

DESCRIPTION OF FIVE ESSENTIAL ELEMENTS TOWARD ONLINE COOPERATIVE LEARNING IN ENGLISH FOR NURSING STUDENTS

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Abstract

Cooperative Learning (CL) develops many essential elements, including positive interdependence, individual accountability, social skills, group processing and face-to-face interaction among students in their respective groups. In connection with this question, this study aims to describe the appearance of five essential elements in Online Cooperative Learning (OCL). This research is a quantitative descriptive study, where a Likert scale questionnaire investigates the occurrence of the five basic elements of OCL among 109 samples of nursing students who have participated in OCL in English for Specific Purposes (ESP). This study employs univariate analysis, describing the percentage occurrence of these five OCL elements. The univariate analysis results show that these five essential elements of CL significantly appeared in online learning. Positive interdependence in OCL groups appeared at 83%, interpersonal competence successfully emerged in OCL at 85%, individual accountability emerged at 83%, and OCL group processing appeared at 84%, shaping students to adapt to "critical" conditions. Meanwhile, face-to-face promotive interaction at 76% formed positive strong bonds within the group to overcome challenges that arose during online learning. These findings indicate that OCL can provide access to building the five basic elements of CL, making OCL highly relevant for use in ESP learning for nursing students.

Keywords: *Online Cooperative Learning (OCL), Five Basic Elements of OCL, Nursing Student, ESP*

Introduction

Online learning is a product of technological innovations that provides flexibility for accessing study materials from anywhere and give an endlessly access to educational resources. Changes from traditional learning to online learning have a major impact on learning systems. Likewise with the cooperative learning method,

where this lesson presents group learning experiences (Brindley, Walti & Blaschke, 2009; Bruffee, 1995; Panitz, 2001), then turns into a virtual group. This creates two main limitations, namely the problem of supporting facilities and infrastructure, and behavior patterns and perspectives. In terms of supporting facilities and infrastructure, according to Sardi et al. (2022) the shortcomings that occur are limited internet quota, limited internet access, not having adequate gadgets, and not having personal online learning equipment. These things make students not enthusiastic about learning online.

Based on behavior patterns and perspectives, the difference in location between lecturers and students, as well as the location of students from one another, causes a lack of emotional connection, resulting in stiff relationships. This distance creates limitation of interaction between students and teachers that shapes a rigid engagement of students-teacher-material (Tran et al., 2020). Although communication can occur in two-way direction and students can communicate with their teachers at any time and from any location using online classes, but an attachment to share same environment become less. The perception of artificial meeting is formed in students' minds during learning, so that they do not pay full attention to the learning process. Lecturer presentations are described by activities as if they are watching a television program, less human-like, where they do not give full respect to this object (Sofyan & Wati, 2022). In addition, an asynchronous interaction may also occur more frequently during online classes.

The previous studies show that a Cooperative Learning (CL) successfully can give significant impact on learning when interactions among student-teacher-material happen in the simultaneous and face-to-face, the CL activities accommodate immediate responds to students' questions and feedback at open lines of contact at the vibrant discussions and in the same atmosphere (Chen et al., 2020; Han & Son, 2020; Nurfia et al., 2020; Mujahidah, & Rusni, 2023). In the traditional CL, the five essential elements of this type group learning can appear somewhat easily, those elements are positive interdependence, interpersonal competence, individual accountability, face-to-face promotive interaction and group processing that will

motivate positive growth in collaborative learning (Jeffrey, 2010; Shimizu et al., 2020; (Dzemidzic Kristiansen et al., 2019; Syakur et al., 2020; (Megahed & Mohammad, 2014). Due to Kagan (1994) who states that not all "collaboration in groups" is called Cooperative Learning, so that not all learning activities with "grouping" have an effect on learning outcomes. Therefore, that statement brings a significant issue to implementation of online cooperative learning, that can virtual devices still facilitate meaningful groupings for students. Previous research also states that the main difficulty in cooperative learning is promoting its main elements (Aranzabal, Epelde & Artetxe, 2019). In the other hand, other studies suggests that online cooperative learning is still able to deliver a meaningful learning experience for students, as long as psychological conditions, coordination and support systems are well established by all parties (Kupczynski et al., 2012; Jacobs & Ivone, 2020; Silalahi & Hutaurok, 2020; Han & Son, 2020). This situation indicates that create a distance cooperative learning is not easy, lectures must be capable of promoting those five elements where student-teacher-material are in the different occasion in the different time and in the different atmosphere.

Since CL strongly requires simultaneous and face-to-face interactions to develop its five essential elements, some pivotal questions arise about the implementation of CL in an online setting, whether the implementation of this strategy can run well or not. The focus of this study is on the capability of distance cooperative learning to trigger the five essential elements, as well as in traditional meetings.

CL is an effective approach that can be used by lecturers in learning English for Specific Purposes (ESP) (Syakur et al., 2020; Mafruudloh, 2020; Zhang et al., 2020; Meena, 2020). Students can achieve maximum learning experience by discussing and working together (Johnson, 2013). Motivation and cognitive perspectives in cooperative activities can encourage students' receptive competence (Johnson, 2013; Slavin 1993; Deutsch, 1949; Wittrock, 1987). Furthermore, the cooperative strategy provides another reinforcement in learning English in the basic skills of reading, listening, writing, and speaking. The peer-teaching process increases student understanding, reduces anxiety, and gets encouragement from fellow colleagues

(Harmer, 2007). Therefore, it can be concluded that the cooperative strategy has a very strong influence in strengthening student learning experiences and is able to increase student output in learning ESP.

