatively affect their collaboration due to the difficulty of the social process. Thirdly, diversity can also positively work within a team in terms of difference. Culturally diverse members can bring different perspectives and cover broader information and networks. It supports problem-solving in the way of creativity, innovation, and adaptability. Thus, culturally heterogeneous groups include both positive and negative aspects: benefits owing to diversity and challenges due to different communication styles or behavioral norms (Anderson & Hiltz, 2001; Weinberger et al., 2007).

2.1.3 Effective interactions required for fruitful collaborative learning

Numerous studies of collaborative learning are built on the Piagetian conceptions of cognitive conflict. The idea is that the process of reasoning and exchanging ideas makes a learner aware of a contradiction between one's and others' understandings, which supports in attaining new knowledge and deeper understanding of the object and leads to one's cognitive growth (Teasley, 1997; Vygotsky, 1978). Based on the idea, the effectiveness of learners' social interactions has been gaining researchers' attention as an important factor for one's learning. However, many researchers pointed out that free collaboration does not automatically produce fruitful learning between learners (e.g. Dillenbourg, 2002; Kirschner et al., 2009). Knowledge construction hardly occurs when participants are simply socializing or introducing their personal opinions, but instead, it requires their active construction or development of theory, model, presentation, or such kind of knowledge artifact (Stahl, 2005).

To begin with, what kind of learners' interactions can support the process of knowledge construction? Beers, Boshuizen, Kirschner, and Gijselaers (2005) describe the flow of knowledge constructing process through three intermediate forms (i.e. external knowledge, shared knowledge and common ground) via four actions: *externalisation*, *internalisation*, *negotiation*, and *integration* (Figure 1). First of all, unshared knowledge inside one's head becomes explicit as external knowledge by expressing or thinking aloud (*externalisation*). After one made such a contribution, then other members can try to understand and assimilate the external knowledge (*internalisation*). While the other members are internalising one's contribution, they keep providing feedback or criticism based on their perspective to set common ground as a group (*negotiation*). However, common ground is never completed at once but continually updated through the on-going negotiation, and finally, new knowledge can be built on it (*integration*). The constructed knowledge eventually becomes a part of the new common ground within a group, and it will expand and deepen their common ground by adding new relations and concepts.
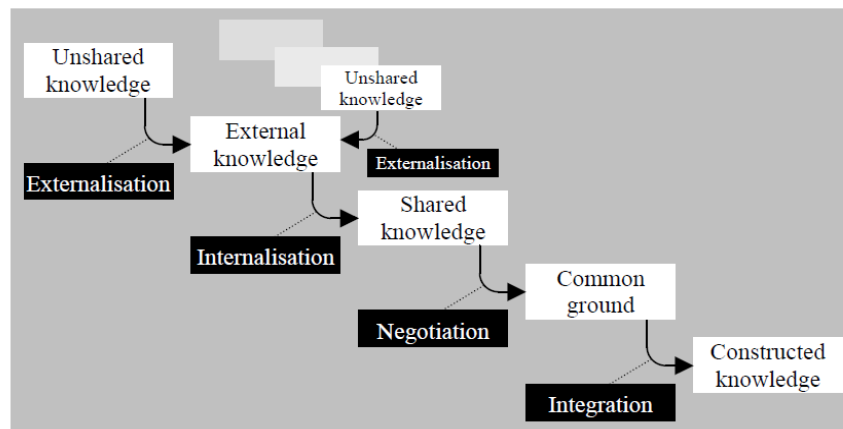

Figure 1 Interaction processes from unshared knowledge to constructed knowledge. Adapted from 'Computer support for knowledge construction in collaborative learning environments' by Beers, P. J., Boshuizen, H. P. A. (Els), Kirschner, P. A., & Gijselaers, W. H., 2005 Computers in Human Behavior, 21(4), p.626.

One way of enhancing effective interactions among collaborative learners is to provide them with structured support using well-designed scripts. For instance, educators should attempt to induce students' cognitive conflicts, facilitate elaborated reasonings, and encourage mutual understanding (Dillenbourg, 2002). Argumentation is considered to be beneficial in collaborative learning scenarios since the process requires learners to share their knowledge, present opposing views, resolve socio-cognitive conflict, and come to a joint conclusion (Isohätälä et al., 2018; Weinberger et al., 2007). Stegmann, Weinberger, and Fischer (2007) claim that high-quality argumentation positively facilitates the individual's knowledge construction and it can be supported by collaborative script providing learners with a scaffold to induce argumentation. The study of Stegmann et al. (2007) demonstrated that the designed collaboration scripts could facilitate a specific interaction process of argumentative knowledge construction and improved the quality of arguments, which led to the learners' successful knowledge acquisition based on their arguments. Hence, having constructive argumentation can be the key to successful collaborative learning.

2.1.4 Argumentation and conflict during collaborative learning

While argumentation represents high-level cognitive processes (e.g. reasoning, elaborating and negotiating) during collaborative learning, it also includes emotional risks between learners (Isohätälä et al., 2018; Polo, Lund, Plantin, & Niccolai, 2016). Emotion arousal in argumentative interactions can be detrimental in group collaboration because it causes tension and confrontation among the members and disturbs their cognitive process (Polo et al., 2016). The friction and socio-emotional tension caused by the conflict eventually takes away the members' focus from the task itself (De Dreu & Weingart, 2003). The group's reaction to the socio-emotional challenges will influence and shape their emotional and motivational climate; positively resulting in increasing motivation or negatively resulting in demotivating and withdrawal (Järvenoja & Järvelä, 2013). De Dreu and Weingart (2003) suggest that although a small conflict might be beneficial, it quickly becomes intensive and increases cognitive load and disturbs information processing, which will end up damaging

group performance. In fact, Näykki, Järvelä, Kirschner, and Järvenoja (2014) demonstrated that unresolved cognitive, motivational and socio-emotional challenges and conflicts arouse negative emotion such as frustration or even anger among learners, and eventually destruct a group from on-going task activities. As a consequence, a group tends to refrain from critical discussions but rather agree with peers' claims directly or accept contradicted opinions without argumentation to sustain a favorable atmosphere (Isohätälä et al., 2018). Reaching agreement on a single solution too easily, without showing a sufficient critical explanation and verification of solutions, leads to a missing opportunity of learning (Baker & Bielaczyc, 1995). Therefore, engaging in the high-level cognitive process (i.e. argumentation) and sustaining favorable socio-emotional conditions are both important factors of successful collaborative learning (Isohätälä et al., 2018). Although all the members try to resolve the conflict, the approaches are varied by one's behavioral norms or values for discussion. It depends on contextual aspects, but might be also influenced by learners' characteristics and cultural backgrounds (Weinberger et al., 2013). In the next section, differences of the conflict management approach and influence of cultural aspects are explained.

2.2 Conflict management

2.2.1 Conflict management style

Conflict management style is defined as general behavioral tendencies or patterns of responses to deal with conflict within various opposing interactive situations (Oetzel & Ting-Toomey, 2003). Numerous approaches to explain conflict management style have been studied, but the fundamental approaches can be either a five-style or three-style model (Oetzel & Ting-Toomey, 2003). Thomas and Kilmann (1974) presented five styles of handling conflict with two dimensions of "assertiveness and cooperativeness". The model comprises the following elements: *Competing* (assertive and uncooperative), *Collaborating* (assertive and cooperative), *Compromising* (moderate on both assertiveness and cooperativeness), *Avoiding* (not assertive and uncooperative), and *Accommodating* (not assertive and cooperative). Similarly, Rahim (1983) presented five styles of addressing

interpersonal conflict with two dimensions of "concern for self or others". The model comprises the following elements: *Integrating* (high on both self- and other-concern), *Compromising* (moderate on both self- and other-concern), *Dominating* (high self-concern and low other-concern), *Obliging* (low self-concern and high other-concern), and *Avoiding* (low on both self- and other-concern). However, the components of a five-style model can be reduced and integrated into three basic conflict styles: (a) control, forcing or dominating, (b) solution-oriented, issue-oriented or integrating, and (c) nonconfrontational, smoothing or avoiding (Putnam & Wilson, 1982, as cited in Oetzel & Ting-Toomey, 2003, p.601). For instance, Oetzel, Ting-Toomey, Yokochi, Masumoto, and Takai (2000) examined the consistency of facework behaviors, the set of communicative behaviors introduced in Ting-Toomey's face-negotiation theory (Ting-Toomey, 1988 as cited in Oetzel & Ting-Toomey, 2003), with the previous categorization of conflict management style. The study identified 13 types of facework behavior to handle the conflict and confirmed the consistency with the three underlying conflict management styles, dominating, integrating and avoiding. The findings of three styles are in line with the aforementioned claim of Putnam & Wilson (1982) (as cited in Oetzel & Ting-Toomey, 2003, p.601), which suggests that the explicitness of two aspects in the five-style model are relatively moderate than the other three aspects. Therefore, this study uses the following three styles of conflict management: dominating, integrating and avoiding (see Figure 2).

Note. The vertical and horizontal axis of Rahim's model are displayed oppositely from the original model in order to make a comparison easier
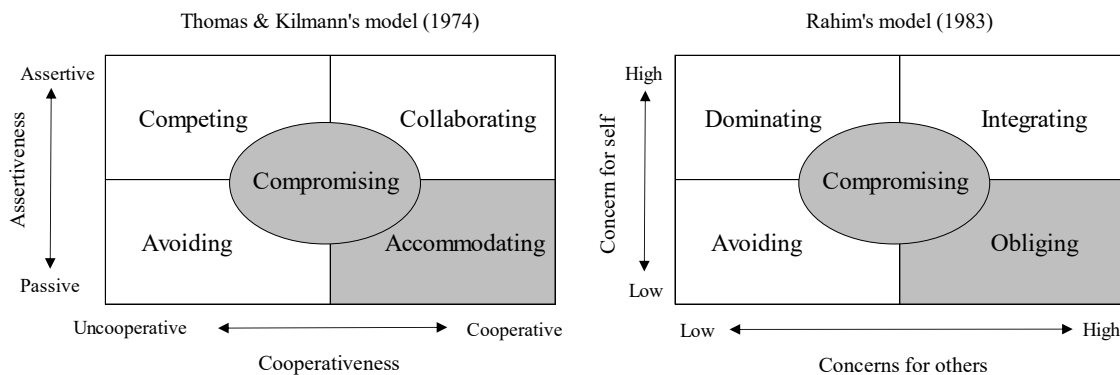
Figure 2 Comparison between two conflict management models

Three conflict management styles contain different characteristics in one's behaviors or values. Boroş, Meslec, Curşeu, and Emons (2010) explained the traits of each conflict management style as follows. Firstly, the dominating style is characterized by a self-goal/purpose orientation. The people who use this style pursue their own goals and have less concern for the other party. Secondly, the integrating style is characterized by open attitude and flexibility. The people who use this style appreciate different ideas and negotiation to look for solutions acceptable to both parties. Lastly, the avoiding style is characterized by the actions of stepping sideways or withdrawing. The people who use this style do not prioritize their own goals and tend to avoid conflict. As another example, Oetzel et al. (2000) revealed the relationships between the facework behaviors and the three conflict management styles. Firstly, the dominating style was associated with *aggression* and *defended self* facework behaviors. Those facework behaviors represent the use of direct tactics and a direct attack on the other person to protect self-gain. Secondly, the integrating style was associated with *apologize*, *compromise*, *consider the other*, *private discussion*, and *talk about the problem* facework behaviors. This style emphasizes a mutual concern for self and others and protection of the relationship and both party's needs. Lastly, the avoiding style was associated with *avoid*, *give in*, *involve a third party*, and *pretend* facework behaviors. In contrast to a direct approach that is characterized as dominating style, avoiding style represents an indirect approach to manage the conflict to avoid embarrassing the other person and protect oneself. For these explanations, the key words describing each style emerged as follows: 1) dominating style; concern for self, aggressiveness and direct approach, 2) integrating style; concern for both parties, openness and flexible approach and 3) avoiding style; less concern for self, avoiding and indirect approach.

2.2.2 Cultural aspect and conflict management approach

Culture may shape one's behavioral norms and values in a society, which also influences their behaviors in a conflict situation. Markus and Kitayama, (1991) described how behavioral values could be different across cultures (e.g. between America and Japan)

with two sayings: "the squeaky wheel gets the grease" in America and "the nail that stands out gets pounded down" in Japan. Those sayings imply that while one's behavior can be appreciated in one culture, it can be taken oppositely in another culture. Therefore, when people who have different cultural norms and experiences engage in a task together, their different beliefs and values influence their prioritization, interpretation, and reactions during collaboration, which inherently increases the potential for conflicts (Stahl et al., 2010). An initial miscommunication between different cultural parties could easily become an intensive and polarized conflict situation due to their different values and assumptions for conflict (Ting-Toomey & Kurogi, 1998).

What sort of cultural aspect influences one's conflict management behaviors? For instance, Brett, Behfar, and Sanchez-Burks (2014) explained cultural aspects that could affect one's conflict management approach as follows:

> A preference for using direct versus indirect confrontation of conflict is associated with other characteristics that distinguish Eastern and Western cultures. These include the conceptualization of the self in collective versus individualistic cultures; status and deference patterns in hierarchical versus egalitarian cultures; communication patterns in high-versus low-context cultures; and analytical patterns in holistic versus analytic (linear) mindset cultures. (p. 139)

As they claim, various conceptions are characterizing one culture. Many studies developed their theoretical framework based on different cultural conceptions, such as Hofstede's (1980) masculinity and femininity cultural dimension (e.g. Weinberger et al., 2013), power-distance dimension (e.g. Brew & Cairns, 2004), the concept of holistic and analytic cognition by Nisbett, Peng, Choi, & Norenzayan (2001) (e.g. Brett et al., 2014), or Hall's (1976) high and low context culture (e.g. Brew & Cairns, 2004; Chen et al., 2006). Thus, it is difficult to identify what aspect of culture influence one's conflict management approach in what way.

Although culture is very broad and complex to explain, a conception of *self* is one of the viewpoints to look at the relationships between culture and conflict management styles.

For instance, Ting-Toomey and Kurogi (1998) explained how one views oneself in a social situation (e.g. community) is different across cultures as follows:

> Cultural values shape our meanings and punctuation points of salient facets of social self and personal self. In some cultures, the "social self" (i.e. the "public self") is expected to be closely aligned with the "personal self" (i.e. the "private self"). In other cultures, the "social self" is expected to engage in optimal role performance, regardless of what the inner "personal self" is experiencing at that interaction moment. The conceptualization of "self" and hence, "face", is the generative mechanism for all communicative behaviors.

The statement emphasizes the meaning of self in communicative behaviors and suggests that the conception of self could be different based on cultural values. Accordingly, Oetzel and Ting-Toomey (2003) demonstrated that cultural dimension (i.e. individualism-collectivism) directly or indirectly influences one's conflict management style, which is mediated through self-construal and face concerns (i.e. conception of self). Hence, this study specifically focuses on the individualism-collectivism cultural dimension among the various cultural conceptions to investigate the relationships between cultural aspects and conflict management styles.

2.2.3 Influence of culture and conception of *self* in conflict management

Individualism-collectivism cultural dimension (Hofstede, 1980; Triandis, 1995) is one of the key concepts to understand individuals' values and behavioral norms. Individualism is a social pattern that individuals feel autonomous and are more detached from social groups (e.g. family, friends or coworkers, etc.). On the other hand, collectivism is a social pattern that individuals view themselves as a part of social groups and value their social relationships (Triandis, 1995). In individualistic cultures, people value their personal goals while people in collectivistic cultures concern the goals of collectives (others) over their personal goals (Triandis, 1995). In terms of conflict management, people of individualistic

cultures tend to use more direct and assertive tactics and outcome-oriented (substantive) strategies while people of collectivistic cultures tend to use more indirect and avoiding tactics (Ting-Toomey & Kurogi, 1998). Ohbuchi, Fukushima, and Tedeschi (1999) demonstrated that people in collectivist cultures (e.g. Japanese) indicated a strong attempt of avoiding tactics and a goal orientation to maintain social relationships and harmony in conflict situations. On the other hand, people in individualistic cultures (e.g. Americans) more frequently used assertive tactics in conflict situations and are focused more on seeking a justice goal. Both findings suggest different goal orientation and directness of conflict management strategy between individualistic or collectivistic cultures.

Similarly, independent-interdependent self-construal (Markus & Kitayama, 1991) is also an important conception to explain how one views oneself between self and others. While individualism-collectivism cultural dimension refers to a whole culture, self-construal is more individual level and it might be different from one's culture (Kapoor, Hughes, Baldwin, & Blue, 2003). In independent construal of self, an individual is a unique entity and one's behavior is organized by referring to own internal feelings, cognitions, and motivations for self. In contrast, in interdependent construal of self, one views oneself as a part of social relationships and surroundings; thus, one's behavior is determined with a consideration of thoughts, feelings, and actions for others by emphasizing the relational connectedness (Markus & Kitayama, 1991). According to Ting-Toomey and Kurogi (1998), individuals who view themselves as independent tend to pursue their personal goals, take an initiative in the discussion, and express their positions assertively when communicating with others. Thus, they often use more direct solution-oriented styles to deal with their conflict. On the contrary, individuals who view themselves as interdependent are inclined to respect other's goals, act appropriately to fit in a group, keep relational harmony in their communication. Thus, they use more avoiding and third-party intervention to manage their conflict. People who employ the balanced self-construal of both independent and interdependent aspects (i.e. biconstrual), they use direct and upfront mode conflict management strategies relating to both integrating and dominating style (Ting-Toomey & Kurogi, 1998). Thus, integrating conflict style represents both substantive and relationship modes of conflict management in association

with both self-construal aspects (Oetzel & Ting-Toomey, 2003). Although this conception is said to be separate from the cultural dimension, it is still strongly connected to one's culture. For example, independent construal of self represents Western cultures where the connectedness between individuals is less esteemed, but instead, expressing their inner attribution is more important. Conversely, interdependent construal of self represents Asian cultures where the connectedness between individuals is important and having a harmonious relationship is more valued (Markus & Kitayama, 1991).

To sum up, the relationships between culture and conflict management style can be explained as follows. Individualistic or collectivistic cultures influence one's view of self in a community (i.e. self-construal). This viewpoint affects one's perceptions and behavioral norms influencing one's goal orientation and conflict management approach. According to a degree of individualism (independent as an individual), goal orientation can be more substantive or relationship mode and management approach can be more direct or indirect. Therefore, the cultural differences shaping one's view of self influence conflict management style to be more dominating, integrating, or avoiding to some degree (see Figure 3).
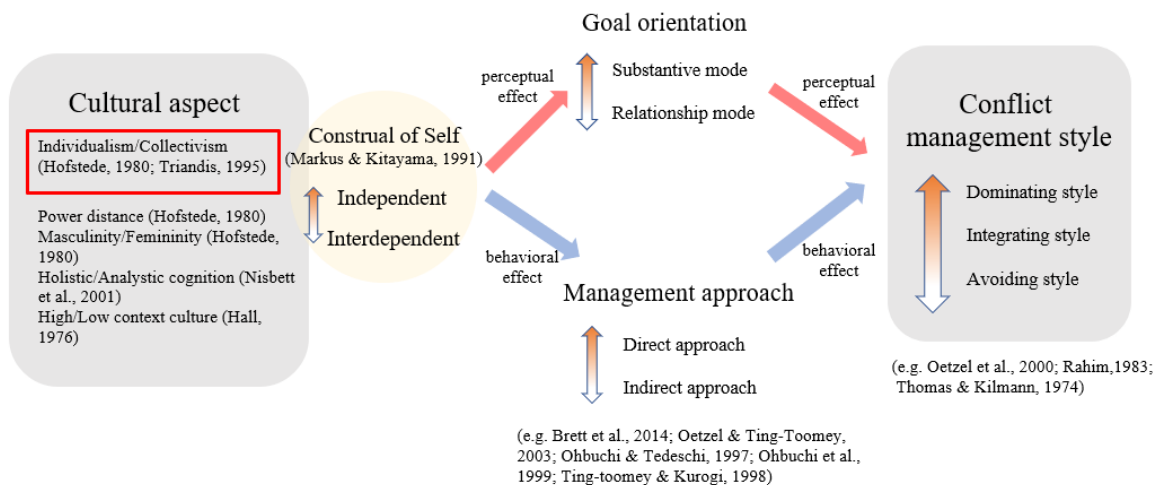
Figure 3 The model of the relationships between cultural aspect and conflict management style

3 Review of Related Literature

This section aims to get a holistic understanding of the research field of (intercultural) collaborative learning to identify the research gap. After looking through the overview, earlier studies will be presented to review the theoretical background and methodology to consider the research design of this study.

Learning scientists have noticed that a group has a strong impact on an individual's learning and its social context has been gaining attention in their research field. Social interaction takes an important role within a collaborative group in the way of establishing social relationships, group cohesion, trust and a sense of belonging, which can lead to open and supportive discussion, critical thinking and social negotiation (Kreijins, Kirschner, & Jochems, 2002). Many researchers focused on learners' social interactions with a wide range of perspectives such as group cognition or knowledge co-constructing (e.g. Beers et al., 2005; Stahl, 2005; Vuopala, Näykki, Isohätälä, & Järvelä, 2019), motivation (e.g. Järvelä, Volet, & Järvenoja, 2010) and emotion (e.g. Isohätälä et al., 2018; Järvenoja & Järvelä, 2013; Näykki et al., 2014; Polo et al., 2016). However, learners' *conflict* has little attention although it is an important component of social interaction. There are some studies regarding conflict and its management, but the research contexts are usually not a collaborative learning setting. Moreover, the research field of intercultural collaborative learning also has a relatively short history. In the past few decades, the number of studies focusing on learners' cultural aspects has gradually increased. However, many of them explored learners' cross-cultural differences (e.g. Chen et al., 2006; Kim & Bonk, 2002; Olesova et al., 2011; Weinberger et al., 2013) rather than multicultural learners' collaboration and the context is usually an online learning environment. In fact, journals of the learning science field (e.g. *Learning, Culture and Social Interaction* and *The Journal of the Learning Sciences*) scarcely show the related articles in terms of neither *conflict* nor *intercultural collaborative learning*. Therefore, finding a similar context and appropriate method for this study was quite difficult. This unique aspect, conflict during intercultural collaborative learning, needs more investigation and has a potential for bringing new insights into the research field.

Although it was difficult to find similar research, some earlier studies provided ideas of research design in terms of theoretical framework and methodology. Regarding the theoretical point of view, some studies of conflict management provided useful conceptions. Especially, the theories applied in the study of Oetzel & Ting-Toomey (2003) were frequently referred to in this study. They examined the validity of Ting-Toomey's face-negotiation theory that describes the relationships between one's cultural aspect and conflict management style. In their study, Hofstede's individual-collectivism cultural dimension theory and Markus and Kitayama's (1991) self-construal theory were used as an index of the participants' cultural aspects. They used three styles of conflict management: dominating, integrating and avoiding, which are based on Rahim's (1983) five-style model. Although Ting-Toomey's face-negotiation theory was often used in the related studies of conflict management, it was not used in this study due to its complexity. Boroş et al. (2010) also used the same conceptions as Oetzel & Ting-Toomey (2003), but a classification of cultural dimensions was more specific and complex. It is a combination of both individual-collectivism cultural dimension and self-construal theory, breaking down Hofstede's two dimensions into four types: Vertical or Horizontal individualism/collectivism. While this classification can distinguish participants' cultural aspects more accurately, it is impractical to use for a small sample size. Other studies investigating the cultural aspects of conflict management approach used various different theories of culture (see section 2.2.2 Cultural aspect and conflict management approach).

However, many studies examined the relationships between cultural aspects and conflict management styles used a quantitative approach with a large data set (e.g. Boroş et al., 2010; Oetzel & Ting-Toomey, 2003; Ohbuchi et al., 1999). Likert scale questions are usually designed with specific items implying certain themes to validate a hypothesis or a certain theory. In this study, the research context has not been well studied yet as described above; thus, there is not enough information to hypothesize some phenomena required in this approach. The research scale of this study is also quite small to validate a hypothesis. Therefore, it is necessary to review other earlier studies that used qualitative methodology for the similar research context of this study.