Cooperative learning was first introduced in the classroom in the early 1970s (Slavin, 1990). It is an initiation to pursue the "goals" with work in a small team/group to help one another in learning academic materials. Cooperative learning should have three key concepts: team reward, individual accountability, and equal opportunities for success (Slavin, 1991). Not all "working in groups" means cooperative learning, teachers must first know what exactly cooperative strategies are, namely having the characteristics of having "group goals" and "peer-teaching" (Johnson & Johnson, 1999). In this digital era, conducting distance cooperative learning is nothing new. Myriad studies conduct CL online and they confirm the positive statement about the OCL implementation. a study conducted by Jo and Park (2021), they that social network devices can develop students' responsibility through cooperative learning, promote diverse perspectives and reduce the learning gap. Meanwhile, Silalahi and Hutaikur (2020) emphasize the obstacle in online cooperative learning namely the absence of physical meeting, but they also declare opportunities for students because the teacher no longer dominates learning activities.

As noted by Johnson and Johnson (1994), students in collaborative settings bear dual responsibilities: learning the assigned subject and contributing to group-based learning. Experts further categorize activities as cooperative learning when they encompass two key perspectives: motivation and cognition: a) The motivational perspective initiates "group goals" to be achieved by students, group goal motivation is divided into three, namely cooperative, competitive and individual. b) the cognitive perspective initiates constructive and elaborative-cognitive that students will be enabled to broaden their knowledge by interacting between them (Johnson, 2013; Slavin 1993; Deutsch, 1949; Wittrock, 1987). Furthermore, from the interaction between those two perspectives, the basic elements that must appear in a cooperative strategy are elaborated by Kagan as Positive Interdependence, Individual Accountability, Equal Participation, and Simultaneous Interaction (Kagan, 1994). This

piece examines how Vygotsky's ZPD theory complements and supports the key elements of effective cooperative learning, as identified by other experts. From positive interdependence and face-to-face interaction to individual accountability and group skills, the ZPD framework reinforces the building blocks of successful collaborative learning environments. Meanwhile, Johnson and Johnson (2006) state that a positive interdependence, individual accountability, face-to-face (promotive) interaction, interpersonal and small group social skills and group processing are the consequence between motivation and cognitive. Therefore, CL and OCL must create engaging interactions that motivate students, enhance their thinking skills, and encourage them to take ownership of their learning within their groups. This fosters individual growth and collaborative knowledge building towards common objectives.

The five basic elements of self-development in CL/OCL will be elaborated as follow:

Positive interdependence fosters a cooperative and nurturing educational environment in which students collaborate, provide support, and motivate each other to acquire knowledge and achieve their goals (Kagan, 1994). A positive interdependence could appear when group work as a team work (Collazos et al., 2003), meaning that the success of the group is highly dependent on the success of all individuals in the group, so that each member of the group is highly dependent on other members. The dependence between members in the group will be effective if each member in the group knows well their respective tasks according to their abilities. This is the nature of positive interdependence, meaning that group assignments cannot be considered successful when other members cannot complete their tasks properly, so that all members in the group are interdependent (Sanjaya, 2009). Thus, it could be stated that the clarity of communication is very important in online learning interactions tend to be limited and sometimes experience out of sync.

Furthermore, positive interdependence denotes mutual benefit within the group, where all students feel mutually bound to one another. They understand that one person's success contributes to the success of others. The phrase "sink or swim together" aptly characterizes positive interdependence. Group goals and tasks should be designed and communicated within the group so that members recognize their

need for each other to achieve their goals. This positivity creates a solid foundation, encouraging all members to depend on each other positively (Lundgren, 1994; Scager et al., 2016; Jensen et al., 2002; Laal, 2013; Jeffrey, 2010; Collazos et al., 2003).

Interpersonal competence means a communication relationship that helps a person interact with others effectively, verbally or nonverbally, with the aim of achieving commonality. Cooperative learning success relies heavily on interpersonal skills. By embracing our social nature, valuing diversity, and actively improving our leadership, communication, and teamwork, we unlock the full potential of cooperative learning. Remember, effective interpersonal skills are not just about personality traits, but also about intentional development and practice. (Dumont, 2010; Han & Son, 2020; Malco et al., 2019). Beyond building relationships, interpersonal skills are also about communicating effectively to achieve specific goals within a group. This includes seeking information, sharing personal experiences, expressing oneself assertively, resolving conflicts constructively, offering emotional support, and showing empathy and respect (Han & Son, 2020).