When it comes to qualitative methodology, previous studies of intercultural collaborative learning provided helpful ideas. For instance, Popov et al. (2014) investigated how students' perceptions and experiences differ while working in a culturally similar or dissimilar dyad in a CSCL environment. They distinguished the participants' cultural aspects with Hofstede's individual-collectivism cultural dimension theory and divided them into similar or dissimilar cultural groups. The interview data were analyzed with data-driven (inductive) thematic analysis and identified categories were classified into four key themes. Walsh, Gregory, Lake, & Gunawardena (2003) explored how conflict management approach differs in participants from different cultural groups in an online collaborative learning environment. The participants were categorized into cultural groups based on their geographical regions (e.g. Anglo American and Eastern Asia, etc.), and the groups are distinguished by individualism-collectivism cultures. They also analyzed the interview data with an inductive content analysis approach; however, the key themes are already decided referring to the theory that they used. Both studies collected the participants' objective data by interview and analyzed the data with a coding scheme to find the key themes or to examine a certain theory. Weinberger et al. (2013) used a different approach for their cross-cultural research. The researchers investigated the participants' different conflict resolution styles and analyzed their discourse while dealing with the task. The data were more subjective compared to the former two studies in the way that participants' internal feelings or perceptions are not directly asked. To examine the participants' interaction patterns, they used a theme (*type of consensus building*) and categories (*conflict-oriented consensus building*, *integration-orientated consensus building* and *quick consensus building*) to identify meaningful segments. This theory-driven (deductive) content analysis approach can directly answer the research questions or hypothesis.

Although several related studies were found, the research topics and contexts are not exactly in line with this study. Therefore, the aforementioned ideas need to be combined and adjusted for this specific research context. In the following sections (4 and 5), the aims of this study and the specific research design that are based on the review of above-mentioned studies will be presented.

4 Aim and Research Questions

This study aims to get a better understanding of conflict situations during intercultural collaborative learning. Specifically, a quantitative analysis attempts to see how participants' cultural aspects are associated with their conflict management styles. Moreover, a qualitative analysis investigates what factors could trigger conflicts and how they are managed in intercultural collaborative learning contexts. The specific research questions are as follows:

RQ1. To what extent cultural differences are found in students' conflict management styles?

RQ2. What sort of factors caused participants' conflict experience during intercultural collaborative learning?

RQ3. How did culturally different students manage conflict during intercultural collaborative learning?

5 Methods

5.1 Participants and context

The data collection was carried out in international higher education programs at University of Oulu in December 2019. The targeted participants are students who have studied or are studying in three international Master's degree programs in the Faculty of Education: LET (Learning and Educational Technology), EdGlo (Educational Globalization), and ITE (Intercultural Teacher Education), between the years 2017 and 2019. The reasons of program selection are: 1) all programs consist of students from different countries, 2) programs include some collaborative work (e.g. making a group presentation and problem-based learning) in their course design and 3) students' learning context does not widely differ in terms of the field of education. Thus, it is assumed that all the participants have experienced intercultural collaborative learning situations through their study in their international Master's degree programs.

Through the online survey data collection, a total of 55 international students including 39 females and 16 males from the three programs participated in this study. The participants' home countries and individualism index (Hofstede, 1980) are shown in Table 1.

Table 1 Participants' regional categorization and individualism index

Geographical region	Country	Number of participant	Individualism index (IDV)
Anglo world & Europe N/NW (*N*=17)	USA	2	91
	USA / Philippine	1	-*
	USA / Finland	1	-*
	Australia	1	90
	UK	1	89
	Canada	2	80
	Germany	1	67
	Finland	8	63
Europe S/SE (*N*=5)	Spain	3	51
	Greece	1	35
	Cyprus	1	35
Europe C/E (*N*=5)	Poland	1	60
	Czech Republic	1	58
	Russia	1	39
	Croatia	1	33
	Macedonia / Bulgaria	1	30
Latin America (*N*=7)	Argentina	1	46
	Brazil	3	38
	Mexico	1	30
	Peru	1	16
	Colombia	1	13
Middle East & Africa (*N*=9)	Sudan	1	38
	Lebanon	1	38
	Jordan	1	38
	Egypt	1	38
	Ghana	2	20
	Pakistan	3	14
Asia (*N*=12)	India	2	48
	Japan	3	46
	Vietnam	3	20
	China	1	20
	Bangladesh	1	20
	Taiwan	1	17
	Indonesia	1	14
Total		**55**	

* Individual index of two participants who have mixed cultural backgrounds was eliminated
  due to the difficulty of identifying scores

In order to categorize the participants into similar cultural groups, a geographical classification used in the study of Hofstede, Hofstede, and Minkov (2010) was applied in this study. Some of the category labels used in the study of Hofstede et al. (2010) are renamed in this study for convenience (e.g. "America Central/South" changed to "Latin America" and "Asia E/SE" changed to "Asia"). The geographical categories and the number of participants are as follows (see Table 1): *Anglo world & Europe N/NW* (North/North-West) (*N*=17), *Europe S/SE* (South/South-East) (*N*=5), *Europe C/E* (Central/East) (*N*=5), *Latin America* (*N*=7), *Middle East & Africa* (*N*=9) and *Asia* (*N*=12). Anglo world includes English speaking countries such as the U.S., Canada, and Australia. In this study, the participants from Pakistan belong to Middle East & Africa group since the country is originally classified into "Middle East & Africa (Muslim world)" group in the study of Hofstede et al. (2010).

5.2 Data collection procedure

To get a holistic understanding of the phenomena, an online survey was selected as a data collection method. Since it can reach various people including those who have already left Finland, a wide range of participants can be gathered regardless of their locations or programs without biased selection. A Focus group interview was initially planned besides survey questions. However, it was not conducted since it could encourage an interviewer to formulate biased ideas by guiding the interview with questions implying certain directions. Instead, open-ended questions allow participants to report their reflection without any external guidance. A questionnaire was created a digital survey service called Webropol 3.0. The questionnaire includes Likert scale questions and open-ended questions to collect both quantitative and qualitative data. The survey link was sent to all students in the three international Master's degree programs using their mailing lists. The students who got the email decided to join the survey voluntarily.

The research has been conducted following the research ethics guidelines of the Finnish Advisory Board on Research Integrity. Before starting to answer the questions, the participants were asked to read the note about confidentiality and anonymity. It includes

following statements:1) All data will be processed confidentially, 2) The names and all other identification information of the participants will be changed to ensure that the participants remain anonymous, 3) The data will not be given to any third parties. Then, only the participants who approved them by checking the confirmation ("I have read the text above and agree with the participation in this research") participated in this survey. To ensure anonymity, fake names are used to cite a participant's answer in the result section.

5.3 Instrument

Likert scale questions aim to investigate the participants' potential conflict management styles, which leads to an overview level of understanding of the phenomena. The range of the scale is from *1= Not at all likely* to *5= Very likely*. Each item refers to each conflict management style (i.e. dominating, integrating and avoiding style), which are identified in the previous chapter (2.2.1 Conflict management style). Eight questions are allocated to each conflict management style and there are 24 Likert scale questions in total. Total scores of the certain category were calculated by adding the points of an item referring to the category. For example, if a participant answered the item referring to avoiding style with 5, five points are added to avoiding category. Then, the weight of total scores across the three categories can describe a participant's tendency for conflict management styles.

The item statements of Likert scale questions are created based on the tested questions in the study of Rahim (1983) (See Appendix A). Since the original questions were not created for collaborative learning situations, several studies of collaborative learning were also used to make the question statements. For instance, the idea of collaborative interaction process (i.e. externalization, internalization and negotiation/integration) introduced by Beers et al. (2005) was used to describe collaborative learning behaviors (which is referred to in 2.1.3. Effective interactions required for fruitful collaborative learning). In addition, statement items from PREP21 (Preparing teacher students for the 21st-century learning practices) consortium project (between University of Eastern Finland, University of Jyväskylä and University of Oulu) were also added to describe collaborative learning situations. The

example statements of the project are "In group learning situations, I try to take other group members' ideas and interests into account." and "I rather work and study alone than in groups so that I don't get any hard feelings or conflicts". All question statements are shown in Appendix B. To ensure all the participants to have common understanding of the research context, the definition of intercultural collaborative learning ("the situation where you are learning collaboratively with peers from different countries/cultures") was stated at the beginning of the survey.

Open-ended questions aim to identify the participants' conflict experiences during intercultural collaborative learning and their management strategies. After the Likert scale questions, only the participants who have experienced conflict situations during intercultural collaborative learning provided their personal experiences. For this reason, the number of participants for quantitative analysis (Likert scale questions) and qualitative analysis (open-ended questions) is different (N=55 and N=38 respectively). In this section, two questions were provided to the participants to answer RQ2 and RQ3 (see Appendix B).

5.4 Data analysis procedure

The quantitative data (for RQ1) were extracted from the Likert scale questions and analyzed using a statistical analysis software SPSS. Firstly, a regression analysis was applied to examine the correlations between the individualism index (IDV) and conflict management styles. Regarding IDV, two participants who have mixed cultural backgrounds (e.g. a person grown in the U.S with parents from an Asian country) were excluded due to the difficulty of identifying IDV (see Table 1). In total, there are 53 participants in this analysis. Secondly, descriptive statistics were applied to examine the relationships between participants' home regions and conflict management styles. In this analysis, the aforementioned two people were included and categorized based on the countries where they are grown up.

The qualitative data (for RQ2 and RQ3) were extracted from the open-ended questions. While there are various approaches to analyze qualitative data (e.g. ethnography,

grounded theory, phenomenology, and historical research), content analysis is frequently used for textual data (Hsieh & Shannon, 2005) such as open-ended survey questions or print media of various sorts (Kondracki, Wellman, & Amundson, 2002). Since this method can detect meaningful factors or themes from the text data by applying a specific code, it seems suitable for the qualitative analysis of the open-ended question. Thus, a content analysis method is selected to investigate the participants' conflict experiences and management strategies. The data analysis was carried out in a qualitative data analysis application NVivo 12.

5.5 Coding scheme development

To construct a coding scheme, thematic categories were created by the following steps referring to Kurasaki (2000): 1) looking through a written text data and defining a meaningful segment, 2) grouping selected segments indicating similar themes 3) putting a descriptive label to each group. One segment can range from a word to a short sentence. The extracted categories were refined and some categories that have overlapped meanings or do not indicate core meaning were excluded. The remained categories after refining were also checked by another person to ensure that a short description indicates an appropriate meaning.

To get appropriate results answering RQ2 and RQ3, different analysis approaches were applied to create a coding scheme. Firstly, the data to answer RQ2 are used to identify potential conflict factors during intercultural collaborative learning. To explore new findings from the participants' conflict experiences without preconceptions, an inductive approach was applied in this analysis (e.g. Popov et al., 2014; Walsh et al., 2003). In an inductive approach, a researcher creates and names new categories from the data to get new insights instead of using predetermined categories (Hsieh & Shannon, 2005; Kondracki et al., 2002). After following all the steps, 15 coding categories were created (see Table 2): *Different ideas*, *Different task understanding*, *Different goals*, *Different working styles*, *Being underestimated*, *Lack of empathy*, *Rejection of others*, *Aggressive/critical attitude*, *Consideration of impairing harmony*, *Less/unequal participation*, *Selfish decision-making*, *Language issue*,

Table 2 Coding rules and analysis examples (participants' conflict experiences)

Category list	Coding rule	Example from the data	Cohen's κ
Different perspectives	The segment indicating members' different cognitions and behaviors		0.83
Different ideas	Indicating that members' different idea or way of thinking could trigger conflict	"Me and one of my team members had different ideas" "When we don't agree with others at the ideas or solutions"	
Different task understandings	Indicating that members' different idea or way of thinking could trigger conflict	"having a different understanding for the task" "Conflicts on the basis of different understanding of the task at hand"	
Different goals	Indicating that members' different idea or way of thinking could trigger conflict	"Group member have different beliefs and values. Also, coming up with common goal is difficult" "Different members have different goals, some want to high credits while others just want to pass the course"	
Different working styles	Indicating that members' different idea or way of thinking could trigger conflict	"Different style in participating in a group work" "Some prefer spontaneous, on-the-go style to approach the task, while I prefer planning, setting goal"	
Lack of respect for others	The segment indicating members' lack of respect for other members or oneself		0.72
Being underestimated	Expressing a negative feeling towards a member's unrespectful attitude (e.g. less attention, looking down)	"The other person made me feel like I knew nothing" "such their attitudes often made me think my ideas are not good enough to be heard"	
Lack of empathy	Indicating that member's lack of consideration for others could trigger conflict	"The lack of empathy made me feel frustrated" "not consider other members opinion and feelings"	
Rejection of others	Indicating that members' rejecting behavior (e.g. not listening to others, denying other opinions) could trigger conflict	"She was not listening to other team members" "She was not respecting our ideas and our agreements as a team" "Sometimes they dismiss ideas without even listening to them"	
Aggressive/critical attitude	Expressing a negative feeling towards a member's hostile attitude or assertive behavior	"I was yelled at my a group member" "I felt attacked but I realized that's the way she usually discusses" "I felt confused and too direct some times when receiving that critical feedback"	
Unbalanced collaboration	The segment indicating members' behaviors imparing balanced collaboration		0.68
Consideration of impairing harmony	Showing care for the group's harmony or negative feelings towards something breaking a good atmosphere	"Some group members tend not to have good relationships with their peers" "it will create unharmonious atmosphere"	
Less/unequal participation	Indicating that members' less contribution or unequal participation could trigger conflict	"some of the group have not contributed" "Some group members do not participate equally"	
Selfish decision-making	Indicating that members' dominating behavior (e.g. making decision oneself, insisting on own idea) could trigger conflict	"there were certain members who dominated the discussions" "She also was changing the work we already had to adjust it to her ideas" "one person insisted very strong opinion"	
Communication issue	The segment indicating an issue of verbal commucication or time management		0.72
Language issue	Indicating that a language barrier could trigger conflict	"language barriers can create conflict" "I also cannot explain clearly my thoughts when needed"	
Time management	Indicating that members' different time management skill (e.g. sense of urgency or punctuality) could cause conflict	"Not being punctual to meetings" "adjusting the schedule to meet is very hard"	
Miscommunication	Indicating that members' misunderstanding or inadequate communication could cause conflict	"misunderstanding each other" "there have been situations where collaboration is hindered because communication is stressed or difficult"	
Other	Indicating different reason except above factors which could trigger conflict	"being creative in finding solutions" "the different educational background"	

Time management, *Miscommunication* and other meaningful segments but irreverent to any codes are categorized as *Other*. Through the process of grouping the above-mentioned categories, 4 main themes emerged: *Different perspectives*, *Lack of respect for others*, *Unbalanced collaboration*, and *Communication issue*.

Secondly, the data to answer RQ3 are used to investigate the participants' conflict management strategies. To examine the findings whether they are in line with existing theories, a deductive approach was applied in this analysis (e.g. Weinberger et al., 2013). In a deductive approach, a researcher uses an existing theory or relevant research findings as guidance for initial codes to examine a theory (Hsieh & Shannon, 2005). As initial guidance for coding, two aspects of goal orientation and management approach (i.e. Direct/substantive mode and Indirect/relationship mode) which are explained in the previous studies (e.g. Brett et al., 2014; Oetzel & Ting-Toomey, 2003; Ohbuchi et al., 1999; Ting-Toomey & Kurogi, 1998) were used. Based on the theories, three themes were determined as big umbrellas beforehand: *Direct/substantive mode approach*, *Indirect/relationship mode approach*, and *Integrating approach*. Coding categories were created by referring to the previous studies' code and categorization (e.g. Brett et al., 2014; Oetzel et al., 2000; Ohbuchi et al., 1999). For instance, *Give in* and *Third-party involvement* categories indicating avoiding conflict management style are extracted from the study of Oetzel et al. (2000) which is explained in the previous section (2.2.1 Conflict management style). Some meaningful segments which were not mentioned in the previous studies but found from the data were also extracted as a coding category. Finally, 15 coding categories were created: *Encourage others to speak*, *Discuss the problem*, *Direct confrontation*, *Ask to clarify*, *Explain own point or convince others*, *Negotiate with others*, *Take the middle road*, *Private discussion*, *Consider others*, *Emotional control*, *Third-party involvement*, *Give in*, *Stay quiet*, *Prepare oneself to avoid conflict*, and *Avoid conflict* (see Table 3).

Table 3 Coding rules and analysis examples (participants' conflict management strategies)

Category list	Coding rule	Example from the data	Cohen's κ
Direct/substantive mode approach	The segment indicating a participant's direct approach to solve a problem or proceed with the task		0.87
Encourage others to speak	Trying to encourage or facilitate other's speaking up and giving them space to speak	"By encouraging everyone to express their thoughts" "by going round the circle to allow everyone to speak"	
Discuss the problem	Talking about the problem within the group	"to talk about the issue" "I have generally tried to address this openly in the group"	
Direct confrontation	Showing feelings or pointing out something directly to another member	"I talked to him directly and told him I was feeling and suffering because of him" "to position yourself and to let them know their behavior is not ok is sufficient"	
Ask to clarify	Asking question to clarify a thing and to avoid misunderstanding	"to ask for clarification or more detailed description" "I try to clear misunderstandings also"	
Explain own point or convince others	Explaining own point of view or suggesting better idea to convince others	"I tried to explain to them that it is group work and incorporating others' ideas is importants" "I would try to hold my ground while convincing the other team members"	
Integrating approach	The segment indicating a participant's approach to solve a problem by considering both self and others		0.80
Negotiate with others	Trying to talk with other members to solve a problem together	"I tried to negotiate with them" "We usually resolve it through talking and acceptance"	
Take the middle road	Trying to get mutual acceptance of the idea or combined both ideas	"we would come up with solutions that would benefit both" "I have suggested a conversation about combining ideas"	
Private discussion	Approaching a member privately to have discussion outside of the group	"talked to the person separately" "approach quieter participants outside of the meeting context"	
Consider others	Thinking of the reason for a member's certain behavior or considering others feelings and benefits	"I try to discuss with my group members to consider everyone's interesting topic" "I try to understand what is making them act in this way"	
Emotional control	Changing own mindset to distract focus from the problem.	"Decrease my expectations from other people" "keep thinking it is a short-term study"	
Indirect/relationship mode approach	The segment indicating a participant's indirect approach to solve a problem or consider the relationship with others		0.92
Third-party involvement	Asking a teacher or a friend for help to tackle the problem	"Ask for teacher's intervention if needed" "I spoke with our coordinator about that"	
Give in	Allowing oneself to follow others by discarding own idea	"If people are very stubborn I tend to back down from my idea to resolve the conflict" "Act wisely be on adjusting side rather than ask other to adjust"	
Stay quiet	Keeping feelings in one's mind and not throwing one's idea into discussion	"I tried to be a "passive" member, to I turned off my thinking and participation" "I usually stay quiet and just hope we could get to the point soon"	
Prepare oneself to avoid conflict	Preparing oneself for discussion in advance to avoid potential conflicts	"I tried to prepare before the meeting, and tried hard to express my idea truly" "I studied and practiced English harder"	
Avoid conflict	Avoiding having a conflict or choosing the way to avoid a conflict	"I avoid confrontation" "I came to choose people who listen well, and are good at resonding to others well"	

In order to ensure the objectivity of the coding, intercoder reliability is calculated. Intercoder reliability (intercoder agreement) is established by two or more coders evaluating the same source and calculating a numerical index of the agreement between the coders, which is widely acknowledged to be a critical component of content analysis (Lombard, Snyder-Duch, & Bracken, 2002) Since the vulnerability of researchers analyzing text data was pointed out due to the possibility of errors occurred through the process of developing and applying codes to data (Kurasaki, 2000), this process takes an important role in the reliability of the study. In this study, a second coder was selected from the non-participants of the study and also those who are from different cultural areas from the author's home region (Asia) to increase the objectively of the study. The second coder has read the whole text and added codes by referring to a codebook (see Table 2 and 3). To avoid biased judgement, participant's regional information, individualism index, and coding examples by the first coder were not disclosed to the second coder. Cohen's kappa coefficient was selected as a statistical measurement and calculated automatically in NVivo12. However, it was impractical to calculate the kappa value for each code because of the small data size (N=38) and a large number of coding items (15 categories each). Thus, the intercoder reliability was ensured by calculating the kappa value of each main theme which integrates the categories. Finally, the kappa values for each theme are as follows: coding scheme for RQ2 (see Table 2); *Different perspectives* (κ=.83), *Lack of respect for others* (κ=.72), *Unbalanced collaboration* (κ=.68) and *Communication issue* (κ=.72), and coding scheme for RQ3 (see Table 3); *Direct/substantive mode approach* (κ=.87), *Integrating approach* (κ=.80) and *Indirect/relationship mode approach* (κ=.92).

6 Results

6.1 RQ1. To what extent cultural differences are found in students' conflict management styles?

In this section, the Likert question data are analyzed with two statistical approaches: regression analysis and descriptive statistics. The former attempts to see the relationships between participants' degree of individualism and conflict management styles. The latter describes the noteworthy differences across the regions regarding conflict management styles. By combining different approaches for the same data, the various insights are expected to be found from different perspectives.

6.1.1 Regression analysis between IDV and conflict management styles

Table 4 shows the results of the Pearson Correlation test between the individualism index (IDV) and the conflict management style. Firstly, a small indication of the positive correlation was found between IDV and dominating conflict management style (p=.106) (Figure 4). However, the correlation was still too weak to be confirmed as significant, which might be affected by a small sample size (N=53). Regarding the other conflict management styles, no correlations were found between IDV and integrating style (p=.439) and avoiding style (p=.977) (Figure 5 and 6). Contrary to expectations, the results did not confirm any possible relationships between IDV and conflict management style.

Table 4 The correlations between IDV and conflict management styles

Correlations		Dominating	Integrating	Avoiding
Individualism index (IDV)	Pearson Correlation	.225	.108	-.004
	Sig. (2-tailed)	.106	.439	.977
	n	53	53	53
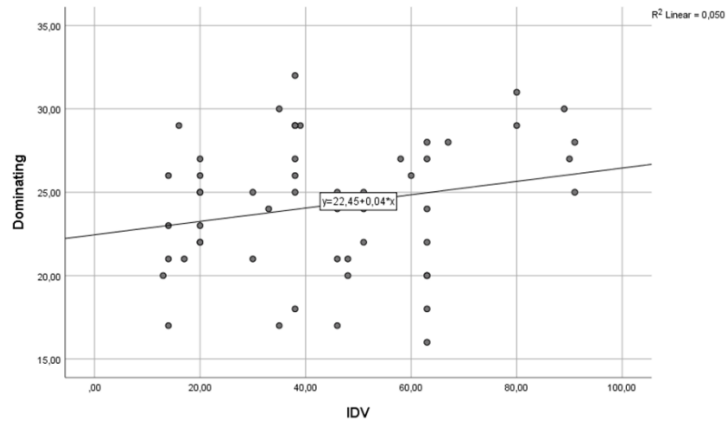
Figure 4 The correlation between IDV and dominating conflict management style
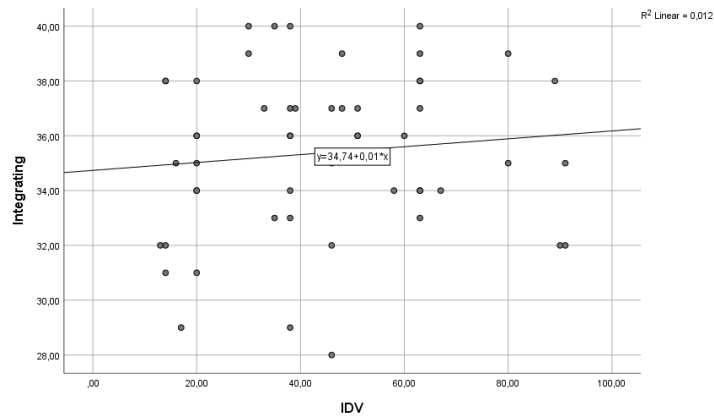
Figure 5 The correlation between IDV and integrating conflict management style
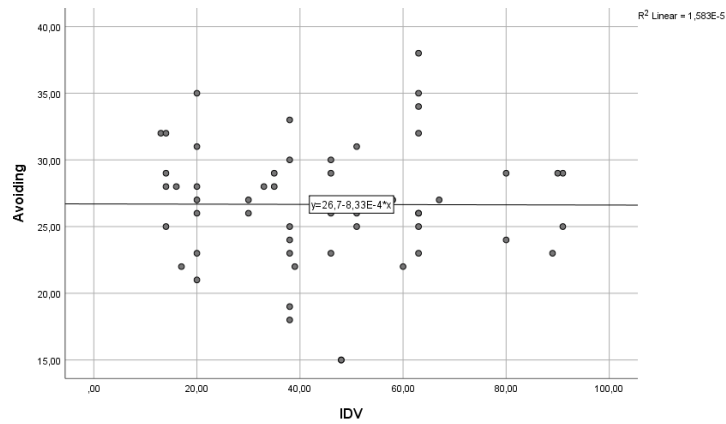
Figure 6 The correlation between IDV and avoiding conflict management style

However, it should be noted that the participants from Finland (*N*=8) showed divergent results from their cultural group. Despite the high number of IDV (63), their scores in dominating style are the lowest (*M=21.8, SD=3.95*) and the scores in avoiding style are the highest (*M=29.8, SD=5.18*) among all the regions. These results are opposite from the assumption that a person with higher IDV shows a higher dominating aspect and lower avoidance aspect in their conflict management style. Since the group consists of 16 % of the total population and 47% of the population of Anglo world & Europe N/NW category, the results can be strongly influenced and distorted. After the adjustment, the positive correlation was found as significant between IDV and dominating style (*p*=.011) (Table 5 and Figure 7).