Individual accountability entails feeling responsible for both finishing one's own tasks and aiding fellow group members in their work. (Scager et al., 2016). Individual accountability mentions as an individual's belief that he will be held accountable for his own performance and learning within each group. Even though working in a team and gets team score, each group member also gets score for his personal contribution. Individual accountability means that in a group, everyone should be accountable, not just for their own tasks but also for contributing to the team's success. The presence of shared responsibility is essential to prevent passive participation. (Johnson & Johnson, 2009). Furthermore, Johnson and Johnson (1994) says In collaborative settings, students bear a twofold responsibility: they must grasp the assigned subject matter while also ensuring the progress of group learning. Beside their own task, they needed to focus on others in which they probably been ultimately responsible and had the authority to decide a case or solve a problem.

Moreover, encouraging interactions within Collaborative Learning (CL) involve offering extensive chances for every group member to engage in face-to-face

interactions, exchanging information, and instructing one another. Face-to-face interaction provides experience for each member of the group in the form of working together, respecting every difference, taking advantage of each member's strengths, and filling in each member's deficiencies. The promotive interactions are very important because they can result in positive interdependence. Promotive interactions involve aiding each other in an effective and efficient manner, exchanging information and resources, collectively processing information more effectively and efficiently, offering reminders, and assisting each other in formulating and enhancing arguments and improve problem solving skills, trusting each other, and motivating each other to achieve success together. Promotive interactions emphasize face-to-face interactions, while this situation is become quite problematic in online learning (Hutchinson, 2007; Kupczynski et al., 2012). The cooperative learning activity is not simultaneous, where all group member along with lecturer do not have open lines of contact, which gives a limitation for vibrant debates and discussions. It also limits all group members to get immediate responses to their discussion. Dzemidzic Kristiansen, et al., (2019), in their review of 34 studies conducted between 1995 and 2017, concentrated on in-person promotive interactions. They discovered that the success of Collaborative Learning in small groups was linked to students' interpersonal conduct, their involvement and experiences in the CL process, their communication and mutual support, as well as the role of teachers in promoting student interaction.

Group Processing, a cooperative group need to have specific time to map how far they have achieved their goals and how effective the working relationships are among members. Therefore, it is necessary to organize a group processing activity by assigning tasks as a list of some member actions that helped the group to be successful and some actions that can be added to make the future plan (Bertucci et al., 2012; Johnson & Johnson, 2006). Group processing occurs when members of a group assess, restructure, and contemplate their actions and interactions. As a result, group members have the opportunity to clarify, enhance, strengthen, or refine their efforts aimed at accomplishing the group's objectives and sustaining productive working relationships. (Johnson & Johnson, 2009; Bertucci et al., 2012). The study

that conducted by Bertucci et al., (2012) shows that at the conclusion of the study, students in the group processing condition outperformed those in the no processing condition. Thus, the group processing element is pivotal to be maintained in OCL.

This study aims to discover the emergence of the five essential elements in online cooperative learning (OCL). The research fills a gap in acknowledging the initial conditions of the essential elements of CL in an online setting, complementing previous studies that focused on only one or two basic elements. These findings can serve as a bridge for further research in applying OCL strategies in ESP learning.

Method

This research employed a quantitative descriptive approach using modified questionnaire as an instrument adapted from certain related theories (Slavin, 1990; Kagan, 1994; Johnson & Johnson, 1999; Johnson, Johnson, & Holubec, 2013). A Likert scale questionnaire is used to measure the variable, ranging from strongly agree, agree, disagree, and strongly disagree. Meanwhile, the questionnaire consists of forty-six items, divided into five sections as 1) positive interdependence provides ten items, 2) interpersonal competence/interpersonal skills provides five items, 3) Individual accountability provides six items, 4) face-to-face (promotive) interaction provides sixteen items, and 5) group processing provides nine items. The questionnaire's validity and reliability were assessed during a preliminary study. All questionnaire items have been tested for their validity and reliability during the preliminary study. The details of all questionnaire items for these five elements can be seen in the following table.

Table 1. Questionnaire items for the five basic elements of OCL

No.	Question Item
A. Positive Interdependence	
1	I feel needed and there is no dispensation in online cooperative learning
2	I think I have unique contributions and responsibilities within the group
3	I feel obligated to work together as a cohesive group to achieve common learning goals

- 4 I have the perception that we will "sink or swim together"
- 5 I think we have the same goal
- 6 I think I have a responsibility towards myself and other members in my group in online learning the material
- 7 I share duties and responsibilities among group members
- 8 I share leadership and practice cooperative skills while studying
- 9 I am asked to be individually responsible for the material I am working on in my online cooperative group
- 10 I perform evaluations or award in the group

B. Interpersonal Competence/Interpersonal Skills

- 1 I have the initiative to find out information and match the information to each other so that we understand better
- 2 I try to be open (self-disclosure) in conveying information
- 3 I try to be assertive, can express feelings clearly and defends their rights firmly
- 4 I provide emotional support, sympathizes and respects the other members of the group
- 5 I try to resolve the conflict

C. Individual accountability

- 1 Each group member does the task and is responsible for his own work
- 2 Each member of the group has two tasks and responsibilities
- 3 Each group member is responsible to himself and his group in learning the material
- 4 Each group member involves in group activities
- 5 Each member of the group interacts socially
- 6 Each group member has a unique contribution within the group
- 7 Each group member builds commitment in developing the group
- 8 Each group member helps other members who are experiencing difficulties