Table 5 The correlations between IDV and conflict management styles (exclude Finland)

Correlations		Dominating	Integrating	Avoiding
Individualism index (IDV)	Pearson Correlation	.377*	.053	-.133
	Sig. (2-tailed)	.011	.732	.383
	n	45	45	45

* Correlation is significant at the 0.05 level (2-tailed)
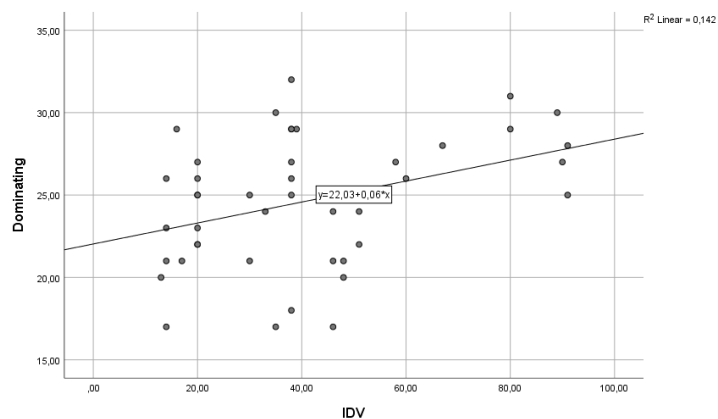
Figure 7 The correlation between IDV and dominating conflict management style (exclude Finland)

6.1.2 Descriptive statistics of conflict management styles across the regions

In addition to the regression analysis, the descriptive statistics analyze the regional differences in conflict management styles by comparing the mean values. As the Likert question section contains eight questions for each conflict management style from 1 to 5 scale, the maximum scores are 40 points in each style. Table 6, 7 and 8 show the mean value and standard deviation of each region's scores in dominating, integrating and avoiding conflict management style. The divergent result found in Finnish participants in the last subsection also needs to be taken into account in this analysis. Thus, 'Excluded Finland' row (the values of Anglo world & Europe N/NW excluding Finland) was added to the tables for a reader's information.

According to Table 6, Anglo world & Europe N/NW (excluding Finland) shows the highest scores (*M=28.4*) among all the regions. The standard deviation of this category is particularly low (*SD=1.81*); thus, it can be assumed that the participants in this category showed similar behavioral preferences for dominating conflict management style. In contrast, the lowest scores are found in Asia (*M=22.2*), which are about 6 points lower than the highest scores. The scores of other regions are in the range of plus or minus 1 point from the average scores (*M=24.4*). Thus, the differences among those regions are not notable.

Table 6 Descriptive statistics of dominating conflict management style across the regions

Dominating style			
Region	*M*	*n*	*SD*
Anglo world & Europe N/NW	25.3	17	4.56
Exclude Finland	28.4	9	1.81
Europe S/SE	23.6	5	4.72
Europe C/E	25.4	5	3.04
Latin America	24.8	7	5.33
Middle East & Africa	25.0	9	2.39
Asia	22.2	12	3.27
Total	24.4	55	4.03

Note. The total value does not include 'Exclude Finland' row

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Table 7 shows the mean values of each region in integrating conflict management style. Overall, all the participants gained the highest scores in this style (the average scores are 35.4) compared to that of dominating and avoiding style (the average scores are 24.4 and 26.7 respectively). Although the scores in Middle East & Africa and Asia categories are relatively lower than the other regions, all the participants showed a higher likelihood of integrating conflict management style regardless of their home regions. In addition, the variance between the participants in this style is lower than the other two styles. The standard deviation of integrating style is 2.95, whereas that of dominating style is 4.03 and avoiding style is 4.74. This also confirms the high possibility of participants' conflict management style to be integrating, in the context of intercultural collaborative learning.

Table 7 Descriptive statistics of integrating conflict management style across the regions

Integrating style			
Region	M	n	SD
Anglo world & Europe N/NW	35.8	17	2.61
Exclude Finland	35.2	9	2.58
Europe S/SE	36.4	5	2.50
Europe C/E	36.8	5	2.16
Latin America	36.5	7	2.63
Middle East & Africa	34.7	9	3.27
Asia	33.5	12	3.23
Total	35.4	55	2.95

Note. The total value does not include 'Exclude Finland' row

Lastly, Table 8 shows the mean values of each region in avoiding conflict management style. Although the previous studies discovered more avoiding aspects in Asian people than the Western people, the participants of Asia showed the lowest scores in this style (*M=24.8*). A possible explanation for the results may be that the participants from India showed the lowest scores among all the participants. Both two participants scored 15 points in this style, which are more than 10 points lower than the average scores. After excluding

the two participants, the average scores of Asia category in this style became 26.8, which is the third-highest among all the regions. Such unexpected results at a country level (including the case of Finland) need to be discussed in the discussion part.

Table 8 Descriptive statistics of avoiding conflict management style across the regions

Avoiding style			
Region	*M*	*n*	*SD*
Anglo world & Europe N/NW	28.3	17	4.71
Exclude Finland	27.0	9	3.64
Europe S/SE	27.8	5	2.38
Europe C/E	25.0	5	2.82
Latin America	26.5	7	4.23
Middle East & Africa	26.6	9	4.50
Asia	24.8	12	6.23
Total	26.7	55	4.74

Note. The total value does not include 'Exclude Finland' row

Overall, the findings are contrary to the expectation based on the theories. For instance, the Western countries are predicted to be less likely to have avoiding style owing to the high IDV. The average IDV scores (based on participants' home countries) in the Western regions are 72.8 (Anglo world & Europe N/NW), 44.6 (Europe S/SE), and 44.0 (Europe C/E). Nevertheless, the mean value of avoiding style in the Western regions except Europe C/E is higher than the rest of the regions, which are categorized as collectivistic cultures with lower IDV. Thus, the results did not support the prediction that lower individualism relates to a lower tendency of avoiding conflict management style.

Throughout this section (6.1), the findings of dominating style are in line with the prediction from the previous studies. However, they are contrary to the prediction in avoiding style. Thus, regional characteristics regarding conflict management need to be investigated more deeply in the qualitative analysis part and also reflected in the discussion part.

6.2 RQ2. What sort of factors caused participants' conflict experience during intercultural collaborative learning?

From this section, the open-ended question data are qualitatively analyzed. In the following subsections, an overview of the conflict factors among the participants will be provided and the noteworthy differences between the regions will be identified.

6.2.1 Overview of the conflict factors among the participants

First of all, what sort of factors caused conflicts between culturally diverse learners was investigated. Table 9 shows identified conflict factors during intercultural collaborative learning that are extracted from the participants' answers.

Table 9 Identified conflict factors during intercultural collaborative learning (overview)

Themes and coding categories	Anglo world & Europe N/NW N=8		Europe S/SE N=4		Europe C/E N=4		Latin America N=6		Middle East & Africa N=6		Asia N=10		Total N=38	
	Count*	Mean*	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
Different perspectives	4	0.50	5	1.25	3	0.75	1	0.17	5	0.83	16	1.60	**34**	**0.89**
Different ideas	2	0.25	3	0.75	1	0.25	0	0.00	2	0.33	1	0.10	**9**	**0.24**
Different task understandings	1	0.13	1	0.25	0	0.00	0	0.00	1	0.17	3	0.30	**6**	**0.16**
Different goals	1	0.13	0	0.00	0	0.00	1	0.17	1	0.17	4	0.40	**7**	**0.18**
Different working styles	0	0.00	1	0.25	2	0.50	0	0.00	1	0.17	8	0.80	**12**	**0.32**
Lack of respect for others	9	1.12	6	1.50	1	0.25	7	1.16	6	1.00	21	2.10	**50**	**1.32**
Being underestimated	2	0.25	2	0.50	0	0.00	0	0.00	0	0.00	3	0.30	**7**	**0.18**
Lack of empathy	1	0.13	3	0.75	0	0.00	1	0.17	3	0.50	3	0.30	**11**	**0.29**
Rejection of others	2	0.25	0	0.00	1	0.25	5	0.83	0	0.00	9	0.90	**17**	**0.45**
Aggressive/critical attitude	4	0.50	1	0.25	0	0.00	1	0.17	3	0.50	6	0.60	**15**	**0.39**

Continued on next page

* Column 'count' shows the number of segments categorized in certain code
* Mean value is calculated to standardize the scores by the regions which include the different number of participants

| | Anglo world & Europe N/NW | | Europe S/SE | | Europe C/E | | Latin America | | Middle East & Africa | | Asia | | Total | |
| | N=8 | | N=4 | | N=4 | | N=6 | | N=6 | | N=10 | | N=38 | |
Themes and coding categories	Count*	Mean*	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
Unbalanced collaboration	6	0.75	3	0.75	4	1.00	6	1.00	2	0.33	15	1.50	**36**	**0.95**
Consideration of impairing harmony	0	0.00	1	0.25	0	0.00	0	0.00	1	0.17	4	0.40	**6**	**0.16**
Less/unequal participation	3	0.38	1	0.25	1	0.25	0	0.00	1	0.17	5	0.50	**11**	**0.29**
Selfish decision-making	3	0.38	1	0.25	3	0.75	6	1.00	0	0.00	6	0.60	**19**	**0.50**
Communication issue	5	0.63	2	0.50	3	0.75	1	0.17	5	0.83	5	0.50	**21**	**0.55**
Language issue	4	0.50	0	0.00	2	0.50	0	0.00	3	0.50	2	0.20	**11**	**0.29**
Time management	0	0.00	1	0.25	0	0.00	0	0.00	0	0.00	2	0.20	**3**	**0.08**
Miscommunication	1	0.13	1	0.25	0	0.00	0	0.00	2	0.33	1	0.10	**5**	**0.13**
Other	0	0.00	0	0.00	1	0.25	1	0.17	0	0.00	0	0.00	**2**	**0.05**
Total	24	3.00	16	4.00	11	2.75	15	2.50	18	3.00	57	5.70	**141**	**3.71**

* Column 'count' shows the number of segments categorized in certain code
* Mean value is calculated to standardize the scores by the regions which include the different number of participants

According to the table, the most frequently counted theme is *Lack of respect for others* with 50 counts out of 141 counts (35.4%). In this theme, Asia shows quite high scores (*M*=2.1) compared to the total scores except for Asia (*M*=1.01). The lowest scores are found in Europe C/E (*M*=0.25). The second highest theme was *Unbalanced collaboration* with 36 counts (25.5%). Middle East & Africa shows the lowest scores (*M*=0.33) while the total mean value is 0.95. Then, *Different perspectives* theme follows with 34 counts (24.1%). In this theme, the lowest scores are in Latin America (*M*=0.33) while the total mean value is 0.89. Asia shows the highest scores again in both themes (*M*=1.5 and *M*=1.6 respectively). Finally, the least frequently appearing theme is *Communication issue* with 21 counts (14.9%). Not many participants mentioned their conflict experience related to this theme, except *Language issue* category. As a surprising finding, the participants of Anglo world & Europe N/NW, which includes English speaking countries, mentioned their experiences related to a language issue more frequently than other non-native English-speaking regions.

Next, the coding categories that are more frequently found among all the participants were identified. Most of the participants mentioned their conflict experiences triggered by a member's *Selfish decision-making* (19 counts). Their conflict situations were often caused by a member's strong positioning and insistence on their own idea to make a decision. In addition to such behavior, a member's attitudes related to *Rejection of others*, a lack of openness for other members or different opinions, were also frequently reported (17 counts). For example, one participant described her conflict experience as follows:

> *Sometimes there has been a person in a group work situation who does not let anybody else's ideas to be heard, but insists on having their idea to be the one to go with. This has caused friction between group members.* (Kate, female, Anglo world & Europe N/NW)

This explanation provides a picture of an unpleasant collaborative situation where one group member took the lead and tried to control the group discussion for one's desired direction.

Moreover, a member's *Aggressive/critical attitude* was also often found (15 counts) with a member's dominating attitudes. Regardless of the regions, many participants reported a member's unfriendly behavior when they rejected others or imposed their idea onto others. One participant described how and why a dominating person showed such aggressive attitudes towards other members during collaboration as follows:

> *Sometimes people don't open the space for other's ideas. Sometimes they dismiss ideas without even listening to them. Other times they use personal and mean comments to try to persuade others to not engage with other's ideas, except their own.* (Olivia, female, Latin America)

She explained a situation where a member rejects other members' opinions and attacks them in order to carry their own point. Another participant reported that she experienced being yelled at or even ignored by a dominating member. From these examples, it seems that a person who imposes one's opinion without taking other opinions tend to show an aggressive or critical attitude towards other members to oppress them and let them follow their own idea.

Overall, many participants reported their conflict experiences related to a lack of respect for others, especially a member's dominating behavior. Conflict situations are often triggered by a member's selfish decision-making or rejection of other members. The participants' answers in these two categories (*Selfish decision-making* and *Rejection of others*) were more frequently found in Latin America & Asia regions which are categorized as collectivistic cultures (Hofstede, 1983 as cited in Walsh et al., 2003) compared to the other regions.

6.2.2 Cultural differences in conflict experiences

In this subsection, the notable findings that may indicate cultural differences were identified. Firstly, some notable differences were found in *Different perspectives* theme (Table 10). In this theme, several categories such as *Different ideas*, *Different goals* and *Different working styles* indicate differences across the regions to some degree. However, some findings seemed not relevant to the topic of this study. Thus, the most related findings are focused and analyzed.

Table 10 Identified conflict factors during intercultural collaborative learning (Different perspectives theme)

Themes and coding categories	Anglo world & Europe N/NW N=8		Europe S/SE N=4		Europe C/E N=4		Latin America N=6		Middle East & Africa N=6		Asia N=10		Total N=38	
	Count*	Mean*	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
Different perspectives	4	0.50	5	1.25	3	0.75	1	0.17	5	0.83	16	1.60	**34**	**0.89**
Different ideas	2	0.25	3	0.75	1	0.25	0	0.00	2	0.33	1	0.10	**9**	**0.24**
Different task understandings	1	0.13	1	0.25	0	0.00	0	0.00	1	0.17	3	0.30	**6**	**0.16**
Different goals	1	0.13	0	0.00	0	0.00	1	0.17	1	0.17	4	0.40	**7**	**0.18**
Different working styles	0	0.00	1	0.25	2	0.50	0	0.00	1	0.17	8	0.80	**12**	**0.32**

* Column 'count' shows the number of segments categorized in certain code
* Mean value is calculated to standardize the scores by the regions which include the different number of participants

As a notable point, Asian participants indicated more experiences related to *Different working styles* (*M*=0.80) category although few answers were found across the regions (the mean value of all the regions except Asia was 0.14). Interestingly, some of them specifically explained some cultural differences in the way of task proceeding and communication style. For example, one participant was aware of the different working styles between people from Western countries and her home country.

Exchange and western students usually have a fast workflow, meaning they try to create products based on easy-doing models/ points of theory. They try to finalize the project as fast and simple as possible… Some students who want to enhance discussion will prepare ideas/ document/ framework beforehand to boost work faster. They ask for an agreement to do further steps. I sometimes want to do the project in a perfect way rather than a quick way. (Emily, female, Asia)

While some other people prefer a more efficient working style, she preferred a more careful and perfect working style. Another participant from Asia also explained a similar situation regarding the working and communication style.

It is cultural differences: some are open to criticize publicly while mine is to criticize privately. I felt confused and too direct sometimes when receiving that critical feedback. Also there are conflicts in proceeding with a task. Some prefer spontaneous, on-the-go style to approach the task, while I prefer planning, setting a goal in general first which causes an argument, and I don't want to impose my ideas on the others, therefore I felt frustrated sometimes and did my own way. (James, male, Asia)

In terms of communication style, one participant mentioned a cultural difference that she found when discussing with multicultural people. She confessed her struggles in a group discussion where she had difficulty in joining a conversation actively.

I did not really feel comfortable with working in a group with people who have different communication styles. It often felt like some people were talking forever, on the other hand, us, were just listening to them. I felt they were often dominating

discussions with little attention to others' opinions. I sometimes felt they were a bit obsessed with convincing others rather than constructing knowledge together. (Alisa, female, Asia)

In her another answer, she described "some people" (in the above text) as "native English speakers especially"; thus, "us" in this context could be referring to her cultural identity (i.e. Asian). Her frustrations at unbalanced discussion stemmed from her behavioral norms that cutting in one's speaking is a very rude thing. Thus, she always hesitated to express her point during a discussion with multicultural people. Interestingly, such answers mentioning cultural differences were particularly found in the Asian participants (5 out of 10 participants).

Secondly, some notable differences were also found in *Unbalanced collaboration* theme (Table 11). In this theme, interesting characteristics were found between the Anglo world & Europe N/NW and Asia regarding *Less/unequal participation* category. The participants of these two regions indicated relatively more experiences in this category than the other regions (*M*=0.38 and *M*=0.50 to the total mean value *M*=0.29). However, the point of view for *participation* was different in these two regions.

Table 11 Identified conflict factors during intercultural collaborative learning (Unbalanced collaboration theme)

Themes and coding categories	Anglo world & Europe N/NW N=8		Europe S/SE N=4		Europe C/E N=4		Latin America N=6		Middle East & Africa N=6		Asia N=10		Total N=38	
	Count*	Mean*	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
Unbalanced collaboration	6	0.75	3	0.75	4	1.00	6	1.00	2	0.33	15	1.50	**36**	**0.95**
Consideration of impairing harmony	0	0.00	1	0.25	0	0.00	0	0.00	1	0.17	4	0.40	**6**	**0.16**
Less/unequal participation	3	0.38	1	0.25	1	0.25	0	0.00	1	0.17	5	0.50	**11**	**0.29**
Selfish decision-making	3	0.38	1	0.25	3	0.75	6	1.00	0	0.00	6	0.60	**19**	**0.50**

* Column 'count' shows the number of segments categorized in certain code
* Mean value is calculated to standardize the scores by the regions which include the different number of participants

For example, one participant in Anglo world & Europe N/NW said that:

I most often get frustrated when people do not say anything even if they disagree. This can lead to a collaborative solution where some of the group have not contributed and therefore feel disempowered / not engaged. (Michael, male, Anglo world & Europe N/NW)

His frustration seems to stem from a group member's lack of participation and expression of their opinions. Another participant also pointed out a member's shyness and less participation.

...some group members are too shy to share their thoughts and the rest of the group just want to get the work done fast so they don't really even care. For me it's frustrating because it always takes a lot of time from the actual work and then we need more time to get the work done. (Jessica, female, Anglo world & Europe N/NW)

Both participants seem to have more frustrations at a member's lack of participation, in the way of expressing own thoughts for the discussion, rather than the balance of participation.

On the other hand, the participants of Asia more referred to members' unequal participation within a group. One participant said, "*Some group members do not participate equally…Some members are not active to participate in the group activities*" (Mia, female, Asia). She seems to care members' balanced contribution for the shared task rather than active output for a discussion. Another participant said, "*Involvement of group members vary as per their interest and working style. Getting people on board at the same time could be challenging*" (David, male, Asia). The words they used "equally" or "at the same time" implies harmonized collaboration as a group. Accordingly, this cultural group showed more indications of *Consideration for impairing harmony* category as well.

Throughout this section (6.2), some of the factors were commonly found among the participants regardless of their cultural backgrounds, yet other factors were specifically found in a certain culture. Culturally different leaners showed different points of view towards one aspect, such as a member's participation. These findings are discussed in a later section referring to the previous studies and related theories.

6.3 RQ3. How did culturally different students manage conflict during intercultural collaborative learning?

In this section, how culturally different participants attempted to manage their conflict situations during intercultural collaborative learning will be analyzed. Identified notable characteristics are reported by each theme.

6.3.1 Direct/substantive mode approach

First of all, Table 12 shows the participants' conflict management strategies categorized into *Direct/substantive mode approach* theme, which is associated with dominating conflict management style. According to the table, slightly higher indications are found in the Western regions (Anglo world & Europe N/NW, Europe S/SE, and Europe C/E) in the following categories: *Encourage others to speak*, *Direct confrontation*, and *Explain own point or convince others*.

Table 12 The participant's conflict management strategies during intercultural collaborative learning (*Direct/substantive mode approach*)

Themes and coding categories	Anglo world & Europe N/NW N=8		Europe S/SE N=4		Europe C/E N=4		Latin America N=6		Middle East & Africa N=6		Asia N=10		Total N=38	
	Count*	Mean*	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
Direct/substantive mode approach	10	1.25	4	1.00	6	1.50	6	1.00	4	0.66	12	1.20	**42**	**1.10**
Encourage others to speak	4	0.50	1	0.25	0	0.00	2	0.33	0	0.00	1	0.10	**8**	**0.21**
Discuss the problem	1	0.13	0	0.00	1	0.25	1	0.17	2	0.33	5	0.50	**10**	**0.26**
Direct confrontation	2	0.25	2	0.50	2	0.50	2	0.33	1	0.17	2	0.20	**11**	**0.29**
Ask to clarify	2	0.25	0	0.00	1	0.25	0	0.00	1	0.17	3	0.30	**7**	**0.18**
Explain own point or convince others	1	0.13	1	0.25	2	0.50	1	0.17	0	0.00	1	0.10	**6**	**0.16**

* Column 'count' shows the number of segments categorized in certain code
* Mean value is calculated to standardize the scores by the regions which include the different number of participants

For example, one participant of Europe S/SE emphasized on the importance of expressing own point and making other members understood during conflict resolution as follows:

Communication, discussion... try to show my point of view and see if the other person understood me and he/she is on the same page with me. If I don't see understanding, it is not resolved and it might happen again. (Emma, female, Europe S/SE)

Some participants of the Western regions also mentioned a strategy of explaining own point, sometimes trying to convince others by justifying the idea. One participant tried to get other members understood to work collaboratively by explaining the reason and its importance.

I tried to explain to them that it is important and actually beneficial to work collaboratively and that the task cannot be successfully finished without collaboration. (Chloe, female, Europe C/E)

Not only were the Western participants likely to express themselves, but they (mostly in Anglo world & Europe N/NW) also showed their encouragements for other members to express themselves. One participant tried to get other members to join the discussion "*By encouraging everyone to express their thoughts, even if they are a little shy. By giving everyone a chance to speak e.g. by going round the circle to allow everyone to speak*" (Michael, male, Anglo world & Europe N/NW). This approach seems quite explicit and direct to make other members involved in the discussion and try to resolve conflict openly.

Moreover, direct confrontation such as expressing negative feelings or refusal attitude to a member was slightly frequently found among the Western participants. For example, one participant showed her feelings with direct confrontation towards the other party: "*I raised my voice and I did not accept from the other person to change what I wanted*" (Sofia, female, Europe S/SE). Another person also expressed her feelings by telling what is wrong in another person's behavior: "*I have tried to explain to these kinds of persons that I do not feel comfortable with going by their ideas alone*" (Kate, female, Anglo world & Europe N/NW). Both participants explained what made them upset to the other party clearly and directly to confront the problem.

Overall, expressing own opinions and feelings directly and explicitly seems to be more preferred among the Western participants compared to the participants of the other regions. They also justified their ideas with logical explanations to get others understood. However, it should be noted that strategies related to *Discuss the problem* and *Ask to clarify* categories, which are also in *Direct/substantive mode approach* theme, were more frequently found in the Asian participants' answers. It is assumed that these categories might not well represent the main theme, *Direct/substantive mode approach*, and could be interpreted as another approach (e.g. integrating or indirect approach). Thus, the categorization needs to be reconsidered.