9 Each group member encourages and supports other members who are experiencing difficulties

D. Face-To-Face (Promotive) Interaction

1 Each group member helps each other effectively and efficiently

2 Each group member provides each other with the necessary information and facilities

3 Each group member carries out virtual face-to-face communication activities among group members

4 Each group member processes information together more effectively and efficiently

5 Each group member reminds each other

6 Each group member trust each other and motivate each other to gain success together

7 Each group member helps each other in formulating and developing arguments as well as increasing insight into the problems faced

8 Each group member initiates to get to know each other more deeply

9 Each group member accepts each other's strengths and weaknesses

10 Each group member respects others' opinions

11 Each group member is actively involved so that he becomes more confident and improves his individual skills

12 Each group member interacts socially and by himself he learns to socialize with his environment (group)

13 With existing groups, each group member learns to build commitment in developing the group

14 In the group, each group member learns to teach each other, so that students share information and reduce competition

15 Each group member learns to provide opportunities for other students to work with others

E. Group Processing

- 1 The group measures progress in achieving group goals
- 2 The group checks the condition of each group member in achieving group goals
- 3 The group assesses the individual efforts of each member to achieve group goals
- 4 The group discusses how well they achieved their goals and maintained relationships
- 5 The group assesses what they did to complete the assignments
- 6 The group analyzes the use of their social skills in the implementation of online cooperative learning

This study involved all health science students at one of the colleges in Majalengka Regency, West Java Province, Indonesia, representing the entire population. Employing a random sampling technique, the study's sample consisted of 109 junior nursing students (18% male, 82% female). The questionnaire has been distributed online via google form.

Since this research seeks an overview of only one variable, univariate analysis is employed to analyze the findings of the five CL elements as variations in a single variable without considering relationships with other variables. In this study, this type of analysis is used to understand the characteristics and patterns of a variable, namely the percentage occurrence of the five CL elements in online learning at a specific point in time, presented in a graphical representation.

Results

The result states that the element of positive interdependence appears during OCL and students' attitude toward the positive interdependence element. Eighty three percent students promoted this element by showing the sub elements that could be seen as follow.

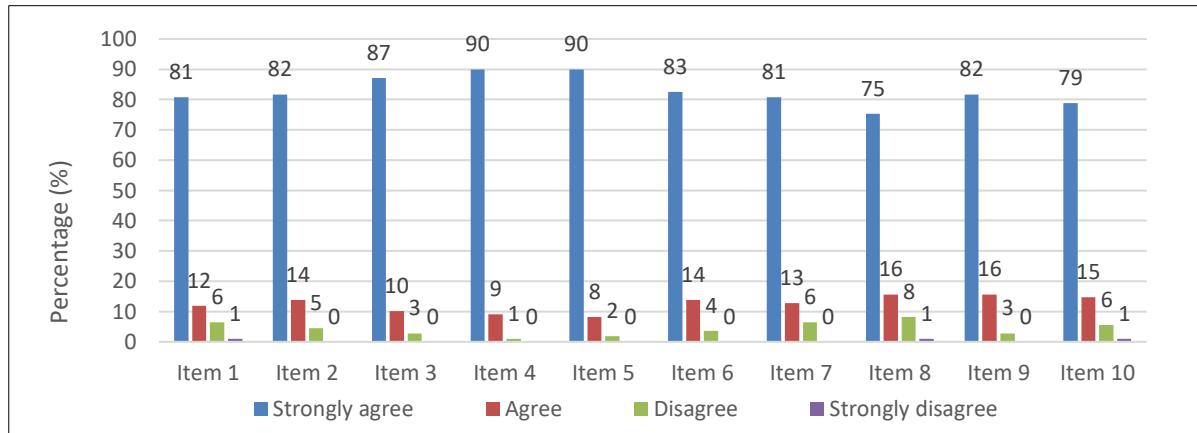


Figure 1. Positive interdependence sub elements

The result of interpersonal competence or interpersonal skill element positively states that eighty five percent students corresponded this element. The students' attitude toward the interpersonal competence could be seen as follow.