6.3.2 Indirect/relationship mode approach

Contrary to *Direct/substantive mode approach* theme, Table 13 shows the number of identified participants' conflict management strategies categorized in *Indirect/relationship mode approach* theme, which is associated with avoiding conflict management style.

Table 13 The participant's conflict management strategies during intercultural collaborative learning (*Indirect/relationship mode approach*)

Themes and coding categories	Anglo world & Europe N/NW N=8		Europe S/SE N=4		Europe C/E N=4		Latin America N=6		Middle East & Africa N=6		Asia N=10		Total N=38	
	Count*	Mean*	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
Indirect/relationship mode approach	3	0.38	1	0.25	1	0.25	5	0.83	4	0.67	12	1.20	**26**	**0.68**
Third-party involvement	1	0.13	0	0.00	0	0.00	3	0.50	0	0.00	1	0.10	**5**	**0.13**
Give in	0	0.00	1	0.25	1	0.25	2	0.33	2	0.33	2	0.20	**8**	**0.21**
Stay quiet	2	0.25	0	0.00	0	0.00	0	0.00	1	0.17	3	0.30	**6**	**0.16**
Prepare oneself to avoid conflict	0	0.00	0	0.00	0	0.00	0	0.00	1	0.17	3	0.30	**4**	**0.11**
Avoid conflict	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	0.30	**3**	**0.08**

* Column 'count' shows the number of segments categorized in certain code
* Mean value is calculated to standardize the scores by the regions which include the different number of participants

The indications of this theme were mainly found among the participants of Latin America, Middle East & Africa and Asia, but were rarely found among the Western participants. For example, although several participants indicated *Give in* strategy in the former three regions, this approach was not frequently found in the Western regions. For instance, one participant of Middle East & Africa said, "*Act wisely be on adjusting side rather than ask others to adjust*" (Ethan, male, Middle East & Africa). Another participant in this region also said, "*I tried to be a "passive" member, to I turned off my thinking and participation and just go with the main flow of ideas towards whatever we will achieve*" (Isaac, male, Middle East & Africa). This type of strategy such as just following the mainstream without arguing was not found among the participants of the Western regions.

Similar to a *Give in* strategy, many Asian participants took a *Stay quiet* approach such as not telling own feelings or opinions to avoid a conflict. One participant said, "*Depending on the group but mostly I just do not say anything when there is no space for me*" (Alex, male, Asia). He tends to hide his true feelings if there is no space for him to be heard. Another Asian participant also reported as follows:

> *When the communication problems happened: such as receiving too direct feedback, and not being listened to, I avoid confrontation…keep myself in a harmony situation even not telling the counterpart what I feel and carry on with his or her ideas.* (James, male, Asia)

He also hid his feelings to try to avoid conflict and to keep a harmonious atmosphere when he was not listened to. While the participants from Western regions tend to express their opinions or feelings directly, the participants from Asia usually do not express themselves but rather keep their opinions or feelings inside their minds.

After having an experience of not being listened to or treated well, some Asian participants mentioned an ultimate strategy such as selecting group members to avoid a conflict. The above-mentioned participant, James, determined to choose the right members from the beginning of collaborative learning next time after his conflict experiences. He said:

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...But later on, I assume those are short-term work and keep thinking it is a short-term study. In the future, longer-term work, I will choose the right team member to work with right from the beginning. (James, male, Asia)

Another participant in Asia also mentioned that she ended up choosing members who can listen to others well.

I struggled a bit to cut in their argument like other people since I think that is very a rude thing to do. But if I waited for others to finish their argument, some random person cut in again and started his argument…As a consequence, I came to choose people who listen well and are good at responding to others well and integrating everybody's thoughts into one work. (Alisa, female, Asia)

She also experienced uncomfortable situations where group members just piled up the discussion without giving space for others. This experience led her to take a selective action to make a safe environment to have a discussion. Both participants did not tell what made them uncomfortable directly to other members, but instead, they tried to avoid potential conflicts by choosing the right member without showing their negative feelings to others.

To sum up, the findings in this *Indirect/relationship mode approach* theme are quite opposite from the findings in *Direct/substantive mode approach* theme. Since strategies of expression were frequently found in the last subsection, in this subsection, strategies of 'not expressing' has been mainly found. The participants who mentioned such strategies tend to give in or stay quiet to follow the mainstream and not to let others change their behaviors. This type of approach was rarely found in the Western participants' answers.

6.3.3 Integrating approach and considerations of others

Lastly, in *Integrating approach* theme (associated with integrating conflict management style), notable characteristics were not found across the regions, except in *Consider others* category (Table 14).

Table 14 The participant's conflict management strategies during intercultural collaborative learning (*Integrating approach*)

Themes and coding categories	Anglo world & Europe N/NW N=8		Europe S/SE N=4		Europe C/E N=4		Latin America N=6		Middle East & Africa N=6		Asia N=10		Total N=38	
	Count*	Mean*	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean	Count	Mean
Integrating approach	2	0.25	2	0.50	2	0.50	4	0.67	2	0.33	11	1.10	**23**	**0.60**
Negotiate with others	0	0.00	1	0.25	0	0.00	1	0.17	1	0.17	2	0.20	**5**	**0.13**
Take the middle road	1	0.13	1	0.25	0	0.00	1	0.17	0	0.00	1	0.10	**4**	**0.11**
Private discussion	0	0.00	0	0.00	0	0.00	1	0.17	0	0.00	1	0.10	**2**	**0.05**
Consider others	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	6	0.60	**6**	**0.16**
Emotional control	1	0.13	0	0.00	2	0.50	1	0.17	1	0.17	1	0.10	**6**	**0.16**

* Column 'count' shows the number of segments categorized in certain code
* Mean value is calculated to standardize the scores by the regions which include the different number of participants

In *Consider others* category, only Asian participants mentioned several episodes. Interestingly, some of the participants tried to find the reason for a member's behavior behind a conflict. Example answers are: "*I try to understand what is making them act in this way*" (Jane, female, Asia) and "*...trying to understand why that person did so*" (James, male, Asia). Such behaviors to intend to understand the other members, why the person took such an action, was found in none of the participants except for Asian participants. Similarly, this cultural group also indicated considerations for others in their episodes associated with *Consideration of impairing harmony* category in the former question. Since they care about the atmosphere in the group, they tried to take an appropriate approach for the discussion considering the other members. From these examples, it seems that strong considerations for others may drive Asian participants' behaviors, how to act during collaborative learning.

In conclusion, some cultural differences were identified across the regions, especially in terms of *expression*. While the Western participants regarded expressing one's feelings or opinions as important to deal with a conflict, the participants of Latin America, Middle East & Africa and especially Asia preferred not to tell their inner feelings. These differences may trigger more conflicts between culturally diverse learners.

7 Discussion

7.1 The relationships between cultural aspects and conflict management styles

In the quantitative part, the regression analysis and the descriptive statistics were applied to answer RQ1. According to the results, the positive correlation was only confirmed between the individualism index (IDV) and dominating conflict management style when excluding Finnish participants. Although Finnish participants' IDV scores are relatively high (63), their dominating scores were the lowest and avoiding scores were the highest among all the regions. Those unexpected results were in line with the findings of the previous studies, which revealed Finnish students' tendency of making an integrated consensus as a group and avoiding critical arguments (e.g. Kim & Bonk, 2002; Weinberger et al., 2013). In the study of Weinberger et al. (2013), German and Finnish participants showed notable differences in their conflict resolution approaches even though both countries are located in Europe and sharing similar cultural norms. The authors explained this discrepancy by pointing out learners' different internal scripts (e.g. argue to persuade someone or argue to construct joint knowledge), which is the practice cultivated through learners' previous education. Thus, the results suggest that not only learners' cultural dimensions but also their internal scripts affect their collaborative behaviors in the specific context of intercultural collaborative learning. When it comes to the cultural differences, the relationship between individualism and dominating conflict management style was found between Anglo world & Europe N/NW (the highest average individualism index scores) excluding Finnish participants and Asia (the lowest average individualism index scores). This finding is in line with the predictions from the previous studies (e.g. Ohbuchi et al., 1999; Ting-Toomey & Kurogi, 1998) that people from individualistic cultures tend to take a dominating approach whereas people from collectivistic cultures tend to take an avoiding approach. However, the results of avoiding style were against the prediction. The scores of avoiding style of Asia were the lowest among all regional categories, which means their conflict management style could be the least avoiding. Thus, the results did not show explicit relationships between cultural aspects and conflict management styles (e.g. inverse proportion between dominating and avoiding style).

Such contradicting results suggest the vulnerability of cultural categorization. For instance, the participants from India showed the lowest scores in avoiding style among all the participants although their regional category (Asia in this study) was expected to have the highest tendency in this style. This study used the classification of Hofstede et al. (2010) that categorizes India into Asia East/South East group. However, the United Nations categorize India as South Asia. This might be because only a few countries of South Asia are listed in the classification of Hofstede et al. (2010) and Pakistan is categorized in Middle East & Africa (Muslim world) group. Thus, the suitability of the categorization is questionable. In addition, Kapoor et al. (2003) revealed that Indian participants indicated higher individualism than expected although they rated themselves as collectivist. Kapoor et al. (2003) explained that such unexpected findings could be an effect of recent modernization. Accordingly, Hofstede et al. (2010) claimed, "Countries having achieved fast economic development have experienced a shift towards individualism" (p.134). An effect of modernization is not only the case for Indian culture but could be seen in any culture. Therefore, prior cultural dimension (e.g. individualism-collectivism) needs to be reconsider. A general conception or stereotype for a certain culture could be wrong, especially for people who stay in a foreign country such as the participants of this study.

7.2 Identified conflict factors and participants' cultural aspects

In the qualitative part, inductive and deductive content analysis approaches were applied to answer RQ2 and RQ3. Regarding participants' conflict experiences, the most frequently found theme was *Lack of respect for others* (35.4%), especially among Asian participants. More specifically, a common conflict factor regardless of the regions was a group member's dominating behavior such as *Selfish decision-making* and *Rejection of others*. In addition to such dominating behaviors, one's aggressive attitude or critical comments were frequently reported. This aspect is consistent with the previous studies (e.g. Oetzel et al., 2000; Ting-Toomey & Kurogi, 1998) that identified *aggression* and *assertiveness* as a characteristic of dominating conflict management style. Interestingly, even

though all the participants indicated a higher tendency in integrating conflict management style in Likert scale questions, many conflict experiences stemmed from a member's dominating behavior. It could be guessed that the participants might have answered Likert scale questions with their desired behaviors while recalling an intercultural collaborative learning situation. Putnam and Wilson (1982) said that the choice of conflict management style depends on the characteristics of the situation (as cited in Brew & Cairns, 2004, p.346). Specific contexts, such as joining an online discussion or collaborative learning as a student, influence one's conflict management style rather than their original behavioral norms influenced by their cultural backgrounds (Walsh et al., 2003). Therefore, the participants' answers to Liker scale questions could be closer to their preferable behaviors towards the specific context (i.e. intercultural collaborative learning) while the qualitative analysis revealed the participants' actual behaviors.

When it comes to cultural differences, many Asian participants experienced conflicts related to *Different working style* category. Some of them found the cultural differences from their group members, especially students from Western countries. Since Asian participants preferred structured and harmonized working styles, the way of Western students' felt fast and direct to them. This is similar to the findings of Chen et al.'s (2006) cross-cultural study in which Taiwanese students reported that American students' working or communication style sometimes feels aggressive. Chen et al. (2006) explained that it stemmed from different values for collaborative work: American students emphasized on the efficiency whereas Taiwanese students valued group interaction and collaboration. Some of the participants of this study also said, "*I sometimes want to do the project in a perfect way rather than a quick way*" and "*some are open to criticize publicly while mine is to criticize privately*". Those statements are well describing the different values for collaborative work between two parties. Regarding different behavioral values, it was also interesting that the participants of Anglo world & Europe N/NW and Asia showed different perspectives for members' participation. While the former group got frustrated with members' lack of participation, the latter group more minded unequal participation within a group. These different perspectives are related to their conflict management strategies; thus, it will be discussed in the next subsection.