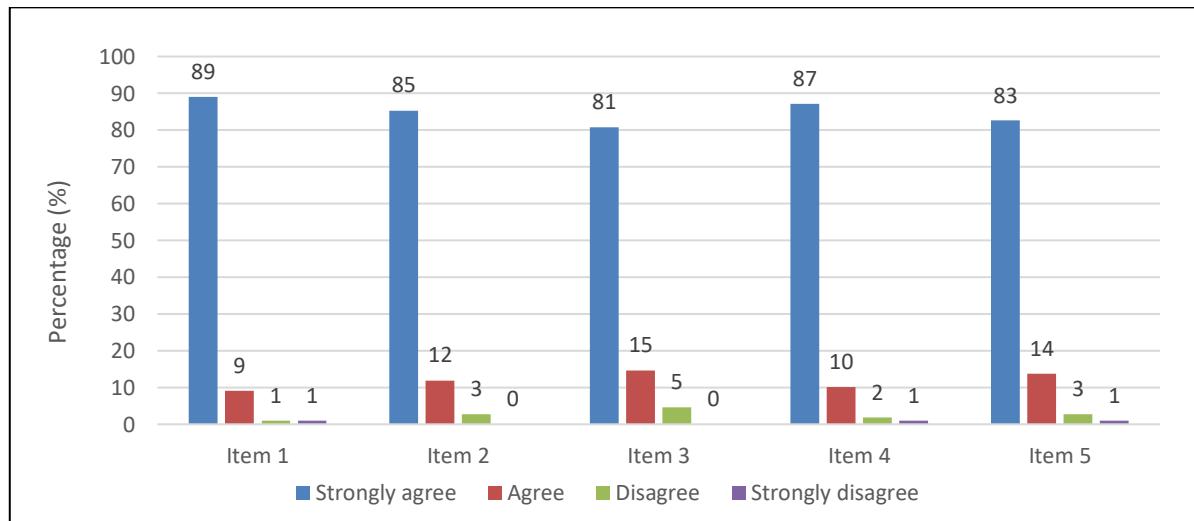


Figure 2. Interpersonal competence sub element

The result of interpersonal competence or interpersonal skill element positively states that eighty five percent students corresponded this element. The students' attitude toward the interpersonal competence could be seen as follow.

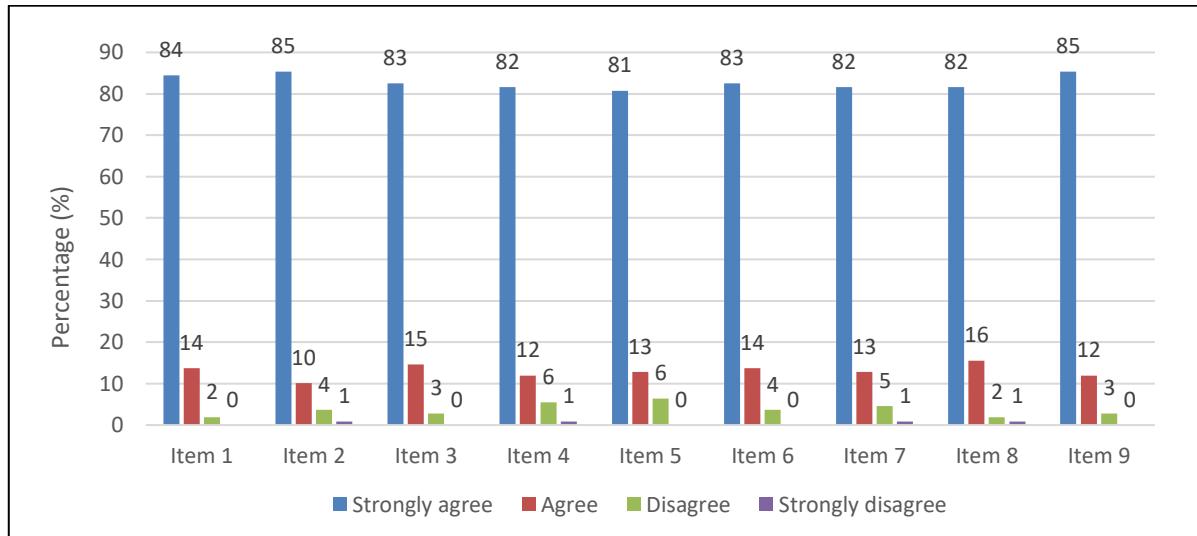


Figure 3. Individual accountability

The face-to-face promotive interaction element positively appears during OCL and figure 4 below shows the attitude toward this element. Eighty four percent students promoted this element by showing the sub elements that could be seen as follow.

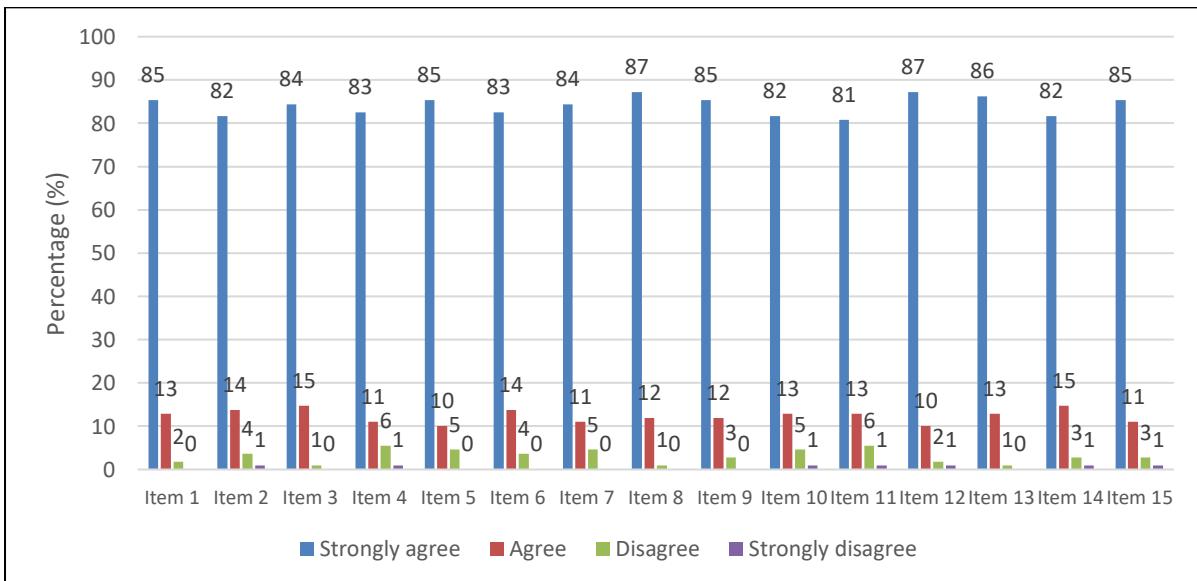


Figure 4. Face to face promotive Interaction sub element

Group processing, as the last element is also appeared during OCL and captures the attitude of students toward this element. Eighty four percent students promoted this element by showing the sub elements that could be seen as follow.

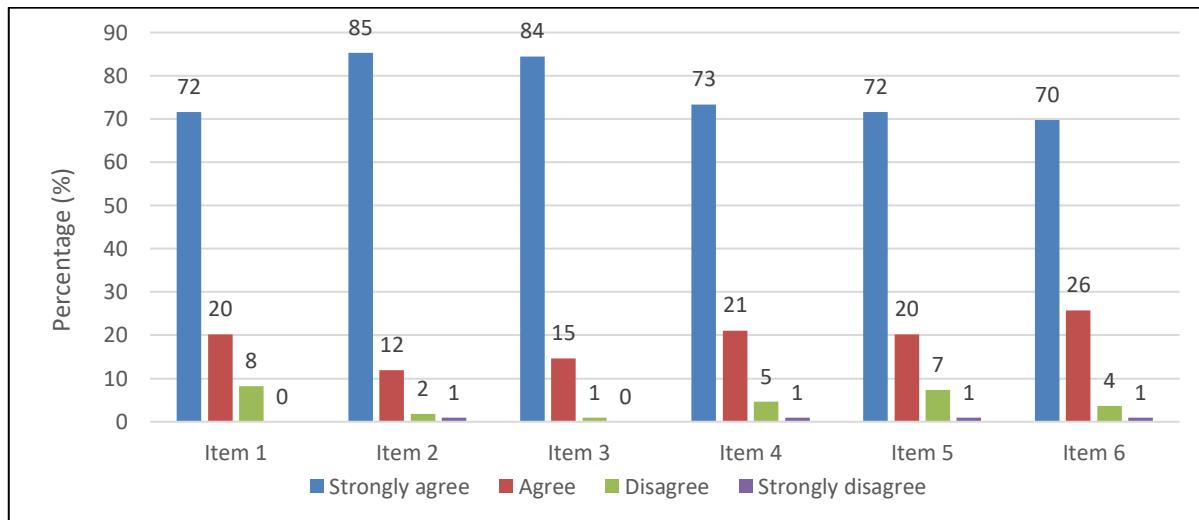


Figure 5. Group processing

Discussion

Due to figure 1, the positive interdependence emerged during the online learning. The results indicate that students experienced a feeling of significance within their groups, and there were no exceptions during the online sessions ($n=88$, strongly agree = 81%). They believed that each individual member of the group had unique contributions and responsibilities within the group ($n=89$, strongly agree = 82%). Students believe that they were required to work together as a cohesive group to achieve shared learning objective ($n=95$, 87%). Due to the result, almost all members in each group became a solid team who had cooperative goals, less competitive, dependent, and had more effective interaction dynamics. All students argued that they all had the same goal ($n=98$, strongly agree = 90%) and had the same perception that they would be “sink or swim together” ($n=98$, strongly agree = 90%). Two choices between swimming or sinking causes a state of intrinsic tension within group members that successfully provokes movement towards achieving the group common desired goal (Johnson & Johnson 1995). Those group member behaviors relate with the ‘field’ theory by Lewin (1951), who states that a ‘field’ is defined as ‘the totality of synchronized facts which are conceived of as mutually interdependent. Individuals were observed to exhibit different behaviors based on how they managed tensions between their self-perceptions and their perceptions of the environment.

Furthermore, students believed that they took a responsibility towards themselves or other students in their group in studying the material (n=90, strongly agree = 83%). Then, they had divided tasks and share responsibilities among group members (n=88, strongly agree = 81%). Students shared leadership while they earned cooperative skills while studying (n=82, strongly agree = 75%). Students would be asked to individually account for the material handled in cooperative groups (n=89, strongly agree = 82%). The last, students carried out an evaluation or award in groups (n=86, strongly agree = 79%). An OCL will be successful when a member of groups realize that they are at the same boat to reach the same destination, the options either sink or swim together. All group members need to develop the positive interdependency in gaining their purposes. In this study, all group members implement the self-assistance and sharing the time management skills through online learning. Every group member can easily ask for help not only to be learning assistant, but also maintain devices and internet connection.