7.3 Identified conflict management strategies and participants' cultural aspects

Finally, regarding conflict management strategies, noteworthy characteristics were identified in *Direct/substantive mode approach* theme and *Indirect/relationship mode approach* theme across the regions. In *Direct/substantive mode approach* theme, the participants of the Western regions more frequently mentioned their strategies related to *Encourage others to speak*, *Direct confrontation*, and *Explain own point or convince others* categories. They seemed to value expressing own opinions and feelings explicitly and logically as well as listening to other members' expression, which is consistent with the previous studies (e.g. Brett et al., 2014; Popov et al., 2014). On the other hand, in *Indirect/relationship mode approach* theme, associated strategies were mainly found in the participants from, Latin America, Middle East & Africa, and Asia, which are considered as collectivistic cultures. The participants of these regions tended to hide their inner feelings or opinions from other members and follow the strong idea within a group. These findings are consistent with the study of Brett et al. (2014), which claims that people who are from collectivistic cultures are likely to confront indirectly, showing 'signals' but not clearly mention their claims.

These differences are associated with the perspectives of a member's participation in the collaborative task and could be a reason for conflict between culturally diverse learners. As explained in the last subsection, the participants of Anglo world & Europe N/NW were more frustrated with members' lack of participation while the participants of Asia more minded unequal participation within a group. It can be explained that people from individualistic cultures appreciate sharing different ideas and having arguments, believing that easily coming to consensus reduces the quality of the discussion (Popov et al., 2014); thus, a member's lack of participation (e.g. not expressing own opinions) might have been more harmful to the participants of Anglo world & Europe N/NW. However, people from collectivistic cultures think that strong disagreements or argumentations could harm productive collaboration (Popov et al., 2014). Since they care a harmony within a group, they tend to be indirect, implicit, and quiet when communicating with others (Kim & Bonk, 2002)

and pay attention to their behaviors not to make others feel uncomfortable (Popov et al., 2014). This can explain why the participants from Latin America, Middle East & Africa, and Asia often stayed quiet and followed other members to avoid a conflict, instead of expressing their opinions or feelings. The identified differences are in line with the conception of substantive or relationship goal orientation (e.g. Oetzel & Ting-Toomey, 2003; Ting-Toomey & Kurogi, 1998) and they are especially explicit in the participants of Anglo world & Europe N/NW and Asia.

8 Conclusion, Limitations and Future implications

This study attempted to get a better understanding of conflict situations during intercultural collaborative learning. Firstly, a quantitative analysis of Likert scale questions examined the relationships between the participants' cultural aspects and conflict management styles. Secondly, a qualitative analysis of open-ended questions investigated conflict factors among culturally diverse learners and their management strategies in the context of intercultural collaborative learning.

Through the mixed-method analysis, some notable relationships between cultural aspects and conflict management approaches were identified. One's higher individualism is associated with dominating conflict management style and this relationship was found between Anglo world & Europe N/NW and Asia. Culturally diverse participants' behavioral preferences were in line with the previous studies. As suggested, the participants from individualistic cultures seemed to value "active collaboration" in the way of speaking up opinions and having a critical discussion. Thus, in a conflict situation, they expressed own point of view explicitly and logically and asked others to output their opinions to get mutual understandings. On the contrary, the participants from collectivistic cultures seemed to more value "harmonized collaboration" in the way of equal participation, considering each other, and working in an organized way. Thus, in a conflict situation, they tended to stay quiet and follow a member showing a strong opinion without confrontation to keep the harmonious

atmosphere within a group. In summary, identified relationships between cultural aspects and conflict management approaches were quite consistent with the previous studies, which are more explicit in the participants of Anglo world & Europe N/NW and Asia.

However, this study includes several limitations. First, the study cannot generalize the findings due to its small sample size (*N*=55). Since the research design was not pure quantitative research, the number of participants was limited to confirm the findings. Second, the gender of participants also needs to be considered to avoid having biased data. Ohbuchi et al. (1999) pointed out that female participants preferred third-party intervention and used less assertive tactics compared to male participants, which stemmed from goal orientations of maintaining relationships that are more often found in women participants. In this study, the gender ratio was not balanced (39 females and 19 males) and it might have affected the results. Moreover, it is important to discuss cultural complexity to acknowledge the reliability of the study. For instance, a regional categorization of the participants of this study might have been inappropriate and affected the results, as discussed in the last section. Cultural differences could appear at a country level beyond a large cultural cluster level (e.g. Finland or India in this study). Thus, the division of cultures using certain theories or classifications needs to be reconsidered to deal with the cultural differences for future studies. Another measurement such as construal of self (e.g. Boroş et al., 2010; Oetzel & Ting-Toomey, 2003) might be required besides existing theories to distinguish cultural differences more accurately.

Despite the limitations, the study shed light on the conflict situations during intercultural collaborative learning and evoked awareness of the need for further research in this field. It provides insights into how culturally diverse learners are struggling with conflicts and try to manage them in different manners. The future step would be a further statistical investigation of the findings with a larger data set. By incorporating identified characteristics into survey questions, further research might be able to confirm some identified relationships and strengthen the validity of the study. The findings could also be useful in practical learning scenarios. Applying a collaborative script considering learners' cultural aspects could lessen the conflict between them. For instance, role distribution and rotation could trigger a

member's active engagement and support equal contribution to the discussion, which can meet both preferences of active and balanced collaboration. Specific scripts inducing transactive talk or argumentative knowledge construction can facilitate culturally diverse learners' interactions by showing them how to construct an argument (Weinberger et al., 2007; Weinberger, 2011). Popov et al. (2013) also suggested that the effectiveness of a collaborative script is more explicit in a culturally heterogeneous group since it can guide diverse learners' collaborative interactions. The use of script can also support cultivating internal script in culturally diverse learners having different educational backgrounds (Weinberger et al., 2007). In future education, the opportunities for intercultural collaborative learning will more increase, which requires educators to get prepared for the new challenging scenarios. The awareness of different communication styles across cultures makes learners more competent to understand, cope with, and respect the differences (Kim & Bonk, 2002). Therefore, understanding learners' cultural aspects are important for both educators and learners. By facilitating cultural understanding, this study is expected to contribute to the research field and pedagogical development for future intercultural collaborative learning.

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Appendices

Appendix A. The Factor Structure Matrix for Varimax Rotated Factor Solution. Adapted from 'measure of styles of handling interpersonal conflict' by Rahim, M. A., 1983. Academy of Management Journal, 26(2), pp.371-372.

Factor Structure Matrix for Varimax Rotated Factor Solution
(N = 1,219)

Item No.	Items	IN I	AV II	DO III	OB IV	CO V
01.	I try to investigate an issue with my ___[b] to find a solution acceptable to us	.53	-.02	-.05	.01	.09
04.	I try to integrate my ideas with those of my ___ to come up with a decision jointly	.55	.02	-.08	.04	.20
06.	I try to work with my ___ to find solutions to a problem which satisfy our expectations	.56	.01	-.07	.08	.07
15.	I exchange accurate information with my ___ to solve a problem together	.61	-.07	-.01	.10	.01
28.	I try to bring all our concerns out in the open so that the issues can be resolved in the best possible way	.58	-.12	-.00	-.06	.01
29.	I collaborate with my ___ to come up with decisions acceptable to us	.49	-.05	.04	.14	.11
35.	I try to work with my ___ for a proper understanding of a problem	.60	-.02	-.01	.03	.03
03.	I attempt to avoid being "put on the spot" and try to keep my conflict with my ___[b] to myself	.05	.60	.06	.07	.12
07.	I usually avoid open discussion of my differences with my ___	-.09	.58	-.04	.03	.03
22.	I try to stay away from disagreement with my ___	-.13	.53	.00	.22	.09
23.	I avoid an encounter with my ___	-.21	.48	-.03	.25	.08
32.	I try to keep my disagreement with my ___ to myself in order to avoid hard feelings	-.05	.61	.04	.12	.03
33.	I try to avoid unpleasant exchanges with my ___	.10	.42	-.00	.16	.06
34.	I generally avoid an argument with my ___	.02	.36	-.11	.16	.08
08.	I usually hold on to my solution to a problem	-.15	.13	.32	.02	-.02
10.	I use my influence to get my ideas accepted	-.00	-.03	.64	.06	.11
11.	I use my authority to make a decision in my favor	-.12	.01	.69	.01	.02
18.	I argue my case with my ___ to show the merits of my position	.07	-.06	.33	.06	.04
24.	I use my expertise to make a decision in my favor	.00	.04	.54	.11	.01
27.	I am generally firm in pursuing my side of the issue	.12	-.06	.44	-.02	-.03
31.	I sometimes use my power to win a competitive situation	-.03	-.03	.64	-.02	.02
02.	I generally try to satisfy the needs of my ___	.19	.12	-.03	.48	.08
12.	I usually accommodate the wishes of my ___	-.02	.11	.11	.68	.18
13.	I give in to the wishes of my ___	-.13	.26	.06	.59	.09
16.	I sometimes help my ___ to make a decision in his favor	.27	.02	.21	.27	-.01
17.	I usually allow concessions to my ___	.02	.11	.07	.42	.14
25.	I often go along with the suggestions of my ___	.14	-.03	-.02	.42	-.03
30.	I try to satisfy the expectations of my ___	.14	.06	.07	.57	.02
05.	I give some to get some	.11	.02	.04	.07	.31
09.	I try to find a middle course to resolve an impasse	.06	.14	.02	.16	.59
14.	I win some and I lose some	.03	-.01	.09	.13	.18
19.	I try to play down our differences to reach a compromise	.08	.22	.06	.08	.39
20.	I usually propose a middle ground for breaking deadlocks	.07	.07	-.00	.06	.82
21.	I negotiate with my ___ so that a compromise can be reached	.14	-.03	.07	.03	.49
26.	I use "give and take" so that a compromise can be made	.14	-.04	-.00	.09	.50
	Eigenvalue	4.10	3.00	2.26	1.52	1.09
	Percent of variance explained	30.5	22.4	16.9	11.4	8.2
	Cumulative percent of variance	30.5	52.9	69.8	81.2	89.3

[a] IN = integrating; AV = avoiding; DO = dominating; OB = obliging; CO = compromising.
[b] The word boss, subordinates, or peers appeared in each blank space in Forms A, B, and C, respectively.

Appendix B. Online survey questions (Likert scale and open-ended questions)

Likert scale questions

1. I propose my own ideas to my group members to meet a best joint conclusion.
2. I am not willing to share my ideas if am not sure.
3. During a group discussion, I use my own expertise or knowledge to get my ideas accepted.
4. I appreciate all of group members' ideas to be open so that the issues can be resolved in the best possible way.
5. I try to keep my disagreement with my group members to myself in order to avoid hard feelings.
6. In group learning situations, I often hold on to my idea or solution to a problem.
7. I think listening to other group members is important to come up with decisions acceptable to all of us.
8. I often find difficulties in accepting other group members' ideas although I try to listen to them carefully.
9. In group learning situations, I try to take other group members' ideas and interests into account.
10. It is important to listen to other group members to avoid a possible conflict and have a smooth discussion.
11. I try to listen to other group members to keep the atmosphere peaceful and try not to have collision.
12. I'm not good at receiving feedback. Sometimes it's difficult for me to accept it if it is different from my thoughts.
13. I rather work and study alone than in groups so that I don't get any hard feelings or conflicts.
14. I am not comfortable with open discussion of my differences with my group members.
15. I think the most favorable situation is that we (as a group) could make a joint conclusion with combining group members' ideas acceptable for all.
16. I try to work with my group members to find solutions to a problem which satisfy my expectations.
17. I show the merits of my ideas or position to take an initiative in negotiation in group learning situation.
18. I try to investigate an issue with my group mates to find a solution acceptable to all group members.
19. I usually enjoy being in a leading role rather than in an assisting role during a group work.
20. When I feel my idea is better than other group members' ideas, I try to persuade others for my favorable direction.
21. I try to integrate my ideas with those of my group members to come up with a decision jointly.
22. I think the most favorable situation is that we (as a group) could achieve the task without having conflicts during discussion.
23. I try to work with my group members to find solutions to a problem which satisfy our expectations as a team.
24. I generally avoid having an argument with my group members.

Open-ended questions

(Have you experienced some conflicts during intercultural collaboration caused by different styles of negotiation or discussion?)

1. If yes, what kind of conflict happened? What made you feel confused/frustrated?
2. In such a situation, how did you try to resolve the conflict(s)?