Furthermore, according to figure 2, the result of sub elements of students had initiative to find out information and match the information to each other as their strategy to understand the materials better (n=97, strongly agree = 89%) is an indicator that interpersonal skill was also developed in online cooperative learning. This result relates with the former study about interpersonal competence that found that the students gave many efforts to find new experiences that are more numerous and broader about the outside world and also about himself (Han & Son, 2020). The advantage of online learning is students can access materials broadly. Next, the students tried to develop their ability to be open (self-disclosure) to convey information in the form of opinions, interests, experiences and feel others was high (n=93, strongly agree = 85%). The students' ability to be assertive also was positively established (n=88, strongly agree = 81%), they dare to express feelings clearly and defend their rights firmly. Students also did self-defense to say disapproval of various kinds of things or events that were not in accordance with the nature of thought. The students developed their ability to provide emotional support (n=95, strongly agree = 87%). Emotional support is a form of expression that shows concern, sympathy and

respect for others. This support system also includes the ability to calm down and provide comfort when under stress and having problems. The last, Students also developed to resolve the conflict (n=90, strongly agree = 83%). Conflict resolution skills is a primary attitude to construct a solution to a problem, reconsider the assessment of a problem and develop a new self-esteem concept. Therefore, those all-sub elements had successfully appeared during OCL.

The interpersonal competence defined as a human ability to build communication with others effectively to create and maintain good relationships (Spitzberg & Cupach, 2002). Buhrmester, et al., (1988) interpret interpersonal competence as an ability that a person has in building and maintaining interpersonal relationships where the virtual communication also can assist the interpersonal competence. Interpersonal competence or interpersonal skill is the ability to interact with others. Thus, according to the result of this study, interpersonal skill can also appear via virtual interaction; it is the ability possessed by a person in communicating and interacting with other people, including the distance communication, communication carried out in a relationship between two or more people, either verbally or nonverbally, with the aim of achieving common ground. Interpersonal competence developed when students involved in the OCL, that they tried to initiate and sustain social relationships as personality traits (Dumont, 2010; Han & Son, 2020; Malco et al., 2019). Furthermore, it also found that students developed the specific manner of communication skill to interact with others aimed at achieving certain result, such as they tried to find out information from group members, established self-disclosure, enhanced an assertive, resolved conflicts, provided emotional support, sympathized and respected group members.

Based on the result figure 3, the nine sub elements were identified significantly appear on online cooperative learning. Students realized that they have responsibility for personal assignments (n= 92, strongly agree = 84%) that would be evaluated by their group. Students realized that they had two tasks and responsibilities (n=93, strongly agree = 85%). As noted by Johnson and Johnson (1994), in collaborative settings, students have dual responsibilities: learning the assigned subject and

ensuring the progress of group learning. Beside their own task, they needed to focus on others in which they probably been ultimately responsible and had the authority to decide a case or solve a problem. All group members can be positioned as a consultant in providing feedback or suggestion. At the same time, students needed to be responsible to themselves and their group in learning materials ($n=90$, strongly agree = 83%), this situation indicates that students understood the assignments, not only completed tasks but also promoted learning. The sub element of interacting socially ($n=88$, 81%) and involved in group activities ($n=89$, strongly agree = 82%) are the indicators that accountability was applied in order to integrate cooperative values through performing collective rights and responsibilities.

Furthermore, maximizing the condition that each group member had a unique contribution within the group ($n=90$, strongly agree = 83%), therefore they built commitment in developing the group with their uniqueness ($n=89$, strongly agree = 82%). Furthermore, it also found that each group member helped other members who had experienced difficulties ($n=89$, strongly agree = 82%) not only in doing the task or learning the materials, but also fixing technical problems of devices and applications that occur in distance learning. Meanwhile, some students expressed their accountability by showing their encouragement and support to other members who are experiencing difficulties ($n=93$, strongly agree = 85%). This study has the similarity of the concept of Harmer (2007), in which according to the result, the online cooperative strategy has successfully provided students' reinforcement in learning English in the basic skills of reading, listening, writing and speaking skills, namely the peer-teaching process increases student understanding, reduces anxiety and gets encouragement from fellow colleagues.

Almost all member of groups had feelings of responsibility for completing their own work and they also facilitates the works of other group members (Scager et al., 2016). Almost all students believed that they would be held accountable for their own performance and learning within each group. They also realized that their personal contribution would be assessed by their group along with their team performance. Furthermore, a sense of mutual accountability is necessary to avoid free riding

(Johnson & Johnson, 2009), thus every member of the groups was conducting supervision and if there was one member who did not perform well, they would take actions by asking questions, giving suggestions and giving help to that member. This situation was formed because of the establishment of one of the elements in OCL that was aligned with Johnsons and Johnson and Johnson (1994) who states that in collaborative conditions, students have dual responsibilities: learning of the assigned subject while being certain of group learning. and thus, beside their own task, they needed to focus on others in which they probably been ultimately responsible and had the authority to decide a case or solve a problem.

Next, figure 4 reveals the sixteen items of sub-elements indicates that the face-to-face promotive interaction in OCL were emerged successfully. Students helped each other effectively and efficiently ($n=93$, strongly agree = 85%). Each group member provides each other with the necessary information and facilities ($n=93$, 85%). Each group member carries out virtual face-to-face communication activities among group members ($n=92$, strongly agree = 84%). Each group member processes information together more effectively and efficiently ($n=90$, 83%). Each group member reminds each other ($n=93$, strongly agree = 85%). Each group member trust each other and motivate each other to gain success together ($n=90$, strongly agree = 83%). Each group member helps each other in formulating and developing arguments as well as increasing insight into the problems faced ($n=92$, strongly agree = 84%). These sub elements are so important because those sub elements provide broad opportunities for each group member to meet face-to-face interactions in the real meeting to provide information to each other and teach each other. Thus, due to the result of this study, the artificial face-to-face interaction during online cooperative learning is also capable of stimulating the sub-elements, that the virtual face-to-face interaction provides experience for each member of the group in the form of working together, respecting every difference, taking advantage of each member's strengths, and filling in each member's deficiencies.

Furthermore, each group member initiates to get to know each other more deeply ($n=95$, strongly agree = 87%). Each group member accepts each other's

strengths and weaknesses (n=93, strongly agree = 85%). Each group member respects others' opinions (n=89, strongly agree = 82%). Each group member is actively involved so that he becomes more confident and improves his individual skills (n=88, 81%). Each group member interacts socially and by himself he learns to socialize with his environment (the group) (n=95, strongly agree = 87%). With existing groups, each group member learns to build commitment in developing the group (n=94, 86%). In the group, each group member learns to teach each other, so that students share information and reduce competition (n=89, strongly agree = 82%). Each group member learns to provide opportunities for other students to work with others (n=93, strongly agree = 85%). Each group member learns to be able to complement each other (n=90, strongly agree = 83%). The OCL apparently promoted the students' promotive interactions. The virtual face-to-face interactions which should give a problem for learning, actually accommodated simultaneous cooperative learning, where all group member along with lecturer had open lines of contact and facilitated vibrant debates and discussions. It also allowed all group members to get immediate responses to their discussion. The result of this study is in line with the results of research from Kristiansen, Burner and Johnsen (2019), who reviewed 34 studies focusing on face-to-face promotive interaction, they found that students' interpersonal behavior, experiences and participate actively during CL, communicative, supportive, and teachers' influence on promoting students' interaction are beneficial elements in leading to successful CL in small groups.

The result of this study confirms that the OCL was successfully promoted face-to-face (promotive) during learning. in line with Dzemidzic Kristiansen et al. (2019), each group member developed their promotive interactions. They opened broad opportunities for each group member to conduct the virtual face-to-face interactions in various ways using various communication devices and applications in providing information to each other and teach each other. Each group member tried to accommodate experiences for each member of the group in the form of working together, respecting every difference, taking advantage of each member's strengths, and filling in each member's deficiencies. The promotive interactions by the virtual

face-to-face interactions have been done well, in which the distance gap issue was resolved effectively. The online cooperative learning activities served simultaneous virtual meeting, all group member along with lecturer were facilitated open lines of contact that facilitated vibrant debates and discussions. The last, the OCL did not limit all group members to get immediate responses to their discussion to complete their tasks and achieve their communal goals.

Figure 5 captures that the group measures progress in achieving group goals (n=78, strongly agree = 72%). The group checked the condition of each group member in achieving group goals (n=93, strongly agree = 85%). The group assessed the individual efforts of each member to achieve group goals (n=92, strongly agree = 84%). The group discussed how well they achieved their goals and maintained relationships (n=80, strongly agree = 73%). The group assessed what they did to complete the assignments (n=78, strongly agree = 72%). The group analyzed the use of their social skills in the implementation of online cooperative learning (n=76, strongly agree = 70%). Along with all elements, the virtual cooperative online was capable of initiating motivation and cognitive perspective. Based on the motivational perspective that initiated "group goals" to be achieved by students, the result of this study emphasizes that the OCL was initiating cooperative, competitive and individual at the same time. It can be proved by the groups were conducting group processing. They performed assessments of each individual effort to fulfill their competitive spirit with achieving group goals as competition among other groups. At the same time, the cognitive perspective also appeared in this OCL, that initiated constructive and elaborative-cognitive constructed that almost all group members enable to broaden their knowledge by interact to each other and analyze their social skills (Johnson, 2013; Slavin 1993; Deutsch, 1949; Wittrock, 1987).

In addition, every group conducted specific time to map how far they have achieved their goals and how effective the working relationships were among members. They organized a group processing activity by assigning tasks as a list of some member actions that helped the group to be successful and also maintained their future plan (Bertucci et al., 2012; Johnson & Johnson, 2006). The group

members clearly constructed an evaluation, reconstruction and reflection on their actions and interactions; thus, group members would be ease to make clarification, adding, strengthening or improving their efforts to achieve the group's goals and maintaining effective working relationships (Johnson & Johnson, 2009; Bertucci et al., 2012). Because students carry out the group processing, the output of the OCL becomes more meaningful. The benefits of group processing are evident in a study by Bertucci et al. (2012), where students who actively participated in group discussions and activities demonstrated superior academic performance. Therefore, the element of group processing is crucial to maintain in OCL.

Conclusion

The study shows that the five elements of CL are significantly appeared in the online learning. The students have developed the five essential elements: positive interdependence, interpersonal competence, individual accountability, face-to-face promotive interaction, and group processing. The success of students who developed the five essential elements of collaboration demonstrates the effectiveness of OCL. These skills enabled them to adapt, bond, and overcome challenges in online learning, proving that OCL can provide both simultaneous interaction and meaningful virtual face-to-face connection.

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